From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Possible times for call on OGC support for subpart W?
Date:	Tuesday, January 10, 2017 7:27:29 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:58 PM
To: Collections.SubW
Subject: FW: Possible times for call on OGC support for subpart W?

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Schultheisz, Daniel
Sent: Friday, March 11, 2016 1:18 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>
Subject: RE: Possible times for call on OGC support for subpart W?

It looks like a good time for RPD may be 3:30 on Wednesday. Does that work for everyone else?

An alternative might be Thursday after 2 pm. Jon Edwards may not be able to make it, but Alan Perrin can.

From: Rodman, Sonja
Sent: Friday, March 11, 2016 9:38 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Possible times for call on OGC support for subpart W?

Dan, Monday and Tuesday are not great days for me. Wednesday and Thursday look much better. On Wednesday I'm available 11-12 and 2-4:30. On Thursday, I'm currently available all day except

for 11:30-1:30. Please include Emily also.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Schultheisz, Daniel
Sent: Friday, March 11, 2016 8:47 AM
To: Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>
Subject: Possible times for call on OGC support for subpart W?

Good morning:

We'd like to set up a call/meeting next week to talk about how to coordinate legal review on subpart W, particularly in light of Reid's situation. This would be separate from the update for Mike on Tuesday morning. Can you give me some general times when you might be available? Most of RPD management has been on travel this week, and I will try today to get some times on our end. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W OGC Support - Call-in 1-866-299-3188, passcode 2023439765#
Date: Tuesday, January 10, 2017 7:27:39 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:58 PM
To: Collections.SubW
Subject: FW: Subpart W OGC Support - Call-in 1-866-299-3188, passcode 2023439765#

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

-----Original Appointment-----
From: Rodman, Sonja
Sent: Tuesday, March 15, 2016 2:31 PM
To: Schultheisz, Daniel
Subject: Accepted: Subpart W OGC Support - Call-in 1-866-299-3188, passcode 2023439765#
When: Wednesday, March 16, 2016 3:30 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: DCRoomWest1424/OPEI

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W monthly - still on this morning? Or now moved to Thursday? - no meeting this morning
Date: Tuesday, January 10, 2017 7:28:10 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:57 PM
To: Collections.SubW
Subject: FW: Subpart W monthly - still on this morning? Or now moved to Thursday? - no meeting this morning

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Stahle, Susan
Sent: Tuesday, March 15, 2016 10:44 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: FW: Subpart W monthly - still on this morning? Or now moved to Thursday? - no meeting this morning

FYI.

Note – I have a conflict with the Thursday meeting. I have a meeting at the same time with outside parties.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
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U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Schultheisz, Daniel
Sent: Tuesday, March 15, 2016 10:41 AM
To: Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Peake, Tom <Peake.Tom@epa.gov>
Subject: RE: Subpart W monthly - still on this morning? Or now moved to Thursday?

Yes, there is no meeting this morning. There is some glitch with the invitation and it was not on Mike's calendar, even though he is the "originator."

From: Stahle, Susan
Sent: Tuesday, March 15, 2016 10:22 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Peake, Tom <Peake.Tom@epa.gov>
Subject: Subpart W monthly - still on this morning? Or now moved to Thursday?

Hi –

Since we just received a new meeting invite for a Thursday meeting, does that mean the meeting this morning at 11:00 am is cancelled?

Susan Stahle
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202-564-5603 (fax)
stahle.susan@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Can"t make the Subpart W monthly with Mike Flynn today
Date: Tuesday, January 10, 2017 7:28:19 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:57 PM
To: Collections.SubW
Subject: FW: Can't make the Subpart W monthly with Mike Flynn today

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Stahle, Susan
Sent: Thursday, March 17, 2016 8:55 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Cc: Doster, Brian <Doster.Brian@epa.gov>
Subject: Can't make the Subpart W monthly with Mike Flynn today

Hi –

I have a conflict with the 1:00 pm meeting today. I have another meeting with OTAQ and an outside organization (RFA) that was previously scheduled (e.g. scheduled before this Subpart W meeting) that I need to attend. After our conversation yesterday with ORIA folks, I am not sure you need me, but I am happy to connect before the meeting if that helps. I have meetings from 10am – 1pm so if you would like to talk it would be helpful to do so before that.

Brian – I am not sure whether you want to attend this meeting today. As I understand it, it is strictly focused on Subpart W. You may want to check with Sonja.

I am working at home so you can reach me at 703-664-0258.

Thanks,

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Drafts for Review
Date: Tuesday, January 10, 2017 7:28:29 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:57 PM
To: Collections.SubW
Subject: FW: Drafts for Review

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Tuesday, May 31, 2016 11:28 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: FW: Drafts for Review

Heads up that Janet has requested a briefing on Thursday. I'll email Cheryl to add to reg review agenda.

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Schultheisz, Daniel
Sent: Tuesday, May 31, 2016 11:27 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Drafts for Review

Thanks. The potential for lawsuits will definitely be better coming from you. I've also just been informed that Janet would like a briefing on Thursday, so will make sure you get that invitation.

From: Seidman, Emily
Sent: Tuesday, May 31, 2016 11:01 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Drafts for Review

Dan,

Looks good. My suggested edits are in red text on the attached. Note my addition on slide 13. When we get to that issue, either Sonja or I would like to chime in, if that's ok with you. Reach out if you have any questions or would like to discuss.

Thanks!
Emily

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Schultheisz, Daniel
Sent: Tuesday, May 31, 2016 7:54 AM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: Drafts for Review

Attached are a draft briefing for Wednesday morning with Jon and a short piece on public interactions for the Executive Summary. Comments on the briefing first, please, as we will need to send this up by COB today. Thanks.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: July 11 Revision to Subpart W Final Rule
Date:	Tuesday, January 10, 2017 7:28:43 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:22 PM
To: Collections.SubW
Subject: FW: July 11 Revision to Subpart W Final Rule

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Monday, July 11, 2016 11:48 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: July 11 Revision to Subpart W Final Rule

Great, thanks for the update.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Monday, July 11, 2016 11:39 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: FW: July 11 Revision to Subpart W Final Rule

FYI. Dan sent revisions to Janet at the end of last week. Janet provided a few small edits last night

and said it's ready to move forward. Dan incorporated those revisions and expects the rule to go to OP by the end of the week.

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Schultheisz, Daniel
Sent: Monday, July 11, 2016 11:35 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: FW: July 11 Revision to Subpart W Final Rule

FYI, Janet had some very minor comments on the version sent last week and we expect it to move to OP this week.

From: Cyran, Carissa
Sent: Monday, July 11, 2016 11:32 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Subject: RE: July 11 Revision to Subpart W Final Rule

Good morning, Dan,

No, I will send this version electronically to Janet since we don't need hard copies, and have her sign the transmittal memo hopefully tonight.

Thank you!

Carissa

From: Schultheisz, Daniel
Sent: Monday, July 11, 2016 11:27 AM
To: Cyran, Carissa <Cyran.Carissa@epa.gov>
Cc: Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Subject: July 11 Revision to Subpart W Final Rule

Carissa:

Attached is a revised version of the rule/preamble incorporating Janet's comments over the

weekend. Thanks for sending it on to her, and I appreciate her getting to it so quickly. In her note to Jon Edwards, she said “this should be ready to move to the next step.” Is there anything else you need from me to make that happen? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: subpart W
Date: Tuesday, January 10, 2017 7:28:51 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:22 PM
To: Collections.SubW
Subject: FW: subpart W

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Thursday, July 21, 2016 9:13 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: subpart W

Still at the policy office. Expecting it will go to OMB at the end of this week or next week. Dan hasn't received any questions from the policy office about the rule. Thus far, he's heard that OMB is not going to request a briefing.

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 7:30:50 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:21 PM
To: Collections.SubW
Subject: FW: Subpart W

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Tuesday, August 23, 2016 8:36 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Subpart W

Forwarding message without attached string on an unrelated issue.

From: Rodman, Sonja
Sent: Wednesday, July 20, 2016 5:45 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Some comments on the draft SA

On a different note, did Subpart W go to OMB yet?

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Monthly
Date: Tuesday, January 10, 2017 7:31:04 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:20 PM
To: Collections.SubW
Subject: FW: Subpart W Monthly

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

-----Original Appointment-----
From: Rodman, Sonja
Sent: Monday, April 11, 2016 10:31 AM
To: Flynn, Mike
Subject: Accepted: Subpart W Monthly
When: Tuesday, April 19, 2016 4:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Whereabouts tomorrow
Date: Tuesday, January 10, 2017 7:31:14 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:20 PM
To: Collections.SubW
Subject: FW: Whereabouts tomorrow

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Monday, April 18, 2016 1:35 PM
To: OGC ARLO Air Toxics <OGC_ARLO_Air_Toxics@epa.gov>
Subject: Whereabouts tomorrow

I will be out most of the day tomorrow. I just realized I scheduled two Dr's appointments on opposite sides of town on the same day. I will be out much of the day, but I will keep my phone with me and will plan to call into the Kokomo Glass call and the Subpart W monthly call.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

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From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Have you been able to get on the Sub W call?
Date: Tuesday, January 10, 2017 7:31:23 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:18 PM
To: Collections.SubW
Subject: FW: Have you been able to get on the Sub W call?

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

-----Original Message-----
From: Rodman, Sonja
Sent: Tuesday, April 19, 2016 4:10 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: Have you been able to get on the Sub W call?

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Whereabouts Wed-Fri
Date: Tuesday, January 10, 2017 7:31:34 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:18 PM
To: Collections.SubW
Subject: FW: Whereabouts Wed-Fri

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Tuesday, April 26, 2016 10:01 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Whereabouts Wed-Fri

Emily, I'm sorry I've had such a hard time getting to the Sub W stuff. I will review as much as I can today, but I may not get to absolutely everything. I would prefer to focus on the comment responses that are going to be in the preamble itself as our review of the others need not be so expedited. And yes, I would like to look at the legal responses before those go to Dan. Thanks! – Sonja

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Tuesday, April 26, 2016 9:52 AM

To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Whereabouts Wed-Fri

Hi Sonja,

For the Subpart W RTCs that Dan prepared and the current draft of the final rule, do you expect to have comments? Or are you planning to wait until we see the next turn from Dan? For the current drafts, Dan asked that we send him comments by the end of the week (and I'm going to out on Friday, my compressed day).

I anticipate having a draft of the legal comments to you and Sue later today. I expect you'll want to take a look at those before I send them to Dan?

Thanks!
Emily

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Rodman, Sonja
Sent: Tuesday, April 26, 2016 9:46 AM
To: OGC ARLO Air Toxics <OGC_ARLO_Air_Toxics@epa.gov>; OGC ARLO MGMT <OGC_ARLO_MGMT@epa.gov>
Subject: Whereabouts Wed-Fri

I will be out at the EIG Training again from Wednesday through Friday this week. I will check e-mail in the evenings and will keep my cell with me so I will be reachable if something urgent arises. However, today will be my last day in the office this week. If you need something before Friday, please let me know soon. Thanks! – Sonja

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Comments on RTCs
Date: Tuesday, January 10, 2017 7:31:43 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:14 PM
To: Collections.SubW
Subject: FW: Comments on RTCs

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Schultheisz, Daniel
Sent: Monday, May 02, 2016 1:18 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Cc: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: RE: Comments on RTCs

Thanks. I have done an initial read-through and don't think there is anything we can't address, although some of the comments related to the BID/EIA need more scrutiny. I am going to try to create an overall listing (maybe a spreadsheet) of the sections/issues to help with consolidation. Some of these topics pop up in too many places, so that should help with the preamble.

In reviewing Section 12 in more detail, I have identified a couple of comments that I think belong in Section 1. They do not raise new issues, although the first one also makes claims about the effectiveness of the current work practices.

C. THE EPA SHOULD ISSUE NUMERICAL STANDARDS FOR RADIONUCLIDE EMISSIONS FROM URANIUM RECOVERY FACILITIES

The EPA should establish a numerical standard for radon emissions. Section 112(d)(2)(D) allows the EPA to establish a "design, equipment, work practice, or operational standard" under Section 112(h)(1) if it is "not feasible… to prescribe or enforce an emission standard." When the EPA decides to issue work practice standards, Section 112(h)(4) requires that "any

standard… shall be promulgated in terms of an emission standard whenever it is feasible to promulgate and enforce a standard in such terms." The hazardous air pollutant program under Section 112 is aimed at requiring numerical emission standards wherever possible. With respect to uranium recovery facilities, it is feasible to establish and enforce numerical emission standards (as evidenced by the current existence of numerical radon flux standards for "existing impoundments"). Therefore, the EPA should require uranium recovery facilities to monitor their emissions and meet numerical emission standards.

….

Even if the EPA chooses to issue work practice standards for uranium recovery facilities, it should ensure that the work practice standards achieve the same or greater level of emissions reduction as a numerical emission standard would. Legislative history indicates that Congress intended the degree of protection achieved by work practice standards to be the same as the degree of protection achieved by numerical emission standards. Legislative History at 8,522-23. The work practice standards that the EPA is now proposing to adopt as GACT have resulted in emissions that were higher than what the numerical emission standard allowed. The EPA should not establish a work practice standard that allows higher emission levels than a numerical standard would permit.

(Comment 0155-35, see full document for supporting evidence)

Clearly, it is feasible to prescribe and enforce the radon emission standard in Section 61.252(a) [of CAA]. Clearly, the application of the measurement methodology is practicable and there are no technological and economic limitations related to the use of the measurement methodology used to determine compliance with the standard. For 25 years the EPA has relied on an emission standard for the control of radon from uranium mill tailings. EPA has not demonstrated that this method is unreliable, unfeasible, or has significant technical or economic limitations. Therefore, there is no legal basis for eliminating this standard for existing mill tailings impoundments and replacing it with a work practice standard.

(Comment 0153-143)

From: Seidman, Emily

Sent: Thursday, April 28, 2016 5:39 PM

To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Cc: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>

Subject: Comments on RTCs

Dan,

Attached are our comments and suggested edits on the RTC documents. Please reach out with questions or if you would like to discuss. You'll see there aren't many comments on document 12. We'll take another look at this one after you've had a chance to work through Reid's first cut at these responses.

We're in progress on the legal RTCs.

Thanks!

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: I"ll get you the remainder of my thoughts tomorrow on the legal RTC tomorrow.
Date: Tuesday, January 10, 2017 7:31:58 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:14 PM
To: Collections.SubW
Subject: FW: I'll get you the remainder of my thoughts tomorrow on the legal RTC tomorrow.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Tuesday, May 03, 2016 5:46 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: I'll get you the remainder of my thoughts tomorrow on the legal RTC tomorrow.

I'll tell you right now, however, that I don't think issues 11, 12 or 13 belong in the "legal authority" section. Those are comments that fall more in ORIA's box. We can talk to them about possible types of responses, but we don't have the technical expertise to prepare a full response. Also, they should be working with OP on the definition of "small business." That is also outside our wheelhouse. I'm not sure who in OP would be the best contact, but I can try to find out.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Andy, Here"s the RFA comment
Date:	Tuesday, January 10, 2017 7:32:08 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:14 PM
To: Collections.SubW
Subject: FW: Andy, Here's the RFA comment

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Wednesday, May 04, 2016 12:51 PM
To: Simons, Andrew <Simons.Andrew@epa.gov>
Cc: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Andy, Here's the RFA comment

Sorry, it is the national emission standards for radon emissions from operating mill tailings (40 CFR 61 Subpart W)

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Simons, Andrew
Sent: Wednesday, May 04, 2016 12:23 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Cc: Seidman, Emily <seidman.emily@epa.gov>

Subject: RE: Andy, Here's the RFA comment

Thx. Could you also remind me what rule we are talking about?

Andrew J. Simons | US EPA | Office of General Counsel | 1200 Pennsylvania Ave., NW | William Jefferson Clinton Federal Building (WJC), Mail Code 2322A | Washington DC 20460 | phone: (202) 564-3649

From: Rodman, Sonja
Sent: Wednesday, May 04, 2016 11:52 AM
To: Simons, Andrew <Simons.Andrew@epa.gov>
Cc: Seidman, Emily <seidman.emily@epa.gov>
Subject: Andy, Here's the RFA comment

Issue 14: Definition of small business
Summary of Comments Under Issue 14:
Commenter 0153 advocated that EPA define "small business" in the context of this rule, which applies to the owners and operators of uranium mills and other uranium recovery facilities and that EPA should provide information on the size of the companies, assets, and incomes that will be affected by these rules.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: GACT Terminology
Date: Tuesday, January 10, 2017 7:32:59 AM
Attachments: 2012-31645.pdf

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:14 PM
To: Collections.SubW
Subject: FW: GACT Terminology

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Thursday, May 05, 2016 3:01 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: GACT Terminology

What do you think about using the term "GACT-Based standards"? See p. 7493 of the attached.

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

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Part II

Environmental Protection Agency

40 CFR Part 63
National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2006–0790; FRL–9698–5]

RIN 2060–AR14

National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; notice of final action on reconsideration.

SUMMARY: In this action, the EPA is taking final action on reconsideration of certain issues related to the emission standards to control hazardous air pollutants from new and existing industrial, commercial and institutional boilers at area sources which were issued under section 112 of the Clean Air Act. As part of this action, the EPA is amending certain compliance dates for the standard and making technical corrections to the final rule to clarify definitions, references, applicability and compliance issues raised by petitioners and other stakeholders affected by the rule. The EPA today is taking final action on the proposed reconsideration.

DATES: This final rule is effective on February 1, 2013. The incorporation by reference of certain publications listed in this final rule were approved by the Director of the Federal Register as of February 1, 2013.

ADDRESSES: The EPA established a single docket under Docket ID No. EPA–HQ–OAR–2006–0790 for this action. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the EPA's Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue NW., Washington, DC 20004. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1741.

FOR FURTHER INFORMATION CONTACT: Ms. Mary Johnson, Energy Strategies Group (D243–01), Sector Policies and Programs Division, Office of Air Quality Planning and Standards, Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5025; fax number: (919) 541–5450; email address: *johnson.mary@epa.gov.*

Executive Summary

Purpose of This Regulatory Action

The EPA is taking final action on its proposed reconsideration of certain provisions of its March 21, 2011, final rule that established emission standards for the source category of new and existing industrial, commercial, and institutional boilers located at area source facilities listed pursuant to CAA sections 112(c)(3), 112(c)(6), and 112(k)(3)(B).

Section 112(d) of the CAA requires the EPA to regulate HAP from both major and area stationary sources. Section 112(d)(5) of the CAA allows the EPA to establish standards for area sources of HAP ''which provide for the use of generally available control technologies (GACT) or management practices by such sources to reduce emissions of hazardous air pollutants.'' While GACT serves as the basis for standards of most emissions from area source boilers, two pollutants emitted by coal-fired boilers, POM as 7–PAH and Hg, must be regulated based on the performance of MACT. These two pollutants are regulated based on MACT because area source industrial, commercial and institutional boilers combusting coal were listed under section 112(c)(6) of the CAA due to the source categories' emissions of POM and Hg. Section 112(c)(6) requires the EPA to regulate sources listed pursuant to that provision by issuing standards under section 112(d)(2) or (d)(4). The final rule meets this requirement by setting MACT standards for Hg and CO (as a surrogate for POM) for units in the coal-fired subcategory. Further, the final rule sets standards based on GACT for the urban HAP, other than Hg and POM, emitted from coal-fired boilers that pose the greatest public health risk, pursuant to section 112(c)(3) of the CAA, including arsenic, beryllium, cadmium, lead, chromium, manganese, nickel, ethylene dioxide, and PCBs. In addition, the final rule sets standards based on GACT for boilers combusting oil or biomass for urban HAP, including Hg, arsenic, beryllium, cadmium, lead, chromium, manganese, nickel, POM, ethylene dioxide, and PCBs.

In developing the MACT standards for coal-fired boilers, the EPA considered section 112(h) of the CAA, which allows the EPA to establish work practice standards in lieu of numerical emission limits under section 112(d)(2) only in cases where the agency determines that it is not feasible to prescribe or enforce an emission standard. The EPA has set work practice standards for emissions of Hg and POM from small coal-fired boilers, pursuant to section 112(h), in the form of periodic tune-ups.

This final rule amends certain provisions of the final rule issued by EPA on March 11, 2011, and responds to petitions for reconsideration filed by a number of different entities.

Summary of Major Reconsideration Provisions

In general, the final rule requires facilities classified as area sources of HAP with affected boilers to reduce emissions of harmful toxic air emissions from these combustion sources, improving air quality, and protecting public health in communities where these facilities are located.

Recognizing the diversity of this source category and the multiple sectors of the economy this rule affects, the EPA is establishing seven subcategories for boilers based on the design of the combustion equipment and operating schedules of the unit. In addition to the coal, biomass, and oil subcategories in the March 2011 final rule, we are establishing subcategories for seasonal boilers, limited-use boilers, oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr, and certain boilers that use a continuous oxygen trim system.

Numerical emission limits, based on MACT, are established for Hg and CO at new and existing large coal-fired boilers (i.e., with a design heat input capacity of 10 MMBtu/hr or more). A review of the data has resulted in changes to the Hg and CO emission limits contained in the March 2011 final rule. The EPA is also establishing a CEMS alternative compliance option for the numeric CO emission limit. Coal-fired boilers subject to a CO emission limit can comply with the limit using a periodic stack test and CPMS, or by using CEMS. The CO CEMS alternative compliance option is based on a 10-day rolling average and provides additional compliance flexibility to sources with existing CO CEMS equipment. New and existing small coal-fired units (*i.e.,* with a design heat input capacity of less than 10 MMBtu/hr) are subject to periodic tune-up work practices for CO and Hg in lieu of numeric emission limits because the EPA found that it was technologically

and economically impracticable to apply measurement methodology to these small sources, pursuant to CAA section 112(h).

Numerical emission limits, based on GACT, are established for PM as a surrogate for urban metal HAP other than Hg for new large coal-fired boilers. New and existing small coal-fired boilers are subject to periodic tune-up management practices for PM as a surrogate for urban metal HAP other than Hg, and for CO as a surrogate for urban organic HAP other than POM, based on GACT.

New large biomass- and oil-fired boilers are subject to numerical emission limits for PM as a surrogate for urban metal HAP, based on GACT. Existing biomass and oil-fired boilers and new small biomass- and oil-fired boilers are subject to periodic tune-up management practices for PM as a surrogate for urban metal HAP, based on GACT. New and existing biomass- and oil-fired boilers are subject to periodic tune-up management practices for CO as a surrogate for urban organic HAP, based on GACT. Certain other subcategories (seasonal boilers, limited-use boilers, oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr, and boilers with an oxygen trim system) are subject to periodic tune-up work practice or management practice requirements tailored to their schedule of operation and types of fuel.

The compliance date for existing sources is March 21, 2014. The compliance date for new sources that began operations on or before May 20, 2011 is May 20, 2011. For new sources that start up after May 20, 2011, the compliance date is the date of startup. New sources are defined as sources that began operation after June 4, 2010.

Costs and Benefits

This final action is intended to clarify definitions, references, applicability and compliance issues, but not change the coverage of the final rule. The final rule will affect an estimated 180,000 existing area source boilers and the EPA projects that approximately an additional 6,800 new boilers will be subject to the rule over the initial 3-year period. The clarifications should make it easier for owners and operators and for local and state authorities to understand and implement the rule's requirements. As compared to the March 2011 final rule, this final rule will not affect the estimated emission reductions, control costs or the benefits of the rule in substance. This final rule does not impose any additional regulatory requirements beyond those imposed by the previously promulgated boiler area source rule and, in fact, will result in a decrease in regulatory requirements for certain subcategories of boilers. A more detailed discussion of the costs and benefits of the March 2011 final rule is provided at 76 FR 15579, March 21, 2011, and 76 FR 80542, December 23, 2011. Section VI of this preamble provides a discussion of the impacts of this final rule.

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

7–PAH 7-polynuclear aromatic hydrocarbons
ACI activated carbon injection
ASTM American Society for Testing and Materials
Btu British thermal unit
CO carbon monoxide
CEMS continuous emission monitoring system
CDX Central Data Exchange
CAA Clean Air Act
CFR Code of Federal Regulations
COMS continuous opacity monitoring system
CPMS continuous parameter monitoring system
DOE Department of Energy
ERT Electronic Reporting Tool
ESP electrostatic precipitator
FR Federal Register
GACT generally available control technologies
HAP hazardous air pollutants
Hg mercury
HQ Headquarters
ISO International Standards Organization
lb pounds
MACT maximum achievable control technology
MMBtu million British thermal units
NAA No Action Assurance
NAICS North American Industry Classification System
NESHAP national emission standards for hazardous air pollutants
NSPS new source performance standard
NTTAA National Technology Transfer and Advancement Act
OMB Office of Management and Budget
PCBs polychlorinated biphenyls
PM particulate matter
POM polycyclic organic matter
ppm parts per million
PSD prevention of significant deterioration
RFA Regulatory Flexibility Act
RIN Regulatory Information Number
TBtu trillion British thermal units
TTN Technology Transfer Network
tpy tons per year
UMRA Unfunded Mandates Reform Act of 1995
UPL upper prediction limit
VCS Voluntary Consensus Standards
WWW Worldwide Web

Organization of This Document. The information presented in this preamble is organized as follows:

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J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
K. Congressional Review Act

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by this action include:

Industry category	NAICS Code [a]	Examples of regulated entities
Any area source facility using a boiler as defined in the final rule.	321	Wood product manufacturing.
	11	Agriculture, greenhouses.
	311	Food manufacturing.
	327	Nonmetallic mineral product manufacturing.
	424	Wholesale trade, nondurable goods.
	531	Real estate.
	611	Educational services.
	813	Religious, civic, professional, and similar organizations.
	92	Public administration.
	722	Food services and drinking places.
	62	Health care and social assistance.
	22111	Electric power generation.

[a] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this final action. To determine whether your facility may be affected by this action, you should examine the applicability criteria in 40 CFR 63.11193 of subpart JJJJJJ (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources). If you have any questions regarding the applicability of this final rule to a particular entity, consult either the air permit authority for the entity or your EPA regional representative, as listed in 40 CFR 63.13 of subpart A (General Provisions).

B. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this action will also be available on the WWW through the TTN. Following signature, a copy of the action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/*. The TTN provides information and technology exchange in various areas of air pollution control.

C. Judicial Review

Under the CAA section 307(b)(1), judicial review of this final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by April 2, 2013. Under CAA section 307(d)(7)(B), only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review.

Under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

II. Background Information

Section 112(d) of the CAA requires the EPA to establish NESHAP for both major and area sources of HAP that are listed for regulation under CAA section 112(c). A major source is any stationary source that emits or has the potential to emit 10 tpy or more of any single HAP or 25 tpy or more of any combination of HAP. An area source is a stationary source that is not a major source.

On March 21, 2011 (76 FR 15554), the EPA issued the NESHAP for industrial, commercial and institutional area source boilers pursuant to CAA sections 112(c)(3), 112(c)(6), and 112(k)(3)(B).

CAA section 112(k)(3)(B) directs the EPA to identify at least 30 HAP that, as a result of emissions from area sources, pose the greatest threat to public health in the largest number of urban areas. The EPA implemented this provision in 1999 in the Integrated Urban Air Toxics Strategy, (64 FR 38715, July 19, 1999) (Strategy). Specifically, in the Strategy, the EPA identified 30 HAP that pose the greatest potential health threat in urban areas, and these HAP are referred to as the ''30 urban HAP.'' Section 112(c)(3) of the CAA requires the EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. Under CAA section 112(d)(5), the EPA may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies (''GACT'') or management practices by such sources to reduce emissions of hazardous air pollutants.''

CAA section 112(c)(6) requires that the EPA list categories and subcategories of sources assuring that sources accounting for not less than 90 percent of the aggregate emissions of each of seven specified HAP are subject to standards under CAA sections 112(d)(2) or (d)(4), which require the application of the more stringent MACT. The seven HAP specified in CAA section 112(c)(6) are as follows: Alkylated lead compounds, POM, hexachlorobenzene, Hg, PCBs, 2,3,7,8-tetrachlorodibenzofuran, and 2,3,7,8-tetrachlorodibenzo-p-dioxin.

As noted in the preamble to the final rule, (76 FR 15556, March 21, 2011), we listed area source industrial boilers and commercial/institutional boilers combusting coal under CAA section 112(c)(6) based on the source categories' contribution of Hg and POM, and under CAA section 112(c)(3) for their contribution of arsenic, beryllium, cadmium, lead, chromium, manganese, nickel, ethylene dioxide, and PCBs, as well as Hg and POM. We promulgated final standards for coal-fired area source boilers to reflect the application of MACT for Hg and POM, and to reflect GACT for the urban HAP other than Hg and POM.

We listed industrial and commercial/institutional boilers combusting oil or biomass under CAA section 112(c)(3) for their contribution of Hg, arsenic, beryllium, cadmium, lead, chromium, manganese, nickel, POM, ethylene dioxide, and PCBs. For boilers firing oil or biomass, the final standards reflect GACT for all of the urban HAP.

On March 21, 2011, we also published a notice to initiate the reconsideration of certain aspects of the final rule for area source industrial, commercial and institutional boilers (76 FR 15266). The reconsideration notice identified several provisions of the final rule where additional public comment was appropriate. The notice also identified several issues of central relevance to the rulemaking where reconsideration was appropriate under CAA section 307(d).

Following promulgation of the final rule, the EPA also received petitions for reconsideration from the following organizations (Petitioners): American

Sugar Cane League of the U.S.A., Alaska Oil and Gas Association, American Coke and Coal Chemicals Institute, American Iron and Steel Institute, American Petroleum Institute, Council of Industrial Boiler Owners, Industry Coalition (American Forest and Paper Association (AF&PA) et. al.), National Petrochemical and Refiners Association, Sierra Club, and the State of Washington Department of Ecology. Petitioners, pursuant to CAA section 307(d)(7)(B), requested that the EPA reconsider numerous provisions in the rules. On December 23, 2011, the EPA granted the petitions for reconsideration on certain issues, and proposed certain revisions to the final rule in response to the reconsideration petitions and to address the issues that the EPA previously identified as warranting reconsideration. That proposal solicited comment on several specific aspects of the rule, including:

- Establishing separate requirements for seasonally operated boilers.
- Addressing temporary boilers.
- Clarifying the initial compliance schedule for existing boilers subject to tune-ups.
- Defining periods of gas curtailment.
- Providing an optional CO compliance mechanism using CEMS.
- Averaging times for parameter monitoring.
- Providing an affirmative defense for malfunction events.
- Adjusting frequency of tune-up work practices for very small units.
- Selecting a 99 percent confidence interval for setting the CO emission limit.
- Establishing GACT-based limits for biomass and oil-fired boilers.
- Scope and duration of the energy assessment and deadline for completing the assessment.
- Revising GACT-based limits for PM at new oil-fired boilers.
- Exempting area sources from title V permitting requirements.

In this action, the EPA is finalizing multiple changes to this NESHAP after considering public comments on the items under reconsideration.

III. Summary of Final Action on Reconsideration

As stated above, the December 23, 2011, proposed rule addressed specific issues and provisions the EPA identified for reconsideration. This summary reflects the agency's final action in regards to those provisions identified for reconsideration and on other discrete matters identified in response to comments or data received during the comment period.

A. Affected Sources

This final rule amends 40 CFR 63.11194 to specify that an existing dual-fuel fired boiler (*i.e.,* commenced construction or reconstruction on or before June 4, 2010) meeting the definition of gas-fired boiler, as defined in 40 CFR 63.11237, that meets the applicability requirements of subpart JJJJJJ after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel. A new or reconstructed dual-fuel fired boiler (*i.e.,* commenced construction or reconstruction after June 4, 2010) meeting the definition of gas-fired boiler, as defined in 40 CFR 63.11237, that meets the applicability criteria of subpart JJJJJJ after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be a new source under this subpart.

B. Source Category Exclusions

This final rule amends the list of boilers that are not part of the source categories subject to subpart JJJJJJ. We are revising this list (as set forth in 40 CFR 63.11195) to clarify certain boiler types and to include certain additional boilers that may be located at an industrial, commercial or institutional area source facility. These revisions of the source categories are described below.

1. Electric Boilers

The EPA is amending 40 CFR 63.11195 by adding electric boilers to the list of boilers not subject to subpart JJJJJJ. Electric boilers are defined in 40 CFR 63.11237 as follows:

Electric boiler means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

2. Residential Boilers

The EPA is amending 40 CFR 63.11195 by adding residential boilers to the list of boilers not subject to subpart JJJJJJ. We are clarifying that a residential boiler may be part of a residential combined heat and power system and that a boiler serving a single unit residence dwelling that has since been converted or subdivided into condominiums or apartments may also be considered a residential boiler. Residential boilers are defined in 40 CFR 63.11237 as follows:

Residential boiler means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (*e.g.,* university campus, military base, church grounds) or commercial/industrial facility (*e.g.,* farm) used primarily to provide heat and/or hot water for:

(1) A dwelling containing four or fewer families, or

(2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

3. Temporary Boilers

The EPA is amending 40 CFR 63.11195 by adding temporary boilers to the list of boilers not subject to subpart JJJJJJ. Similar to residential boilers, we did not intend to regulate temporary boilers under the area source standards because they are not part of either the industrial boiler source category or the commercial/institutional boiler source category. We note that neither the CAA section 112(c)(6) inventory nor the CAA section 112(c)(3) inventory included temporary boilers. In this final action, the EPA is simply clarifying the scope of categories regulated by subpart JJJJJJ. By their nature of being temporary, these boilers are operating in place of another non-temporary boiler while that boiler is being constructed, replaced or repaired, in which case we would have counted the non-temporary boiler as one being regulated. Additionally, the final major source rule for boilers excludes temporary boilers.

The definition of ''temporary boiler'' specifies that a boiler is not a temporary boiler if it remains at a location within the facility and performs the same or similar function for more than 12 consecutive months unless the regulatory agency approves an extension. The definition of ''temporary boiler'' also specifies that any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more. Temporary boilers are defined in 40 CFR 63.11237 as follows:

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulatory agency

upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

4. Boilers With Section 3005 Permits

The EPA is clarifying the language in 40 CFR 63.11195(c) to provide an exclusion stating ''unless such units do not combust hazardous waste and combust comparable fuels'' such that it reads: ''A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (*e.g.,* hazardous waste boilers), unless such units do not combust hazardous waste and combust comparable fuels.''

5. Boilers Used as Control Devices

The EPA is amending the language in 40 CFR 63.11195(g) to clarify that any boiler that is used as a control device to comply with a subpart under part 60, 61, or 65 of chapter 40 is not subject to subpart JJJJJJ provided that at least 50 percent of the heat input to the boiler is provided by the gas stream that is regulated under another subpart.

C. Emission Limits

1. Hg Emission Limit for Coal-Fired Boilers

The EPA is amending the Hg emission limit for large coal-fired boilers to 0.000022 lb per MMBtu based on a revised analysis. The revised analysis excludes data for a utility boiler that were erroneously used as the basis for the Hg emission limit included in the March 2011 final rule. Further discussion of this revision to the Hg emission limit is located in the December 23, 2011, proposal (76 FR 80541).

A memorandum ''*Beyond-the-Floor Analysis for Mercury and Carbon Monoxide*'' located in the docket for the rulemaking describes our beyond-the-floor analysis for Hg and CO emissions from new and existing area source coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater. In the beyond-the-floor option for Hg emissions, new and existing coal-fired boilers would be required to comply with a Hg emission limit more stringent than the MACT floor-based emission limit of 2.2×10^{-5} lb of Hg per MMBtu. To comply with a limit more stringent than the fabric filter-based MACT floor limit, it is expected that an affected boiler would need to employ fabric filter control along with ACI. In summary, we determined that the beyond-the-floor option of installing ACI for Hg control from area source coal-fired boilers is not economically feasible.

As discussed in the preamble to the June 2010 proposed rule (75 FR 31896) and the preamble to the March 2011 final rule (76 FR 15554), we also considered whether fuel switching was an appropriate control technology for purposes of determining either the MACT floor level or beyond-the-floor level of control. We determined that fuel switching was not an appropriate floor or beyond-the-floor control. As also discussed in the June 2010 and March 2011 preambles, we determined that an energy assessment requirement was an appropriate beyond-the-floor option for existing large boilers. These previous analyses continue to be applicable for mercury.

2. Using the UPL for Setting the CO Emission Limit

The EPA is amending the CO emission limit for coal-fired boilers to reflect a revised analysis that uses the 99 percent confidence level in determining the UPL. Based on the results of the revised analysis, we are amending the CO emission limit for new and existing coal-fired boilers from 400 ppm by volume on a dry basis, corrected to 3 percent oxygen, to 420 ppm by volume on a dry basis, corrected to 3 percent oxygen.

As discussed in the ''*Beyond-the-Floor Analysis for Mercury and Carbon Monoxide*'' memorandum, to comply with a limit more stringent than the MACT floor based CO limit, it is expected that new and existing area source coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater may need to install an oxidation catalyst. As fully explained in the memorandum, we determined that the beyond-the-floor option of installing an oxidation catalyst for CO control was technically infeasible. Other methods of reducing CO emissions, such as upgrading new burners and overfire air systems, were also considered and determined to be technically infeasible options. As explained earlier in this preamble, we determined that fuel switching was not an appropriate floor or beyond-the-floor control and that an energy assessment requirement was an appropriate beyond-the-floor option for existing large boilers. These previous analyses continue to be applicable for CO.

3. Compliance Alternative for PM for Certain Oil-Fired Boilers

The EPA is amending the applicability of PM emission limit requirements for certain new or reconstructed oil-fired boilers. We are amending 40 CFR 63.11210 to specify that new or reconstructed oil-fired boilers satisfy GACT for PM when they combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and do not use a post-combustion technology (except a wet scrubber) to reduce PM or sulfur dioxide emissions.

D. Tune-Up Work Practice and Management Practice Standards

1. Requirements for Seasonally Operated Boilers

The EPA is establishing separate requirements for a subcategory of boilers that are seasonally operated. For seasonally operated boilers, we are amending 40 CFR 63.11223 to specify that these boilers are required to complete a tune-up every 5 years, instead of on a biennial basis as is required for most non-seasonal boilers. Specifically, existing seasonal boilers are required to complete the initial tune-up by March 21, 2014, and a subsequent tune-up every 5 years after the initial tune-up. New and reconstructed seasonal boilers are not required to complete an initial tune-up, but are required to complete a tune-up every 5 years after the initial startup of the new or reconstructed boiler.[1] A combined total of 15 days of periodic testing of the seasonal boiler during the 7-month shutdown is allowed. The definition of ''seasonal boiler'' clarifies that it only applies to biomass- or oil-fired boilers. Seasonally operated boilers are defined in 40 CFR 63.11237 as follows:

Seasonal boiler means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to

[1] Generally, boilers are initially installed optimized for efficiency, *i.e.*, ''in tune.'' Periodic tune-ups restore a boiler to its efficient state, given its age and other parameters. We do not require a tune-up upon startup because boilers normally would already be efficient at that time. Emission reductions are projected to occur by maintaining efficient combustion through periodic tune-ups.

boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

2. Requirements for Small Oil-Fired Units

The EPA is establishing separate requirements for a subcategory of oil-fired boilers with a heat input capacity of equal to or less than 5 MMBtu/hr. We are amending 40 CFR 63.11223 to specify that this subcategory of small oil-fired boilers are required to complete a tune-up every 5 years, instead of on a biennial basis as is required for most larger oil-fired boilers. Specifically, existing oil-fired boilers with a heat input capacity of equal to or less than 5 MMBtu/hr are required to complete the initial tune-up by March 21, 2014, and a subsequent tune-up every 5 years after the initial tune-up. New and reconstructed oil-fired boilers with a heat input capacity of equal to or less than 5 MMBtu/hr are not required to complete an initial tune-up, but are required to complete a tune-up every 5 years after the initial startup of the new or reconstructed boiler.

3. Requirements for Boilers With Oxygen Trim Systems

The EPA is establishing separate requirements for boilers with oxygen trim systems that maintain an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up. We are amending 40 CFR 63.11223 to specify that this subcategory of boilers is required to complete a tune-up every 5 years. Specifically, existing boilers with oxygen trim systems are required to complete the initial tune-up by March 21, 2014, and a subsequent tune-up every 5 years after the initial tune-up. New and reconstructed boilers with oxygen trim systems are not required to complete an initial tune-up, but are required to complete a tune-up every 5 years after the initial startup of the new or reconstructed boiler.

4. Requirements for Limited-Use Boilers

The EPA is establishing separate requirements for a subcategory of boilers that operate on a limited basis. The limited-use subcategory includes any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent. For limited-use boilers, we are amending 40 CFR 63.11223 of the final rule to specify that these boilers are required to complete a tune-up every 5 years. Specifically, existing limited-use boilers are required to complete the initial tune-up by March 21, 2014, and a subsequent tune-up every 5 years after the initial tune-up. New and reconstructed limited-use boilers are not required to complete an initial tune-up, but are required to complete a tune-up every 5 years after the initial startup of the new or reconstructed boiler. Limited-use boilers are not subject to the emission limits in Table 1 to the subpart, the energy assessment requirements in Table 2 to the subpart, or the operating limits in Table 4 to the subpart.

E. Energy Assessment Work Practice and Management Practice Standards

1. Scope

The EPA is amending the definition of ''energy assessment'' to clarify that the scope of the energy assessment does not encompass energy use systems located off-site or energy use systems using electricity purchased from an off-site source. The energy assessment is limited to only those energy use systems, located on-site, associated with the affected boilers. We are also clarifying that the scope of the assessment is based on energy use by discrete segments of a facility (*e.g.,* production area or building) and not by a total aggregation of all individual energy using segments of a facility.

The definition of ''boiler system'' is being revised in this final rule to clarify that it means the boiler and associated components directly connected to and serving the energy use systems. We are amending the definition of ''energy use system'' to clarify that energy use systems are only those systems using energy clearly produced by affected boilers.

We are clarifying that energy assessor approval and qualification requirements are waived in instances where an energy assessment completed on or after January 1, 2008 meets or is amended to meet the energy assessment requirements in this final rule by March 21, 2014. Finally, we are specifying that a source that is operating under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected boilers, by March 21, 2014, satisfies the energy assessment requirement. We consider these energy management programs to be equivalent to the one-time energy assessment because facilities having these programs operate under a set of practices and procedures designed to manage energy use on an ongoing basis. These programs contain energy performance measurements and tracking plans with periodic reviews.

2. Compliance Date

As specified in 40 CFR 63.11196(a)(3), existing boilers that are subject to the energy assessment requirement must achieve compliance with the energy assessment requirement no later than March 21, 2014. Thus, in order to meet the requirements of the rule, energy assessments must, therefore, be completed by the compliance date (March 21, 2014) for existing sources.

3. Maximum Duration Requirements

The EPA is amending the definition of ''energy assessment'' for facilities with affected boilers with less than 0.3 TBtu/yr heat input capacity and for facilities with affected boilers with 0.3 to 1 TBtu/yr heat input capacity to change the maximum time to conduct the energy assessment from one day to 8 on-site technical hours and from three days to 24 on-site technical hours, respectively, and to allow sources to perform longer assessments at their discretion. We are also amending the definition of ''energy assessment'' for facilities with affected boilers with greater than 1 TBtu/yr heat input capacity to specify that the maximum time to conduct the assessment is up to 24 on-site technical hours for the first TBtu/yr plus 8 on-site technical hours for every additional 1.0 TBtu/yr not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator.

F. GACT-Based Standards

1. Establishing GACT-Based Emission Limits for Biomass- and Oil-Fired Boilers

The EPA is not amending the GACT-based standards, as specified in the March 21, 2011, final rule, for biomass- and oil-fired boilers. Specifically, the final standards for biomass- and oil-fired area source boilers are based on GACT instead of MACT as were the proposed standards for all pollutants except POM. Our rationale for the changes between proposal and promulgation for the biomass- and oil-fired boilers, including not requiring MACT for POM, can be found in the preamble to the promulgated area source standards (76 FR 15565–15567 and 15574–15575, March 21, 2011). The final standards for area source biomass- and oil-fired boilers require these boilers to meet the following standards:

New boilers with heat input capacity greater than 10 MMBtu/hr that are biomass-fired or oil-fired must meet GACT-based numerical emission limits for PM.

New boilers with heat input capacity greater than 10 MMBtu/hr that are biomass-fired or oil-fired must comply

with work practice standards to minimize the boiler's startup and shutdown periods following the manufacturer's recommendations, or the manufacturer's recommendations for a unit of similar design.

Existing boilers with heat input capacity greater than 10 MMBtu/hr that are biomass-fired or oil-fired must have a one-time energy assessment performed by a qualified energy assessor, an energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in this final rule by March 21, 2014, or an energy management program established through energy management systems compatible with ISO 50001, that includes the affected boilers, by March 21, 2014, under which the owner or operator currently operates.

All new and existing units, regardless of size, that are biomass-fired or oil-fired must have a GACT-based periodic tune-up.

2. Setting GACT-Based PM Standards for New Oil-Fired Boilers

The EPA is not making any changes to the PM limit for new oil-fired boilers. New oil-fired boilers with heat input capacity greater than 10 MMBtu/hr must meet a GACT-based numerical emission limit for PM (0.03 lb per MMBtu of heat input). New oil-fired units, regardless of size, must have a GACT-based periodic tune-up. Our rationale for finalizing GACT-based PM emissions limits can be found in the preamble to the promulgated area source standards (76 FR 15574, March 21, 2011).

G. Initial Compliance

1. Dates

Some commenters have argued that the 3-year compliance deadline of March 21, 2014, for existing sources to meet the standards does not provide sufficient time for sources to meet the standards in view of the large number of sources subject to the rule and that these sources will be competing for the needed resources and materials from engineering consultants, permitting authorities, equipment vendors, construction contractors, financial institutions, and other critical suppliers.

As an initial matter, we note that many sources subject to the standards should be able to meet the standards within 3 years (*i.e.,* by March 21, 2014), even those that need to install pollution control technologies to do so. In addition, many sources subject to the standards are existing biomass- or oil-fired boilers or small coal-fired boilers (less than 10 MMBtu/hr) and will not need to install controls in order to demonstrate compliance, as these sources are subject only to work practices or management practices.

At the same time, the CAA allows title V permitting authorities to grant sources, on a case-by-case basis, extensions to the compliance time of up to 1 year if such time is needed for the installation of controls. *See* CAA section 112(i)(3)(B)). Permitting authorities are already familiar with, and in many cases have experience with, applying the 1-year extension authority under section 112(i)(3)(B) since the provision applies to all NESHAP. *See* 40 CFR 63.6(i)(4)(A). We believe that should the range of circumstances that commenters have cited as impeding sources' ability to install controls within 3 years materialize, then permitting authorities can take those circumstances into consideration when evaluating an existing source's request for a 1-year extension, and where such applications prove to be well-founded, permitting authorities can make the 1-year extension available to applicants.

In making a determination as to whether an extension is appropriate, we believe it is reasonable for permitting authorities to consider the large number of pollution control retrofit projects being undertaken for purposes of complying either with the standards in this rule or with those of other rules such as the Major Source Boilers Standards and the Mercury and Air Toxics Standards for the power sector that may be competing for similar resources.

Further, commenters have pointed out that in some cases operators of existing sources that are subject to these standards and that generate energy may opt to meet the standards by terminating operations at these sources and building new sources to replace the energy generation at the shut-down sources. While the ultimate discretion to provide a 1-year extension lies with the permitting authority, the EPA believes that it may be reasonable for permitting authorities to allow the fourth year extension for the installation of replacement sources of energy generation at the site of a facility applying for an extension for that purpose. Specifically, the EPA believes where an applicant demonstrates that it is building replacement sources of energy generation for purposes of meeting the requirements of these standards, such a replacement project could be deemed to constitute the ''installation of controls'' under section 112(i)(3)(B).

In sum, the EPA believes that although most, if not all, units will be able to fully comply with the standards within 3 years, the fourth year that permitting authorities are allowed to grant for installation of controls is an important flexibility that will address situations where an extra year is necessary.

2. Demonstrating Initial Compliance

The EPA is amending 40 CFR 63.11210 to clarify the dates by which new and reconstructed boilers need to demonstrate initial compliance. We are amending 40 CFR 63.11210(d) to clarify that only boilers that are subject to emission limits for PM, Hg or CO in Table 1 to subpart JJJJJJ have a 180-day period after the applicable compliance date to demonstrate initial compliance.

We are adding a new paragraph (i) to 40 CFR 63.11210 to clarify the initial compliance requirements for boilers located at existing major sources of HAP that become area sources on a timely basis. Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source. Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2011 or startup. Notification of such changes must be submitted according to 40 CFR 63.11225(g).

We are adding a new paragraph (j) to 40 CFR 63.11210 that specifies initial compliance demonstration requirements for existing affected boilers that have not operated between the effective date of the rule and the source's compliance date. Owners and operators of boilers subject to emission limits must complete the initial compliance demonstration no later than 180 days after the re-start of the affected boiler, sources subject to tune-up requirements must complete the initial performance tune-up no later than 30 days after the re-start of the affected boiler, and sources subject to the one-time energy assessment must complete the assessment no later than the compliance date specified in 40 CFR 63.11196.

3. Schedule for Existing Boilers Subject to Tune-Up Requirements

The EPA is amending 40 CFR 63.11196 to specify that all existing boilers subject to the tune-up requirement have 3 years (by March 21, 2014) in which to demonstrate initial compliance, instead of 1 year as specified in the 2011 final rule (76 FR 15554, March 21, 2011) or 2 years as specified in the proposed reconsideration of final rule action (76

FR 80532, December 23, 2011). In the December 23, 2011, proposal, we specifically requested comment on whether the initial compliance period for the tune-up requirement should be extended to March 21, 2014.

4. Conducting Initial Tune-Ups at New and Reconstructed Sources

The EPA is removing the requirement for an initial tune-up for new and reconstructed boilers. Thus, new and reconstructed units are required to complete the applicable biennial or 5-year tune-up no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed boiler.

5. Fuel Requirements

The EPA is amending 40 CFR 63.11223(a) to specify that boiler tune-ups must be conducted while burning the type of fuel that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

H. Operating Limits

1. Operating Limits for Oxygen Concentration

The EPA is clarifying that the oxygen concentration must be at or above the minimum established during a performance stack test. These limits have also been clarified to be applicable when the unit is firing the fuel or fuel mixture utilized during the CO performance test.

2. Maximum Operating Load

The EPA is including provisions for establishing a unit-specific limit for maximum operating load that applies to any boiler subject to an emission limit for which compliance is demonstrated by a performance stack test. Operating load data includes fuel feed rate data or steam generation rate data.

3. Establishing Operating Limits for Wet Scrubbers

The EPA is amending the operating limit provisions in 40 CFR 63.11211(b)(2) for an ESP operated with a wet scrubber to remove the statement that the operating limits for ESP do not apply to dry ESP systems operated without a wet scrubber.

I. Continuous Compliance

1. CO Emission Limit

The March 2011 final rule requires sources subject to a CO emission limit to demonstrate compliance by measuring CO emissions while also monitoring the oxygen content of the exhaust. We are amending the monitoring requirements in 40 CFR 63.11224(a) to allow sources subject to a CO emission limit the option to install, operate, and maintain CO and oxygen CEMS. The CEMS must be installed, operated and maintained according to Performance Specifications 3 and 4, 4A, or 4B at 40 CFR part 60, appendix B, and according to the site-specific monitoring plan that each facility is required to develop. The CEMS will also be required to complete a performance evaluation, also according to Performance Specifications 3 and 4, 4A, or 4B.

Sources have the option to demonstrate continuous compliance by monitoring both CO and oxygen using CEMS to demonstrate compliance with the CO emission limit, corrected to 3 percent oxygen, or monitoring and complying with an oxygen content operating limit that is established during the performance stack test. Sources that use CO and oxygen CEMS are not required to perform initial CO performance testing nor are they subject to oxygen content operating limit requirements. Sources that choose to demonstrate continuous compliance by monitoring and complying with an oxygen content operating limit must install, operate, and maintain an oxygen analyzer system at or above the minimum percent oxygen by volume that is established as the operating limit for oxygen when firing the fuel or fuel mixture utilized during the most recent CO performance stack test. We have removed the requirement that the oxygen monitor be located at the outlet of the boiler, so that it can be located either within the combustion zone or at the outlet as a flue gas oxygen monitor.

We are amending the oxygen monitoring requirements to allow for the use of oxygen trim systems and have included oxygen trim systems in the definition of ''oxygen analyzer system.'' We have clarified that operation of oxygen trim systems to meet the oxygen monitoring requirements shall not be done in a manner that compromises furnace safety. The definitions of ''oxygen analyzer system'' and ''oxygen trim system'' in 40 CFR 63.11237 read as follows:

- *Oxygen analyzer system* means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.
- *Oxygen trim system* means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

2. Tune-Up Standards

The EPA is amending the requirements for demonstrating continuous compliance with the work practice and management practice tune-up standards in 40 CFR 63.11223 to clarify that CO measurements that are required before and after tune-up adjustments may be taken using a portable CO analyzer. We are clarifying that the requirements to inspect the burner and the system controlling the air-to-fuel ratio may be delayed until the next scheduled shutdown. We are also clarifying that units that produce electricity for sale may delay these inspections until the first outage, not to exceed 36 months from the previous inspection. In addition, we are clarifying that optimization of CO emissions should be consistent with any NO_X requirements to which the unit is subject. Finally, we are specifying for units that are not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

3. Performance Testing Frequency

The EPA is amending 40 CFR 63.11220 to specify in paragraph (b) that the owner or operator of an affected boiler does not need to conduct further PM emissions testing if, when demonstrating initial compliance with the PM emission limit, the performance test results show that the PM emissions are equal to or less than half of the PM emission limit. The owner or operator must continue to comply with all applicable operating limits and monitoring requirements. If the initial performance test results show that the PM emissions are greater than half of the PM emission limit, the owner or operator must conduct subsequent performance tests as specified in 40 CFR 63.11220(a).

We are clarifying in 40 CFR 63.11220(d) that existing affected boilers that have not operated since the previous compliance demonstration must complete their subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler.

4. Fuel Analysis

The EPA is amending 40 CFR 63.11220 to specify in paragraph (c) that the owner or operator of an affected coal-fired boiler does not need to conduct further fuel analysis sampling if, when demonstrating initial compliance with the Hg emission limit, the Hg constituents in the fuel or fuel

mixture are measured to be equal to or less than half of the Hg emission limit. The owner or operator must continue to comply with all applicable operating limits and monitoring requirements.

When demonstrating initial compliance with the Hg emission limit, if the Hg constituents in the fuel or fuel mixture are greater than half of the Hg emission limit, the owner or operator must conduct quarterly sampling.

5. Averaging Times

The EPA is amending the averaging time for parameter monitoring and compliance with operating limits to a 30-day rolling average.

The EPA is revising the definitions of ''30-day rolling average'' and ''daily block average'' to exclude periods of startup and shutdown and periods when the unit is not operating in the calculation of the arithmetic mean.

6. Monitoring Data

The EPA is clarifying in 40 CFR 63.11221 the monitoring data collection requirements.

J. Periods of Startup and Shutdown

1. Definitions

The EPA is revising the definitions of ''startup'' and ''shutdown'' such that they are tailored for industrial boilers and are consistent with the definitions of ''startup'' and ''shutdown'' in the 40 CFR part 63, subpart A General Provisions. The revised definitions reflect the fact that industrial boilers function to provide steam or, in the case of cogeneration units, electricity. We are defining startup as the period between either the first-ever firing of fuel in the boiler or the firing of fuel in the boiler after a shutdown and when the boiler first supplies steam or heat. We are defining shutdown as the period between either when no more steam or heat is supplied by the boiler or no fuel is being fired in the boiler and when there is no steam and no heat being supplied and no fuel being fired in the boiler.

2. Compliance With Operating Limits

The EPA has clarified that operating limits must be met at all times except during periods of startup and shutdown.

3. Minimization of Startup and Shutdown Periods

The EPA is amending 40 CFR 63.11223(g) to include biomass- and oil-fired boilers in the requirement to minimize the time spent in startup and shutdown periods. Specifically, the requirement is to minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available must be followed.

K. Affirmative Defense Language

In this final rule, the EPA is updating the affirmative defense provisions for malfunctions that were included in the March 21, 2011, final rule. We have made certain changes to 40 CFR 63.11226 to clarify the circumstances under which a source may assert an affirmative defense. The changes clarify that a source may assert an affirmative defense to a claim for civil penalties for violations of standards that are caused by malfunctions. A source can avail itself of the affirmative defense when there has been a violation of the emission standards due to an event that meets the definition of malfunction under 40 CFR 63.2 and qualifies for assertion of an affirmative defense under 40 CFR 63.11226. In the March 2011 final rule, we used terms such as ''exceedance'' or ''excess emissions'' in 40 CFR 63.11226, which created unnecessary confusion as to when the affirmative defense could be used. In this final rule, we have eliminated those terms and used the word ''violation'' to make clear that the affirmative defense to civil penalties is available only where an event that causes a violation of the emissions standard meets the criteria for the assertion of an affirmative defense under 40 CFR 63.11226.

This final rule requires that to establish the affirmative defense the owner must prove by a preponderance of evidence that repairs were made as expeditiously as possible when a violation occurs. We have re-evaluated the language concerning the use of off-shift and overtime labor, to the extent practicable, to make the repairs and believe that the language is not necessary. Thus, the language has been eliminated from this final rule.

We have also eliminated the 2-day notification requirement that was included in 40 CFR 63.11226(b) of the March 2011 final rule because we expect to receive sufficient notification of malfunction events that result in violations in other required compliance reports as specified under 40 CFR 63.11225. In addition, we have revised the 45-day affirmative defense reporting requirement that was included in 40 CFR 63.11226(b) of the March 2011 final rule. This final rule requires sources to include the report in the first compliance, deviation or excess emission report due after the initial occurrence of the violation, unless the compliance, deviation or excess emission report is due less than 45 days after the violation. In that case, the affirmative defense report may be included in the second compliance, deviation or excess emission report due after the initial occurrence of the violation. Because the affirmative defense report is now included in a subsequent compliance, deviation or excess emission report, there is no longer a need for the 30-day extension for submitting a stand-alone affirmative defense report. Consequently, we are not including that provision in this final rule.

L. Notification, Recordkeeping and Reporting Requirements

The EPA is amending 40 CFR 63.11225(a)(2) to specify that existing affected boilers have until January 20, 2014 to submit their Initial Notification.

The EPA is amending 40 CFR 63.11225(c)(2) to specify that records of fuel use and type are required only for boilers that are subject to numerical emission limits. We are also amending 40 CFR 63.11223(b) to clarify that the type and amount of fuel needs to be included in reports only if the boiler was physically and legally capable of using more than one type of fuel during that time period and that the report should include concentrations of CO and oxygen, measured at high fire or typical operating load, before and after the tune-up of the boiler. Finally, we are specifying that for units sharing a fuel meter, the fuel use by each boiler may be estimated.

The EPA is amending 40 CFR 63.11225(b) to clarify the requirements for submitting a biennial or 5-year report for units that are only subject to tune-up requirements and to specify the information that must be included in the annual, biennial, or 5-year compliance report.

We are amending 40 CFR 63.11225(c)(2) to specify, as applicable, that a copy of the energy assessment, records documenting the days of operation for each boiler that meets the definition of a seasonal boiler, and a copy of the federally enforceable permit for each boiler that meets the definition of a limited-use boiler must be maintained.

We are revising 40 CFR 63.11225(d) to remove the requirement that the most recent 2 years of records be maintained on site and are adding language that allows for computer access or other means of immediate access of records stored in a centralized location.

We are adding a new paragraph 40 CFR 63.11225(g) to require that boilers that switch fuels, make a physical change, or take a permit limit that results in the applicability of a different subcategory within subpart JJJJJJ, a switch out of subpart JJJJJJ, or the applicability of subpart JJJJJJ must provide notification within 30 days of the fuel switch, physical change, or permit limit. 40 CFR 63.11225(g) also specifies what information the notification must include.

M. Title V Permitting Requirements

For the reasons stated in our March 21, 2011, final rule (76 FR 15554) as well as our reconsideration proposal (76 FR 80532, December 23, 2011), the EPA is not making any changes to the title V exemption for area sources. Thus, no area sources subject to subpart JJJJJJ are required to obtain a title V permit as a result of being subject to subpart JJJJJJ.

Facilities that are synthetic area sources for HAP under subpart JJJJJJ may already be covered by a title V permit or may be required to obtain a title V permit in the future for a reason other than subpart JJJJJJ. For example, area source boilers could be major sources of non-HAP pollutants or could be located at sources that are subject to title V. Thus, the title V exemption in subpart JJJJJJ does not affect whether or not these area sources under subpart JJJJJJ are otherwise required to obtain a permit under part 70 or part 71. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b).

N. Definition of Period of Gas Curtailment or Supply Interruption

We are amending the definition of ''period of natural gas curtailment or supply interruption'' in 40 CFR 63.11237 to clarify that a curtailment does not include normal market fluctuations in the price of gas that are not associated with periods of supplier delivery restrictions. We are also amending the definition to indicate that periods of supply interruption that are beyond control of the facility can also include on-site natural gas system emergencies and equipment failures, and that legitimate periods of supply interruption are not limited to off-site circumstances. We are revising the term and the definition so that it includes the curtailment of any gaseous fuel, and is not limited to just natural gas. Finally, we are clarifying that the supply of gaseous fuel is to an ''affected boiler'' rather than ''affected facility'' and that the supply of gaseous fuel is ''restricted or halted'' for reasons beyond the control of the facility. The definition is amended to read as follows:

Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

O. Miscellaneous Technical Corrections

In addition to the above summary of the EPA's final action regarding provisions identified for reconsideration and on other discrete matters identified in response to comments or data received during the comment period, other definitional and regulatory text revisions are being made. These clarifications will help affected sources determine their applicability and better understand the rule requirements. In some instances, definitions and regulatory text have been revised or added to correspond with other related rules, especially the emission standards for industrial, commercial, and institutional boilers at major sources of HAP (40 CFR part 63, subpart DDDDD). Section IV of this preamble includes additional details regarding these miscellaneous technical corrections.

P. Other Issues

40 CFR 63.11196(a)(1) of the March 21, 2011, final rule (76 FR 15554) requires that owners and operators of existing affected boilers subject to the tune-up requirement complete the initial boiler tune-up by March 21, 2012. In addition, 40 CFR 63.11225(a)(4) requires that owners and operators of existing affected boilers subject to the tune-up requirement submit their Notification of Compliance Status no later than 120 days after the applicable compliance date specified in 40 CFR 63.11196. That means that those owners and operators were required to submit their Notification of Compliance Status by July 19, 2012. The Notification must include, among other information, a certification that states ''This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler.''

On March 13, 2012, the EPA issued a No Action Assurance (NAA) to all owners and/or operators of existing industrial boilers and commercial and institutional boilers at area sources of HAP emissions stating that we would not enforce the requirement to conduct an initial tune-up by March 21, 2012. The NAA was primarily based upon the EPA's concern that sources were reporting a shortage of qualified individuals to prepare boilers for tune-ups and then conduct those tune-ups by the regulatory deadline, as well as upon the uncertainty in the regulated community resulting from the pending reconsideration of the Area Source Boiler Rule. The March 13, 2012, NAA states that it remains in effect until either (1) 11:59 p.m. EDT, October 1, 2012, or (2) the effective date of a final rule addressing the proposed reconsideration of the Area Source Boiler Rule, whichever occurs earlier.

As the July 19, 2012, Notification of Compliance Status deadline approached, a final rule addressing the proposed reconsideration of the Area Source Boiler Rule had not been issued, and thus the NAA continued to remain in effect. Nothing that the EPA learned since the issuance of the original NAA letter led us to question our original concerns about the feasibility of all sources timely completing an initial tune-up. Further, sources that did not complete a tune-up could not certify that they conducted one. Thus, on July 18, 2012, the EPA extended the NAA for sources required to complete an initial tune-up by March 21, 2012, to also include the deadline for submitting the Notification of Compliance Status regarding the initial tune-up. In addition, given that no final rule addressing the proposed reconsideration of the Area Source Boiler Rule had been issued as of July 18, 2012, the pending reconsideration continued to create uncertainty in the regulated community. Thus, the NAA letter also amended the expiration date of the March 13, 2012, NAA, such that the NAA would remain in effect until either (1) 11:59 p.m. EST, December 31, 2012, or (2) the effective date of a final rule addressing the proposed reconsideration of the Area Source Boiler Rule, whichever occurs earlier.

This final rule revises the compliance date for existing affected boilers subject to a tune-up from March 21, 2012, to March 21, 2014. The July 19, 2012, deadline for submitting the Notification of Compliance Status regarding the initial tune-up is reset to July 19, 2014, as a result of revising the compliance date for existing affected boilers subject to a tune-up to March 21, 2014. Owners or operators that had not yet conducted their boiler tune-up, but submitted a Notification of Compliance Status by July 19, 2012, simply to notify the EPA

that the tune-up had not been completed, will need to submit a revised Notification of Compliance Status after their boiler tune-up is conducted.

IV. Summary of Significant Changes Since Proposed Action on Reconsideration

Numerous changes are being made to the March 2011 final rule based on the public comments received. Most of the changes are editorial to clarify applicability and implementation issues raised by the commenters. The public comments received on the proposed changes and the responses to them can be viewed in the memorandum ''*Summary of Public Comments and Responses for: National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers*'' located in the docket.

A. Applicability

Since proposal, changes to the applicability of this final rule have been made.

1. Dual-Fuel Fired Boilers

The March 2011 final rule includes as a new affected source a boiler that commences fuel switching from natural gas to solid fossil fuel, biomass, or liquid fuel after June 4, 2010. For example, under the March 2011 final rule, if an unaffected gas-fired boiler currently burns oil as allowed under the definition of gas-fired boiler, but after June 4, 2010 burns oil for reasons not allowed under the definition of gas-fired, these boilers would become new affected oil-fired units. The December 2011 reconsideration action did not propose any revisions to the provisions regarding boilers that fuel switch after June 4, 2010. However, the EPA has been made aware through public comments that many dual-fuel fired units presently burn primarily natural gas with limited or no amounts of oil, and that these units may want to burn oil in the future for reasons not allowed under subpart JJJJJJ's definition of gas-fired (*e.g.* cost). Under the March 2011 final rule, such an existing dual-fuel gas-fired boiler that wanted to avoid being subject to the new source requirements would notify as an existing oil-fired unit and be subject to the requirements for existing oil-fired boilers.

We received public comments regarding rule applicability and compliance requirements for these existing dual-fuel fired boilers. One commenter asserted that regardless of the fuel capability identified in an initial notification, the distinction between a new source and an existing source should only be made based upon a source's capability to burn a particular fuel as of the effective date of the rule. The commenter explained that many facilities have boilers that can burn either gas or liquid and, because the price of gas is currently lower than the price of most liquid fuels, they likely are currently firing gas during normal operation, with liquid being fired only during periods of curtailment. The commenter pointed out that, in the future, the price of liquid fuel may be lower than the price of gaseous fuel, and facilities may want to preferentially burn liquid fuel over gas fuel. The commenter asserted that a change in the fuel from the initial notification should not, in and of itself, reclassify a source as a new source for purposes of subpart JJJJJJ. Further, the commenter asserted that their interpretation is comparable to the fuel switching provisions in the EPA's NSPS and PSD regulations. The same commenter asserted that if a source already has oil or alternate fuel capability, then that source would not be commencing construction or making a change to the source. The commenter explained that many of these facilities with boilers capable of burning fuel oil as a back-up for natural gas may not have submitted an initial notification since gaseous fuel-fired boilers that only burn liquid during periods of curtailment are not covered by the Area Source Boiler Rule. The commenter maintained the EPA's guidance, that a dual-fuel fired boiler that fails to file an initial notification and then plans to burn oil in the future would be considered to be a new source, appears to be contrary to regulatory text stating that an affected source is a new source if construction or reconstruction of the affected source is commenced after June 4, 2010 and the applicability criteria are met at the time construction is commenced. The commenter suggested that the EPA clarify that to become a new source, the source must be altered to be capable of accommodating a new fuel, so that new sources are not created simply by failing to submit an initial notification or a notice of fuel switching for a unit that is already capable of accommodating that fuel. Another commenter explained that owners and operators of dual-fuel fired boilers anticipate firing natural gas for many years to come, or until gas supply is temporarily curtailed outside of their control or until such a time when fuel oil becomes more cost effective to burn than gas. The commenter asserted that, based on common sense and increased flexibility, these dual-fuel fired boilers normally burning gas could not be considered subject to any oil-fired requirements as long as they continue to fire only gas, except under the regulation's stated exemptions for burning oil.

In addition to carefully considering the public comments received regarding dual-fuel fired boilers, the EPA reconsidered its overall intent with regard to existing dual-fuel fired boilers that fuel switch after June 4, 2010. Consequently, in this final rule, we are revising the provisions regarding existing boilers that fuel switch after June 4, 2010. This final rule amends 40 CFR 63.11194 to specify that an existing dual-fuel fired boiler (*i.e.,* commenced construction or reconstruction on or before June 4, 2010) meeting the definition of gas-fired boiler, as defined in 40 CFR 63.11237, that meets the applicability requirements of subpart JJJJJJ after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel. A new or reconstructed dual-fuel fired boiler (*i.e.,* commenced construction or reconstruction after June 4, 2010) meeting the definition of gas-fired boiler, as defined in 40 CFR 63.11237, that meets the applicability criteria of subpart JJJJJJ after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be a new source under this subpart. This revision maintains consistency with the rule's applicability criteria for determining new versus existing sources, eliminates the requirement that existing dual-fuel fired boilers notify as affected sources although, at the time, they are not subject to subpart JJJJJJ, and promotes flexibility in that these existing dual-fuel fired sources that were designed to accommodate an alternate fuel may fire the alternate fuel and move into subpart JJJJJJ without being subject to the more stringent requirements for new boilers.

2. Residential Boilers

One commenter suggested that the definition of ''residential boiler,'' as proposed, be revised to acknowledge the use of combined heat and power systems which function with heat and/or hot water systems. The EPA agrees and is amending the proposed definition to clarify that a boiler that operates as part of a residential combined heat and power system (and that meets other definitional requirements) is a residential boiler. Another commenter explained that

historical buildings may be subdivided into more than four units but boilers serving those units should still be considered residential boilers. We agree and, in this final rule, are amending the proposed definition to clarify that a boiler serving a single unit residence dwelling that has since been converted or subdivided into condominiums or apartments may also be considered a residential boiler.

3. Temporary Boilers

One commenter supported the EPA's 12-month threshold above which the boiler would no longer be considered temporary but pointed out that a boiler used on a temporary basis during construction of a commercial building may be needed for more than 12 months due to the length of the construction period. The commenter suggested that the definition of temporary boiler, as proposed, be revised to allow owners or operators to petition for an extension beyond 12 months. We agree with the commenter and, in this final rule, are amending the proposed definition to allow an owner or operator to submit to their regulatory agency a petition for an extension beyond 12 months. Another commenter suggested that the EPA expand on the intent of ''location'' in the definition of ''temporary boiler.'' We are amending the proposed definition to clarify that ''location'' means ''location within the facility.'' This clarification will allow a boiler to be moved from one location to another within a facility and be considered a different temporary boiler (*i.e.,* a new time period begins) as long as the boiler does not continue to perform the same or similar function and to serve the same electricity, steam, and/or hot water system. Another commenter pointed out that our definition, as proposed, does not specify a time period associated with the statement ''Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period.'' The commenter explained that it is not unusual for a temporary boiler to be used for short periods during turnarounds or other maintenance activities that recur several years apart. Under the proposal, these boilers would not be considered temporary because each boiler replaces the previous one and performs the same function, even though there is a multi-year gap between the occurrences. The commenter suggested that replacements that occur after a gap of at least one year should not be considered consecutive for the purposes of the definition. We agree with the commenter and are amending numbered paragraph (2) in the proposed definition of ''temporary boiler'' such that it specifies that ''Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period *unless there is a gap in operation of 12 months or more.''.*

4. Seasonal Boilers

Several commenters explained that boilers subject to semi-annual testing requirements would not meet the proposed 7 consecutive month shutdown criteria, but otherwise would be considered seasonal boilers. Commenters suggested that seasonal boiler be defined to allow periodic testing during the 7-month shutdown period. We agree with the commenters and, in this final rule, are revising the proposed definition of seasonal boiler to allow for a combined total of 15 days of use during the shutdown period for periodic testing.

Another commenter pointed out that the EPA's seasonal boiler definition, as proposed, would potentially allow more regular use. The commenter specifically suggested that the proposed definition be revised to clarify that there must be a 7 consecutive month shutdown every 12 months. It was the EPA's intent that the shutdown period of at least 7 consecutive months be on a 12-month basis. In response to this comment, we are clarifying in the definition of seasonal boiler that the shutdown must be for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period.

5. Limited-Use Boilers

Several commenters asserted that the EPA should also include a limited-use subcategory in the area source rule for the same reasons we determined a seasonal boiler subcategory was appropriate. Commenters suggested that we should apply the same 5-year tune-up cycle for limited-use units such as auxiliary boilers that we proposed for seasonally-operated units and small oil-fired units. Commenters explained that in the electric utility industry, auxiliary boilers are typically used to generate the steam necessary to bring a main EGU on line during startup and, since auxiliary boilers are primarily operated during unit startup, operation for many of these boilers is typically very limited and sporadic. Commenters also pointed out that the Major Source Boiler Rule includes a limited-use subcategory.

The EPA has determined that a limited-use subcategory is appropriate and is including a limited-use subcategory in this final Area Source Boiler Rule. Specifically, a limited-use boiler is defined in this final rule to mean any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent. We are using a capacity-factor approach for the same reasons that the approach is being used in the Major Source Boiler Rule. A capacity-factor approach allows operational flexibility for units that operate on standby mode or low loads for periods longer than would be allowed under an approach that limited hours of operation (*e.g.,* the 876 hours per year included in the proposed limited-use definition for major source boilers). The operational flexibility associated with a capacity-factor approach can be achieved without increasing emissions or harm to human health and the environment. Units operating at 10 percent load for 8,760 hours per year would emit the same amount of emissions as units operating at full load for 876 hours per year. Further, it is technically infeasible to test these limited-use boilers since these units serve as back-up energy sources and their operating schedules can be intermittent and unpredictable.

This final rule specifies that limited-use boilers are required to complete a tune-up every 5 years. Boilers that operate no more than 10 percent of the year (*i.e.,* a limited-use boiler) would operate for no more than 6 months in between tune-ups on a 5-year tune-up cycle. The brief period of operations is even less than the number of operating months that seasonal boilers and full-time boilers will operate between tune-ups. The irregular schedule of operations also makes it difficult to schedule more frequent tune-ups. We believe that establishing a limited-use subcategory is reasonable.

6. Alternative PM Emission Control for Certain Oil-Fired Boilers

The EPA received a number of comments urging that we provide an exemption from the PM limit for units burning low-sulfur liquid fuel as is provided in subpart Dc of 40 CFR part 60 (standards of performance for new small industrial-commercial-institutional steam generating units). Commenters asserted that such an exemption is justified since the low sulfur content indicates low PM emissions and that boilers firing low-sulfur liquid fuel should only be subject to a requirement to maintain records documenting the liquid fuel fired. We agree burning low-sulfur liquid fuel can be an alternative method of meeting GACT for PM. We are amending 40 CFR

63.11210 to specify that new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce PM or sulfur dioxide emissions meet GACT for PM providing the type of fuel combusted is monitored and recorded on a monthly basis. Further, we are specifying that if you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel.

B. Tune-Up Requirements

1. Boilers With Oxygen Trim Systems

In this final rule, the EPA is adding to the types of boilers that must conduct a tune-up every 5 years boilers that have an oxygen trim system that maintain an optimum air-to-fuel ratio that would otherwise be subject to biennial tune-ups. These units do not need to be tuned as frequently as other types of boilers because the trim system is designed to maintain an optimum air-to-fuel ratio which is the purpose of a tune-up.

2. Initial Compliance for Existing Boilers

The EPA is revising the initial compliance date for existing boilers subject to the work practice or management practice standard of a tune-up. Under the proposed rule, owners and operators of existing affected boilers would have had to comply with the final rule by March 21, 2013. We solicited comments on whether to extend the compliance date to March 21, 2014. We received no comments objecting to either of these dates. Support for an extension until 2014 came from a variety of stakeholders affected by the rule. Therefore, this final rule requires that if you own or operate an existing boiler subject to a work practice or management practice standard of a tune-up, you must comply with the final rule no later than March 21, 2014.

3. Compliance Demonstration

We solicited comment on the requirements for demonstrating compliance with the work practice and management practice tune-up standards, with one focus on clarifying how to measure CO. Commenters requested that we clarify that CO measurements may be taken with a portable CO analyzer. We agree that this clarification is appropriate and are including this clarification in this final rule.

C. Energy Assessment

The EPA received a number of comments regarding the energy assessment requirements and in this final rule is making a series of changes to the energy assessment provisions and related definitions that clarify terms used and better set the scope of the assessment.

In this final rule, we are revising the definition of energy assessment by providing a duration for performing the energy assessment for numbered paragraph (3) in the definition of ''energy assessment'' in 40 CFR 63.11237 for facilities with units with greater than 1 TBtu/yr heat input capacity to specify time duration/size ratio and are including a cap to the maximum number of on-site technical hours that should be used in the energy assessment. The energy assessment for facilities with affected boilers and process heaters with greater than 1.0 TBtu/yr heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/yr plus 8 technical labor hours for every additional 1.0 TBtu/yr not to exceed 160 technical hours, but may be longer at the discretion of the owner or operator.

The revised definition of energy assessment also clarifies our intentions that the scope of assessment is based on energy use by discrete segments of a facility, which could vary significantly depending on the site and its complexity, and not by a total aggregation of all individual energy using elements of a facility. We are adding the following language, as paragraph (4), to the ''energy assessment'' definition to help resolve current problems and allow for more streamlined assessments:

''(4) The on-site energy use systems serving as the basis for the percent of affected boiler(s) energy output in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (*e.g.,* product X manufacturing area; product Y drying area; Building Z).''

In this final rule, we are revising 40 CFR 63.11201 and Table 2 to subpart JJJJJJ to allow a source that is operating under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected boilers, by March 21, 2014, to satisfy the energy assessment requirement. In addition, we are clarifying that energy assessor approval and qualification requirements are waived in instances where an energy assessment completed on or after January 1, 2008 meets or is amended to meet the energy assessment requirements in this final rule by March 21.

The definition of ''boiler system'' is being revised in this final rule to clarify that it means the boiler and associated components directly connected to and serving the energy use systems.

The definition of ''energy use system'' is also being revised in this final rule to clarify that energy use systems are only those on-site systems using energy clearly produced by affected boilers.

D. Clarification of Oxygen Concentration Operating Limits

We are clarifying in this final rule that operating limits for oxygen concentration must be at or above the minimum established during a performance stack test. We are also clarifying that these limits are applicable when the unit is firing the fuel or fuel mixture utilized during the CO performance test.

E. Definitions Regarding Averaging Times

The EPA received comments requesting that we clarify that periods of startup and shutdown are excluded from calculation of the arithmetic mean in the definitions of ''30-day rolling average'' and ''daily block average.'' We agree with the commenters and, in this final rule, are revising the definitions accordingly.

F. Fuel Sampling Frequency

The EPA is amending the fuel sampling requirements in 40 CFR 63.11220(c) because we realized that when performance stack testing requirements were revised in the March 2011 final rule we neglected to revise the fuel analysis requirements. In this final rule, we are specifying that the owner or operator does not need to conduct further fuel analysis sampling if, when demonstrating initial compliance with the Hg emission limit, the Hg constituents in the fuel or fuel mixture are measured to be equal to or less than half of the Hg emission limit. If, when demonstrating initial compliance, the Hg constituents in the fuel or fuel mixture are greater than half of the Hg emission limit, the owner or operator must conduct quarterly sampling.

G. Performance Testing Frequency

The EPA is amending the PM performance testing requirements in 40 CFR 63.11220(b) to specify that the

owner or operator of an affected boiler does not need to conduct further PM emission testing if, when demonstrating initial compliance with the PM emission limit, the performance test results show that the PM emissions are equal to or less than half of the PM emission limit. The owner or operator must continue to comply with all applicable operating limits and monitoring requirements. If the initial performance test results show that the PM emissions are greater than half of the PM emission limit, the owner or operator must conduct subsequent performance tests as specified in 40 CFR 63.11220(a).

With respect to the reconsideration issue regarding the GACT-based PM standards for new oil-fired boilers, we received comments asserting that the most effective control strategy for small oil-fired boilers is the tune-up required by the standards and that establishing a PM limit for those boilers between 10 MMBtu/hr and 30 MMBtu/hr just ensures that those boilers will do stack testing demonstrating that the boilers are in compliance without the need for controls; a fact already known. Commenters also asserted that establishing a PM limit imposes a stack test obligation on small facilities with the least resources to deal with the testing.

We have reviewed the comments and are not eliminating or revising the PM limit for new oil-fired boilers with heat input capacity between 10 MMBtu/hr and 30 MMBtu/hr. We do however, believe that adjustments to the PM performance test frequency as described above are appropriate for boilers that demonstrate during their initial performance test that their PM emissions are equal to or less than half of the PM limit. We believe that the performance test adjustment should not be potentially applicable to only new oil-fired boilers with heat input capacity between 10 MMBtu/hr and 30 MMBtu/hr, but to all new boilers. Owners or operators of boilers whose initial performance test results show that their PM emissions are equal to or less than half of the PM emission limit and, thus, do not need to conduct further PM emissions testing, must continue to comply with all applicable operating limits and monitoring requirements to ensure that there are no changes in operation of the boiler or air pollution control equipment that could increase emissions. This adjustment in PM performance test frequency will potentially reduce the burden on small entities operating boilers that meet the adjustment criteria.

H. Startup and Shutdown Definitions

A number of commenters indicated that the proposed load specifications (*i.e.,* 25 percent load) within the definitions of ''startup'' and ''shutdown'' were inconsistent with either safe or normal (proper) operation of the various types of boilers encountered within the source category. As the basis for defining periods of startup and shutdown, a number of commenters suggested alternative load specifications based on the specific considerations of their boilers; other commenters suggested the achievement of various steady-state conditions.

We have reviewed these comments and believe adjustments are appropriate in the definitions of ''startup'' and ''shutdown.'' These adjustments are tailored for industrial boilers and are consistent with the definitions of ''startup'' and ''shutdown'' contained in the 40 CFR part 63, subpart A General Provisions. We believe these revised definitions address the comments and are rational based on the fact that industrial boilers function to provide steam or, in the case of cogeneration units, electricity. Therefore, industrial boilers should be considered subject to applicable standards at all times steam of the proper pressure, temperature and flow rate is being provided to a common header system or energy user(s) for use as either process steam or for the cogeneration of electricity. The definitions of ''startup'' and ''shutdown'' have been revised in this final rule as follows:

Startup means either the first-ever firing of fuel in a boiler for the purpose of supplying steam or heat for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose.

Shutdown means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler.

I. Notifications

1. Initial Notification

The EPA has been made aware that there are many affected boilers at area sources that are just becoming aware, or are not yet aware, that they are subject to emission standards. Thus, we are amending 40 CFR 63.11225(a)(2) to allow these sources until January 20, 2014 to submit their Initial Notification.

2. Notification of Fuel Change, Physical Change, or Permit Limit

The notification requirement in 40 CFR 63.11225(g) of the final rule for instances when a change in fuel or a physical change to a boiler results in the applicability of a different subcategory or a change out of subpart JJJJJJ is being revised. Under the proposed reconsideration action, a facility would have been required to provide 30 days prior notice of the date upon which the change was scheduled to occur. Commenters explained that an advanced notification requirement would delay such a change if the owner or operator decided to immediately make a change (*e.g.,* switch to 100 percent natural gas) and could potentially restrict flexibility in manufacturing operations, and suggested that the owner or operator be allowed to make notification within 30 days after the change has occurred. We agree that notification within 30 days after a change that results in applicability of a different subcategory or a change out of subpart JJJJJJ will provide the EPA or state/local agency with the required information within a reasonable timeframe. Thus, in this final rule, we are requiring facilities making these types of changes to provide notification within 30 days following the change. The notification requirement in 40 CFR 63.11225(g) is also being amended to clarify that it includes affected boilers that switch fuels or make a physical change to the boiler and the fuel switch or change results in the applicability of a different subcategory within subpart JJJJJJ, in the boiler becoming subject to subpart JJJJJJ, or in the boiler switching out of subpart JJJJJJ due to a change to 100 percent natural gas, as well as affected boilers that take a permit limit that results in the applicability of subpart JJJJJJ. Commenters requested that we make this clarification and we agree that it is appropriate.

J. Miscellaneous Definitions

In this final rule, we are revising some definitions and adding others to help affected sources determine their applicability. Specifically, definitions have been added for the terms ''10-day rolling average,'' ''30-day rolling average,'' ''Annual heat input,'' ''Biodiesel,'' ''Calendar year,'' ''Common stack,'' ''Daily block average,'' ''Distillate oil,'' ''Electric boiler,'' ''Electric utility steam generating unit (EGU),'' ''Energy management program,'' ''Fluidized bed boiler,'' ''Fluidized bed combustion,'' ''Hourly average,'' ''Limited-use boiler,'' ''Load fraction,''

''Minimum scrubber pressure drop,'' ''Minimum sorbent injection rate,'' ''Minimum total secondary electric power,'' ''Operating day,'' ''Oxygen analyzer system,'' ''Oxygen trim system,'' ''Process heater,'' ''Regulated gas stream,'' ''Residential boiler,'' ''Residual oil,'' ''Seasonal boiler,'' ''Shutdown,'' ''Solid fuel,'' ''Startup,'' ''Temporary boiler,'' ''Tune-up,'' ''Vegetable oil,'' ''Voluntary Consensus Standards (VCS),'' and ''Wet scrubber.''

Definitions revised to clarify the term include ''Bag leak detection system,'' ''Biomass subcategory,'' ''Boiler,'' ''Boiler system,'' ''Deviation,'' ''Dry scrubber,'' ''Electrostatic precipitator (ESP),'' ''Energy assessment,'' ''Energy use system,'' ''Federally enforceable,'' ''Gas-fired boiler,'' ''Heat input,'' ''Hot water heater,'' ''Institutional boiler,'' ''Liquid fuel,'' ''Minimum activated carbon injection rate,'' ''Minimum oxygen level,'' ''Minimum scrubber liquid flow rate,'' ''Natural gas,'' ''Oil subcategory,'' ''Particulate matter,'' ''Period of gas curtailment or supply interruption,'' ''Qualified Energy Assessor,'' and ''Waste heat boiler.''

V. Other Actions the EPA Is Taking

Section 307(d)(7)(B) of the CAA states that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b)).''

As to the first procedural criterion for reconsideration, a petitioner must show why the issue could not have been presented during the comment period, either because it was impracticable to raise the issue during that time or because the grounds for the issue arose after the period for public comment (but within 60 days of publication of the final action). The EPA is denying the petitions for reconsideration of five issues because this criterion has not been met. In many cases, the petitions reiterate comments made on the proposed June 2010 rule during the public comment period for that rule. On those issues, the EPA responded to those comments in the March 2011 final rule, and made appropriate revisions to the proposed rule after consideration of public comments received. It is well established that an agency may refine its proposed approach without providing an additional opportunity for public comment. See *Community Nutrition Institute* v. *Block,* 749 F.2d 50, 58 (DC Cir. 1984) and *International Fabricare Institute* v. *EPA,* 972 F.2d 384, 399 (DC Cir. 1992) (notice and comment is not intended to result in ''interminable back-and-forth[,]'' nor is agency required to provide additional opportunity to comment on its response to comments) and *Small Refiner Lead Phase-Down Task Force* v. *EPA,* 705 F.2d 506, 547 (DC Cir. 1983) (''notice requirement should not force an agency endlessly to repropose a rule because of minor changes'')

In the EPA's view, an objection is of central relevance to the outcome of the rule only if it provides substantial support for the argument that the promulgated regulation should be revised. See *Union Oil* v. *EPA,* 821 F.2d 768, 683 (DC Cir. 1987) (court declined to remand rule because petitioners failed to show substantial likelihood that final rule would have been changed based on information in petition). See also the EPA's *Denial of the Petitions to Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202 of the Clean Air Act,* 75 FR at 49556, 49561 (August 13, 2010). See also, 75 FR at 49556, 49560–49563 (August 13, 2010) and 76 FR at 4780, 4786—4788 (January 26, 2011) for additional discussion of the standard for reconsideration under CAA section 307(d)(7)(B).

We are denying reconsideration on the following five issues contained in the petitions for reconsideration because they failed to meet the standard described above for reconsideration under CAA section 307(d)(7)(B). Specifically, on these issues, the petitioner has failed to show the following: That it was impracticable to raise their objections during the comment period or that the grounds for their objections arose after the close of the comment period; and/or that their concern is of central relevance to the outcome of the rule. Therefore, the EPA is denying the petitions for reconsideration on the issues for the reasons described below.

Issue: Use of RDL Is Unlawful

The petitioner (Sierra Club) objected to the EPA establishing a MACT floor emission limit at a level equal to three times the RDL as being unlawful and arbitrary. This issue is not of central relevance to the outcome of this final rule. The final emission limits in this rule are based on the UPL at a confidence interval of 99 percent. The RDL analysis was not used in this final rule.

Issue: MACT Floor for Existing Sources Must Reflect Average Performance of the Top 12 Percent of Units

The petitioner (Sierra Club) stated that the MACT floor for existing sources must reflect the average performance of the top 12 percent of units. The petitioner has not demonstrated that it lacked the opportunity to comment on the EPA's MACT floor analysis. The methods used to compute the MACT floors were subject to notice and comment. Rationale and responses to comments on the MACT floor methodology were provided at 75 FR 31904, June 4, 2010; 76 FR 15571, March 21, 2011. Therefore, the EPA is denying the request for reconsideration.

Issue: Consider a De Minimis Size Threshold

The petitioners (American Petroleum Institute, National Petrochemical and Refiners Association, Alaska Oil and Gas Association) requested that the EPA consider a de minimis size threshold using guidelines from insignificance thresholds authorized under CAA part 71. The EPA is denying the request for reconsideration on this issue. In the June 2010 proposed rule, it was readily apparent that we were not establishing de minimis size thresholds in the area source rulemaking. We received multiple comments on this issue and responded to them in the response to comments document for the March 2011 final rule. The issue on which petitioners seek reconsideration was one that could have been raised during the comment period and thus does not meet the requirements for reconsideration. Therefore, the EPA is denying this request for reconsideration.

Issue: MACT Standards Must Be Set for All HAP

The petitioner (Sierra Club) asserted that MACT standards must be set for all HAP including HAP not listed in CAA section 112(c)(6). The EPA is denying the request for reconsideration on this issue. We disagree with the petitioner that the EPA must issue emission standards for all HAP. MACT standards have been set for Hg and CO, as a

surrogate for POM emissions, but the EPA does not interpret CAA section 112(c)(6) to compel regulation of all HAP emitted by area sources. The EPA's position on this issue was clear in the proposed rule (75 FR 31900, 31904, 31918). This commenter raised this issue in its comments (76 FR 15567, March 21, 2011). Not only did the petitioner have an opportunity to present its theory in its comments, but also it did so.

Issue: CO Is Not a Valid Surrogate for POM

The petitioner (Sierra Club) requested that the EPA remove the CO standard as a surrogate for POM and instead adopt a numeric limit for POM because CO is not an appropriate surrogate. The EPA is denying the request for reconsideration on this issue. While the EPA disagrees with the petitioner's argument regarding the suitability of CO as a surrogate for POM, the petitioner has not demonstrated that it lacked the opportunity to comment on this issue. The EPA revised the final CO emission limit to ensure a more accurate correlation between POM and CO levels. The EPA made its position on this issue clear and explained the agency's basis for concluding that CO was an appropriate surrogate in the proposed rule (75 FR 31900, 31904, June 4, 2010). The petitioner raised this issue in its comments (Document ID: EPA–HQ–OAR–2006–0790–1982, Comments of Earthjustice, Sierra Club, Clean Air Task Force, and Natural Resources Defense Council, p. 4). Therefore, the EPA is denying the request for reconsideration.

VI. Impacts Associated With This Final Rule

The amendments contained in this final action are corrections that are intended to clarify, but not change, the coverage of the final rule. The clarifications and corrections should make it easier for owners and operators and for local and state authorities to understand and implement the requirements. The final amendments will not affect the estimated emission reductions, control costs or the benefits of the rule in substance. The amendments do not impose any additional regulatory requirements beyond those imposed by the previously promulgated boiler area source rule and, in fact, will result in a decrease in the burden on small facilities as a result of the reduction in the frequency of conducting tune-ups for seasonal boilers, limited-use boilers, small (equal to or less than 5 MMBtu/hr) oil-fired boilers and boilers using an oxygen trim system that maintain an optimum air-to-fuel ratio. Additionally, the burden will be reduced on facilities with existing large boilers that currently operate under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected boilers, because a one-time energy assessment will not be required. Burden will also be reduced on facilities with affected boilers that burn low-sulfur oil because, in lieu of needing to meet an emission limit, we consider low-sulfur oil combustion to be GACT for PM for those boilers. This change should allow sources currently complying with 40 CFR 60 subpart Dc to use the same compliance approach rather than needing to monitor limits. Further reduction in burden will occur in instances where initial compliance demonstrations with the Hg emission limit via fuel sampling or with the PM emission limit via performance stack testing show that the emissions are equal to or less than half the respective emission limit because no further sampling or testing of those boilers will be required.

As discussed in section III, the Hg emission limits for new and existing large (10 MMBtu/hr or greater) coal-fired area source boilers were revised because of an error discovered in the analysis conducted for the final rule. This technical correction resulted in an increase in the emission limit for Hg. As explained in the December 2011 proposal, we also revised our impacts analysis to be consistent with emission factor changes made to the Major Source Boiler Rule. The baseline emissions for area sources are calculated using the emission factors developed for the Major Source Boiler Rule because of insufficient data for area sources. Emission factor changes resulted in a higher baseline emission for Hg from coal-fired area source boilers. Consequently, the result of the increase in both baseline Hg emissions and Hg emission limits is that the overall reduction in Hg emissions does not change significantly from the estimated reduction for the promulgated rule.

In summary, as compared to the control costs estimated for the March 2011 final rule, this final rule will not result in any meaningful change in the capital and annual cost due to the increase in emission limits and the decrease in burden on small facilities.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under section 3(f)(1) of Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action'' because it is likely to raise novel legal or policy issues. Accordingly, the EPA submitted this action to the OMB for review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011), and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

This action does not impose an information collection burden. This action results in no significant changes to the information collection requirements of the promulgated rule and will have no increased impact on the information collection estimate of projected cost and hour burden made and approved by OMB. In fact, the reduction in tune-up frequency for some boilers will result in less information collection burden. Therefore, the information collection request has not been revised. However, the OMB has previously approved the information collection requirements contained in the existing regulation (40 CFR part 63, subpart JJJJJJ) under the provisions of the *Paperwork Reduction Act,* 44 U.S.C. 3501, *et seq.* and has assigned OMB control number 2060–0668. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.[2]

[2] Small entities include small businesses, small organizations, and small governmental jurisdictions. For purposes of assessing the impacts of this final rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration size standards for small businesses at 13 CFR 121.201 (less than 500, 750, or 1,000 employees, depending on the specific NAICS Code under subcategory 325); (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a

Continued

The RFA also allows an agency to ''consider a series of closely related rules as one rule for the purposes of sections'' 603 (initial regulatory flexibility analysis) and 604 (final regulatory flexibility analysis) in order to avoid ''duplicative action.'' 5 U.S.C. section 605(c). These amendments and notice of final action on reconsideration are closely related to the final Area Source Boiler Rule, which the EPA signed on February 21, 2011, and that took effect on May 20, 2011. The EPA prepared a final regulatory flexibility analysis in connection with the final Area Source Boiler Rule. Therefore, pursuant to section 605(c), the EPA is not required to complete a final regulatory flexibility analysis for this rule (*i.e.,* the amendments and final action).

The EPA has been concerned with potential small entity impacts since it began developing the Area Source Boiler Rule. The EPA conducted outreach to small entities and, pursuant to section 609 of RFA, convened a Small Business Advocacy Review Panel (the Panel) on January 22, 2009, to obtain advice and recommendations from small entity representatives. Pursuant to the RFA, the EPA used the Panel's report and prepared both an initial regulatory flexibility analysis and a final regulatory flexibility analysis in connection with the closely related final Area Source Boiler Rule. Convening an additional Panel and preparing an additional final regulatory flexibility analysis would be procedurally duplicative and is unnecessary given that the issues here are within the scope of those considered by the Panel. Finally, we note that this action, which amends the Area Source Boiler Rule, will not impose any additional regulatory requirements beyond those imposed by the previously promulgated Area Source Boiler Rule and, in fact, the amendments will afford relief to some boilers.

D. Unfunded Mandates Reform Act

This action contains no new federal mandates under the provisions of Title II of the UMRA of 1995, 2 U.S.C. 1531–1538 for state, local, or tribal governments or the private sector. This action imposes no new enforceable duty on any state, local, or tribal governments or the private sector. Therefore, this action is not subject to the requirements of sections 202 and 205 of the UMRA.

This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This rule finalizes amendments to aid with compliance.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This final rule will not impose new direct compliance costs on state or local governments, and will not preempt state law. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). It will not have substantial new direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it is based solely on technology performance.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. We estimate no significant changes for the energy sector for price, production, or imports.

I. National Technology Transfer and Advancement Act

Section 12(d) of the NTTAA of 1995, Public Law No. 104–113, 12(d) (15 U.S.C. 272 note) directs the EPA to use VCS in its regulatory activities, unless to do so would be inconsistent with applicable law or otherwise impractical. VCS are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the agency decides not use available and applicable VCS.

This action does not involve any new technical standards. Therefore, the EPA did not consider the use of any VCS.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

The EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because the level of protection provided to human health or the environment through the rule's requirements does not vary. Therefore, it does not have any disproportionately high or adverse human health or environmental effects on any population, including any minority or low-income population.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.,* as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to

small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

publication of the rule in the **Federal Register**. A Major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is a reconsideration of a previous action that was a major rule under the CRA. However, today's action makes only certain limited revisions to the March 2011 rule and those revisions do not qualify as a major rule under the CRA. Therefore, this action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective February 1, 2013.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference.

Dated: December 20, 2012.

Lisa P. Jackson,

Administrator.

For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63—[AMENDED]

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart A—[Amended]

■ 2. Section 63.14 is amended by:
■ a. Revising paragraphs (b)(19), (b)(23), (b)(35), (b)(40), (b)(69), and (b)(70).
■ b. Removing and reserving paragraph (b)(53).
■ c. Adding paragraphs (b)(46), (b)(55), and (b)(76) through (83).
■ d. Adding paragraphs (p)(12) through (20).
■ e. Adding paragraph (r).

The revisions and additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) * * *

(19) ASTM D95–05 (Reapproved 2010), Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation, approved May 1, 2010, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

* * * * *

(23) ASTM D4006–11, Standard Test Method for Water in Crude Oil by Distillation, including Annex A1 and Appendix X1, approved June 1, 2011, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

* * * * *

(35) ASTM D6784–02 (Reapproved 2008) Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), approved April 1, 2008, IBR approved for table 1 to subpart DDDDD of this part, table 2 to subpart DDDDD of this part, table 5 to subpart DDDDD, table 11 to subpart DDDDD of this part, table 12 to subpart DDDDD of this part, table 13 to subpart DDDDD of this part, and table 4 to subpart JJJJJJ of this part.

* * * * *

(40) ASTM D396–10 Standard Specification for Fuel Oils, approved October 1, 2010, IBR approved for § 63.7575 and § 6311237.

* * * * *

(46) ASTM D4606–03(2007), Standard Test Method for Determination of Arsenic and Selenium in Coal by the Hydride Generation/Atomic Absorption Method, approved October 1, 2007, IBR approved for table 6 to subpart DDDDD.

* * * * *

(55) ASTM D6357–11, Test Methods for Determination of Trace Elements in Coal, Coke, and Combustion Residues from Coal Utilization Processes by Inductively Coupled Plasma Atomic Emission Spectrometry, approved April 1, 2011, IBR approved for table 6 to subpart DDDDD.

* * * * *

(69) ASTM D4057–06 (Reapproved 2011), Standard Practice for Manual Sampling of Petroleum and Petroleum Products, including Annex A1, approved June 1, 2011, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

(70) ASTM D4177–95 (Reapproved 2010), Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, including Annexes A1 through A6 and Appendices X1 and X2, approved May 1, 2010, IBR approved for § 63.10005(i) and table 6 to subpart DDDDD.

* * * * *

(76) ASTM D6751–11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, approved July 15, 2011, IBR approved for § 63.7575 and § 63.11237.

(77) ASTM D975–11b, Standard Specification for Diesel Fuel Oils, approved December 1, 2011, IBR approved for § 63.7575.

(78) ASTM D5864–11 Standard Test Method for Determining Aerobic Aquatic Biodegradation of Lubricants or Their Components, approved March 1, 2011, IBR approved for table 6 to subpart DDDDD.

(79) ASTM D240–09 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, approved July 1, 2009, IBR approved for table 6 to subpart DDDDD.

(80) ASTM D4208–02(2007) Standard Test Method for Total Chlorine in Coal by the Oxygen Bomb Combustion/Ion Selective Electrode Method, approved May 1, 2007, IBR approved for table 6 to subpart DDDDD.

(81) ASTM D5192–09 Standard Practice for Collection of Coal Samples from Core, approved June 1, 2009, IBR approved for table 6 to subpart DDDDD.

(82) ASTM D7430–11ae1, Standard Practice for Mechanical Sampling of Coal, approved October 1, 2011, IBR approved for table 6 to subpart DDDDD.

(83) ASTM D6883–04, Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars, Barges, Trucks, or Stockpiles, approved June 1, 2004, IBR approved for table 6 to subpart DDDDD.

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(p) * * *

(12) Method 5050 (SW–846–5050), Bomb Preparation Method for Solid Waste, Revision 0, September 1994, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition IBR approved for table 6 to subpart DDDDD.

(13) Method 9056 (SW–846–9056), Determination of Inorganic Anions by Ion Chromatography, Revision 1, February 2007, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(14) Method 9076 (SW–846–9076), Test Method for Total Chlorine in New and Used Petroleum Products by Oxidative Combustion and Microcoulometry, Revision 0, September 1994, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(15) Method 1631 Revision E, Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Absorption Fluorescence Spectrometry, Revision E, EPA–821–R–02–019, August 2002, IBR approved for table 6 to subpart DDDDD.

(16) Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma—Mass Spectrometry, Revision 5.4, 1994, IBR approved for table 6 to subpart DDDDD.

(17) Method 6020A (SW–846–6020A), Inductively Coupled Plasma-Mass Spectrometry, Revision 1, February 2007, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,

Third Edition, IBR approved for table 6 to subpart DDDDD.

(18) Method 6010C (SW–846–6010C), Inductively Coupled Plasma-Atomic Emission Spectrometry, Revision 3, February 2007, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(19) Method 7060A (SW–846–7060A), Arsenic (Atomic Absorption, Furnace Technique), Revision 1, September 1994, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

(20) Method 7740 (SW–846–7740), Selenium (Atomic Absorption, Furnace Technique), Revision 0, September 1986, in EPA Publication No. SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, IBR approved for table 6 to subpart DDDDD.

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(r) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), 15 Technology Parkway South, Norcross, GA 30092, (800) 332–8686, *http://www.tappi.org*.

(1) TAPPI T 266, Determination of Sodium, Calcium, Copper, Iron, and Manganese in Pulp and Paper by Atomic Absorption Spectroscopy (Reaffirmation of T 266 om-02), Draft No. 2, July 2006, IBR approved for table 6 to subpart DDDDD.

(2) [Reserved]

Subpart JJJJJJ—[AMENDED]

■ 3. Section 63.11194 is amended by revising paragraphs (a)(1), (c) and (d), by redesignating paragraph (e) as paragraph (f) and by adding new paragraph (e) to read as follows:

§ 63.11194 What is the affected source of this subpart?

(a) * * *

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in § 63.11200 and defined in § 63.11237, located at an area source.

* * * * *

(c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.

(d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in § 63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.

(e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in § 63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.

* * * * *

■ 4. Section 63.11195 is amended by revising the introductory text and paragraphs (c) and (g) and by adding paragraphs (h) through (k) to read as follows:

§ 63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.

* * * * *

(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers), unless such units do not combust hazardous waste and combust comparable fuels.

* * * * *

(g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.

(h) Temporary boilers as defined in this subpart.

(i) Residential boilers as defined in this subpart.

(j) Electric boilers as defined in this subpart.

(k) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part.

■ 5. Section 63.11196 is amended by revising paragraphs (a)(1) and (d) to read as follows:

§ 63.11196 What are my compliance dates?

(a) * * *

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

* * * * *

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in § 63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in § 60.2145(a)(2) and (3) of subpart CCCC or § 60.2710(a)(2) and (3) of subpart DDDD.

■ 6. Section 63.11200 is revised to read as follows:

§ 63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in § 63.11237 are:

(a) Coal.

(b) Biomass.

(c) Oil.

(d) Seasonal boilers.

(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.

(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.

(g) Limited-use boilers.

■ 7. Section 63.11201 is amended by revising paragraphs (b) and (d) to read as follows:

§ 63.11201 What standards must I meet?

* * * * *

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

* * * * *

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in § 63.11237, during which time you must comply only with Table 2 to this subpart.

■ 8. Section 63.11205 is amended by revising paragraphs (b), (c) introductory

text, (c)(1) introductory text, and (c)(1)(i) to read as follows:

§ 63.11205 What are my general requirements for complying with this subpart?

* * * * *

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to § 63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of § 63.11224.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

* * * * *

■ 9. Section 63.11210 is amended by revising paragraphs (b) through (e) and adding paragraphs (f) through (j) to read as follows:

§ 63.11210 What are my initial compliance requirements and by what date must I conduct them?

* * * * *

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2), except as provided in paragraph (j) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2), except as provided in paragraph (j) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(e) For new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel.

(f) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in § 63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(g) For affected boilers that ceased burning solid waste consistent with § 63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in § 60.2145(a)(2) and (3) of subpart CCCC or § 60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(h) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJJ or the boiler becoming subject to subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to § 63.11225(g).

(i) For boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (i)(1) through (3) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2011 or startup.

(3) Notification of such changes must be submitted according to § 63.11225(g).

(j) For existing affected boilers that have not operated between the effective date of the rule and the compliance date that is specified for your source in § 63.11196, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler and according to the applicable provisions in § 63.7(a)(2).

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in § 63.11223, by following the procedures described in § 63.11223(b) no later than 30 days after the re-start of the affected boiler.

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no

later than the compliance date specified in § 63.11196.

■ 10. Section 63.11211 is amended by revising paragraphs (a), (b)(1), and (b)(2) to read as follows:

§ 63.11211 How do I demonstrate initial compliance with the emission limits?

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to § 63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to § 63.11213 and Table 5 to this subpart, establishing operating limits according to § 63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to § 63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under § 63.11213 and Table 5 to this subpart.

(b) * * *

(1) For a wet scrubber, you must establish the minimum scrubber liquid flow rate and minimum scrubber pressure drop as defined in § 63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for PM and mercury emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum scrubber liquid flow rate and pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum total secondary electric power (secondary voltage and secondary current), as defined in § 63.11237, as your operating limits during the three-run performance stack test.

* * * * *

■ 11. Section 63.11212 is amended by revising paragraphs (b) and (e) to read as follows:

§ 63.11212 What stack tests and procedures must I use for the performance tests?

* * * * *

(b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart.

* * * * *

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A–7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.

■ 12. Section 63.11214 is amended by revising paragraph (c) to read as follows:

§ 63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

* * * * *

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and is an accurate depiction of your facility.

* * * * *

■ 13. Section 63.11220 is revised to read as follows:

§ 63.11220 When must I conduct subsequent performance tests or fuel analyses?

(a) If your boiler has a heat input capacity of 10 million British thermal units per hour or greater, you must conduct all applicable performance (stack) tests according to § 63.11212 on a triennial basis, except as specified in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test.

(b) When demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM but must continue to comply with all applicable operating limits and monitoring requirements. If your initial performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests as specified in paragraph (a) of this section.

(c) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to § 63.11213 for each type of fuel burned as specified in paragraphs (c)(1) and (2) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of § 63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

(1) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling but must continue to comply with all applicable operating limits and monitoring requirements.

(2) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are greater than half of the mercury emission limit, you must conduct quarterly sampling.

(d) For existing affected boilers that have not operated since the previous compliance demonstration and more than 3 years have passed since the previous compliance demonstration, you must complete your subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler.

■ 14. Section 63.11221 is revised to read as follows:

§ 63.11221 Is there a minimum amount of monitoring data I must obtain?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.11205(c).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see § 63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span

adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data collected during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in § 63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.

■ 15. Section 63.11223 is amended by revising paragraphs (a), (b) introductory text, (b)(1), (b)(3) through (5), (b)(6) introductory text, (b)(6)(i), (b)(6)(iii), (b)(7), and (c), and adding paragraphs (d) through (g) to read as follows:

§ 63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in § 63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

* * * * *

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

* * * * *

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified

in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

■ 16. Section 63.11224 is amended by:
■ a. Revising paragraphs (a) introductory text, (a)(1) through (3), (a)(5), (a)(6),
■ b. Adding paragraph (a)(7).
■ c. Revising paragraphs (c)(1) introductory text, (c)(2) introductory text, and (d).
■ d. Revising paragraphs (e) introductory text, (e)(6), and (e)(7).
■ e. Adding paragraph (e)(8).
■ f. Revising paragraph (f)(7).

The revisions and additions read as follows:

§ 63.11224 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart, you must either install, operate, and maintain a CEMS for CO and oxygen according to the procedures in paragraphs (a)(1) through (6) of this section, or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in § 63.11237, according to the manufacturer's recommendations and paragraphs (a)(7) and (d) of this section, as applicable, by the compliance date specified in § 63.11196. Where a certified CO CEMS is used, the CO level shall be monitored at the outlet of the boiler, after any add-on controls or flue gas recirculation system and before release to the atmosphere. Boilers that use a CO CEMS are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in § 63.11211(a) of this subpart. Oxygen monitors and oxygen trim systems must be installed to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location.

(1) Each CO CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, and each oxygen CEMS must be installed, operated, and maintained according to Performance Specification 3 at 40 CFR part 60, appendix B. Both the CO and oxygen CEMS must also be installed, operated, and maintained according to the site-specific monitoring plan developed according to paragraph (c) of this section.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8(e) and according to Performance Specifications 3 and 4, 4A, or 4B at 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) every 15 minutes. You must have CEMS data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

* * * * *

(5) You must calculate hourly averages, corrected to 3 percent oxygen, from each hour of CO CEMS data in parts per million CO concentrations and determine the 10-day rolling average of all recorded readings, except as provided in § 63.11221(c). Calculate a 10-day rolling average from all of the hourly averages collected for the 10-day operating period using Equation 2 of this section.

$$\text{10-day average} = \frac{\Sigma_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 2)}$$

Where:

Hpvi = the hourly parameter value for hour i

n = the number of valid hourly parameter values collected over 10 boiler operating days

(6) For purposes of collecting CO data, you must operate the CO CEMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).

(7) You must operate the oxygen analyzer system at or above the minimum oxygen level that is established as the operating limit according to Table 6 to this subpart when firing the fuel or fuel mixture utilized during the most recent CO performance stack test. Operation of oxygen trim systems to meet these requirements shall not be done in a manner which compromises furnace safety.

* * * * *

(c) * * *

(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

* * * * *

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

* * * * *

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section.

(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in § 63.11221(c). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.

$$\text{30-day average} = \frac{\Sigma_{i=1}^{n} Hpvi}{n} \qquad \text{(Eq. 3)}$$

Where:

Hpvi = the hourly parameter value for hour i

n = the number of valid hourly parameter values collected over 30 boiler operating days

(3) For purposes of collecting data, you must operate the CPMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when CPMS data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).

(4) Record the results of each inspection, calibration, and validation check.

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in § 63.11196.

* * * * *

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in § 63.11221(c).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).

(f) * * *

(7) For positive pressure fabric filter systems that do not duct all compartments or cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

* * * * *

■ 17. Section 63.11225 is amended by:

■ a. Revising paragraphs (a) introductory text, (a)(1), (a)(2), (a)(4), (a)(5), (b) introductory text, (b)(2), (c) introductory text, (c)(2) introductory text, and (c)(2)(ii).

■ b. Adding paragraphs (c)(2)(iii) through (vi).

■ c. Revising paragraphs (d), (e), and (g).

The revisions and additions read as follows:

§ 63.11225 What are my notification, reporting, and recordkeeping, requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§ 63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

* * * * *

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in § 63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in § 63.9(h)(2), except the information listed in § 63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in § 63.13.

(ii) ''This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler.''

(iii) ''This facility has had an energy assessment performed according to § 63.11214(c).''

(iv) For units that install bag leak detection systems: ''This facility complies with the requirements in § 63.11224(f).''

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: ''No secondary materials that are solid waste were combusted in any affected unit.''

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the

Administrator at the appropriate address listed in § 63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to § 63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

* * * * *

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) ''This facility complies with the requirements in § 63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.''

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: ''No secondary materials that are solid waste were combusted in any affected unit.''

(iii) ''This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.''

* * * * *

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

* * * * *

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by § 63.11214 and § 63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

* * * * *

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2 and each of the legitimacy criteria in § 241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4, you must keep records documenting that the material is a listed non-waste under § 241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

* * * * *

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)(1) Within 60 days after the date of completing each performance test (defined in § 63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator at the appropriate address listed in § 63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation test as defined in § 63.2, you must submit relative accuracy test audit (RATA) data to EPA's CDX by using CEDRI in accordance with paragraph (e)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator at the appropriate address listed in § 63.13.

* * * * *

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the

applicability of a different subcategory within subpart JJJJJJ, in the boiler becoming subject to subpart JJJJJJ, or in the boiler switching out of subpart JJJJJJ due to a change to 100 percent natural gas, or you have taken a permit limit that resulted in you being subject to subpart JJJJJJ, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

18. Section 63.11226 is revised to read as follows:

§ 63.11226 Affirmative defense for violation of emission standards during malfunction.

In response to an action to enforce the standards set forth in § 63.11201 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

■ 19. Section 63.11236 is amended by revising paragraph (a) to read as follows:

§ 63.11236 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or an administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

* * * * *

■ 20. Section 63.11237 is amended as follows:

■ a. By adding definitions in alphabetical order for ''10-day rolling average,'' ''30-day rolling average,'' ''Annual heat input,'' ''Biodiesel,'' ''Calendar year,'' ''Common stack,'' ''Daily block average,'' ''Distillate oil,'' ''Electric boiler,'' ''Electric utility steam generating unit (EGU),'' ''Energy management program,'' ''Fluidized bed boiler,'' ''Fluidized bed combustion,'' ''Hourly average,'' ''Limited-use boiler,'' ''Load fraction,'' ''Minimum scrubber pressure drop,'' ''Minimum sorbent injection rate,'' ''Minimum total secondary electric power,'' ''Operating day,'' ''Oxygen analyzer system,'' ''Oxygen trim system,'' ''Process heater,'' ''Regulated gas stream,'' ''Residential boiler,'' ''Residual oil,'' ''Seasonal boiler,'' ''Shutdown,'' ''Solid fuel,'' ''Startup,'' ''Temporary boiler,'' ''Tune-up,'' ''Vegetable oil,'' ''Voluntary Consensus Standards (VCS),'' and ''Wet scrubber.''

■ b. By revising the definitions for ''Bag leak detection system,'' ''Biomass subcategory,'' ''Boiler,'' ''Boiler system,'' ''Deviation,'' ''Dry scrubber,'' ''Electrostatic precipitator (ESP),'' ''Energy assessment,'' ''Energy use system,'' ''Federally enforceable,'' ''Gas-fired boiler,'' ''Heat input,'' ''Hot water heater,'' ''Institutional boiler,'' ''Liquid fuel,'' ''Minimum activated carbon injection rate,'' ''Minimum oxygen level,'' ''Minimum scrubber liquid flow rate,'' ''Natural gas,'' ''Oil subcategory,'' ''Particulate matter,'' ''Period of gas curtailment or supply interruption,'' ''Qualified Energy Assessor,'' ''Solid fossil fuel,'' and ''Waste heat boiler.''

■ c. By removing the definitions for ''Annual heat input basis,'' ''Minimum PM scrubber pressure drop,'' ''Minimum sorbent flow rate,'' and ''Minimum voltage or amperage''.

§ 63.11237 What definitions apply to this subpart?

10-day rolling average means the arithmetic mean of all valid hours of data from 10 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

30-day rolling average means the arithmetic mean of all valid hours of data from 30 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

* * * * *

Annual heat input means the heat input for the 12 months preceding the compliance demonstration.

Bag leak detection system means a group of instruments that are capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.,* baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biodiesel means a mono-alkyl ester derived from biomass and conforming to ASTM D6751–11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see § 63.14).

* * * * *

Biomass subcategory includes any boiler that burns any biomass and is not in the coal subcategory.

Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in § 241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of *Boiler*.

Boiler system means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

Calendar year means the period between January 1 and December 31, inclusive, for a given year.

* * * * *

Common stack means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

Daily block average means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown and periods when the unit is not operating.

Deviation (1) Means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see § 63.14) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 63.14), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751–11b (incorporated by reference, see § 63.14).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

Electric boiler means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be ''capable of combusting'' fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (*e.g.,* coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2015.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.

(2) The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.

(3) The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler

system(s) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (*e.g.,* steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (*e.g.,* product X manufacturing area; product Y drying area; Building Z).

Energy management program means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

Energy use system (1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

(i) Process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot water systems; building envelop; and lighting; or

(ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.

(2) Energy use systems are only those systems using energy clearly produced by affected boilers.

* * * * *

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed boiler means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

Fluidized bed combustion means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

* * * * *

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Heat input means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (*i.e.,* not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

Hourly average means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

* * * * *

Institutional boiler means a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, and/or hot water.

Limited-use boiler means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

Liquid fuel includes, but is not limited to, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil meeting the specification in 40 CFR 279.11, liquid biofuels, biodiesel, and vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

Load fraction means the actual heat input of a boiler divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (*e.g.,* for 50 percent load the load fraction is 0.5).

Minimum activated carbon injection rate means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum oxygen level means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

Minimum scrubber liquid flow rate means the lowest hourly average scrubber liquid flow rate (*e.g.,* to the particulate matter scrubber) measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum scrubber pressure drop means the lowest hourly average scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum sorbent injection rate means:

(1) The load fraction multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits; or

(2) For fluidized bed combustion, the lowest average ratio of sorbent to sulfur measured during the most recent performance test.

Minimum total secondary electric power means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath

the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (*i.e.,* a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Oil subcategory includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not included in this definition. Periodic testing on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

* * * * *

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

* * * * *

Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

Qualified energy assessor means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vii) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Regulated gas stream means an offgas stream that is routed to a boiler for the purpose of achieving compliance with a standard under another subpart of this part or part 60, part 61, or part 65 of this chapter.

Residential boiler means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (*e.g.,* university campus, military base, church grounds) or commercial/industrial facility (*e.g.,* farm) used primarily to provide heat and/or hot water for:

(1) A dwelling containing four or fewer families, or

(2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396–10 (incorporated by reference, see § 63.14(b)).

* * * * *

Seasonal boiler means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

Shutdown means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler.

Solid fossil fuel includes, but is not limited to, coal, coke, petroleum coke, and tire-derived fuel.

Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.

Startup means either the first-ever firing of fuel in a boiler for the purpose of supplying steam or heat for heating and/or producing electricity, or for any other purpose, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

Tune-up means adjustments made to a boiler in accordance with the procedures outlined in § 63.11223(b).

Vegetable oil means oils extracted from vegetation.

Voluntary Consensus Standards (VCS) mean technical standards (*e.g.,* materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH–1211 Geneva 20, Switzerland, +41 22 749 01 11, *http://www.iso.org/iso/home.htm*), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 *http://www.stadards.org.au*), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, *http://www.bsigroup.com*), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800–463–6727, *http://www.csa.ca*), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B–1000 Brussels, Belgium +32 2 550 08 11, *http://www.cen.eu/cen*), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214–230, *http://www.vdi.eu*). The types of standards that are not considered VCS are standards developed by: the United States, *e.g.,* California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, *e.g.,* Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

Waste heat boiler means a device that recovers normally unused energy (*i.e.,* hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (*e.g.,* thermal oxidizer, kiln, furnace) or power (*e.g.,* combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

* * * * *

■ 21. Table 1 to subpart JJJJJJ is revised to read as follows:

As stated in § 63.11201, you must comply with the following applicable emission limits:

TABLE 1 TO SUBPART JJJJJJ OF PART 63—EMISSION LIMITS

If your boiler is in this subcategory . . .	For the following pollutants . . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .
1. New coal-fired boilers with heat input capacity of 30 million British thermal units per hour (MMBtu/hr) or greater that do not meet the definition of limited-use boiler.	a. PM (Filterable)	3.0E–02 pounds(lb) per million British thermal units (MMBtu) of heat input.
	b. Mercury	2.2E–05 lb per MMBtu of heat input.
	c. CO	420 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).
2. New coal-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of limited-use boiler.	a. PM (Filterable)	4.2E–01 lb per MMBtu of heat input.
	b. Mercury	2.2E–05 lb per MMBtu of heat input.
	c. CO	420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).

TABLE 1 TO SUBPART JJJJJJ OF PART 63—EMISSION LIMITS—Continued

If your boiler is in this subcategory . . .	For the following pollutants . . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .
3. New biomass-fired boilers with heat input capacity of 30 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler.	PM (Filterable)	3.0E–02 lb per MMBtu of heat input.
4. New biomass fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler.	PM (Filterable)	7.0E–02 lb per MMBtu of heat input.
5. New oil-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler.	PM (Filterable)	3.0E–02 lb per MMBtu of heat input.
6. Existing coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of limited-use boiler.	a. Mercury b. CO	2.2E–05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen.

■ 22. Table 2 to subpart JJJJJJ is revised to read as follows:

As stated in § 63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

TABLE 2 TO SUBPART JJJJJJ OF PART 63—WORK PRACTICE STANDARDS, EMISSION REDUCTION MEASURES, AND MANAGEMENT PRACTICES

If your boiler is in this subcategory . . .	You must meet the following . . .
1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater).	Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio.	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler biennially as specified in § 63.11223.
3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio.	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio.	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler biennially as specified in § 63.11223.
5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio.	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio.	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler biennially as specified in § 63.11223.
7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio.	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
8. Existing seasonal boilers	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
9. New seasonal boilers	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
10. Existing limited-use boilers	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
11. New limited-use boilers	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr.	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr.	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.

TABLE 2 TO SUBPART JJJJJJ OF PART 63—WORK PRACTICE STANDARDS, EMISSION REDUCTION MEASURES, AND MANAGEMENT PRACTICES—Continued

If your boiler is in this subcategory . . .	You must meet the following . . .
14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers.	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in § 63.11237: (1) A visual inspection of the boiler system, (2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints, (3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator, (4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage, (5) A list of major energy conservation measures that are within the facility's control, (6) A list of the energy savings potential of the energy conservation measures identified, and (7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

■ 23. Table 3 to subpart JJJJJJ is revised to read as follows:

As stated in § 63.11201, you must comply with the applicable operating limits:

TABLE 3 TO SUBPART JJJJJJ OF PART 63—OPERATING LIMITS FOR BOILERS WITH EMISSION LIMITS

If you demonstrate compliance with applicable emission limits using . . .	You must meet these operating limits except during periods of startup and shutdown . . .
1. Fabric filter control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Install and operate a bag leak detection system according to § 63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.
2. Electrostatic precipitator control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in § 63.11237.
3. Wet scrubber control	Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in § 63.11237 and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in § 63.11237.
4. Dry sorbent or activated carbon injection control.	Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in § 63.11237. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (*e.g.,* actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5).
5. Any other add-on air pollution control type.	This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).
6. Fuel analysis	Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to § 63.11211(c) are less than the applicable emission limit for mercury.
7. Performance stack testing	For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.
8. Oxygen analyzer system	For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in § 63.11224(a), maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in § 63.11237. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.11224(a)(7).

* * * * *

■ 24. Table 6 to subpart JJJJJJ is revised to read as follows:

As stated in § 63.11211, you must comply with the following requirements for establishing operating limits:

TABLE 6 TO SUBPART JJJJJJ OF PART 63—ESTABLISHING OPERATING LIMITS

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
1. PM or mercury ..	a. Wet scrubber operating parameters.	Establish site-specific minimum scrubber pressure drop and minimum scrubber liquid flow rate operating limits according to § 63.11211(b).	Data from the pressure drop and liquid flow rate monitors and the PM or mercury performance stack tests.	(a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance stack tests; (b) Determine the average pressure drop and liquid flow rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
	b. Electrostatic precipitator operating parameters.	Establish a site-specific minimum total secondary electric power operating limit according to § 63.11211(b).	Data from the secondary electric power monitors and the PM or mercury performance stack tests.	(a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests; (b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
2. Mercury	Dry sorbent or activated carbon injection rate operating parameters.	Establish a site-specific minimum sorbent or activated carbon injection rate operating limit according to § 63.11211(b).	Data from the sorbent or activated carbon injection rate monitors and the mercury performance stack tests.	(a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests; (b) Determine the average sorbent or activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run. (c) When your unit operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
3. CO	Oxygen	Establish a unit-specific limit for minimum oxygen level.	Data from the oxygen analyzer system specified in § 63.11224(a).	(a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests; (b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
4. Any pollutant for which compliance is demonstrated by a performance stack test.	Boiler operating load.	Establish a unit-specific limit for maximum operating load according to § 63.11212(c).	Data from the operating load monitors (fuel feed monitors or steam generation monitors).	(a) You must collect operating load data (fuel feed rate or steam generation data) every 15 minutes during the entire period of the performance test. (b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test. (c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

■ 25. Table 7 to subpart JJJJJJ is revised to read as follows:

As stated in § 63.11222, you must show continuous compliance with the emission limitations for each boiler according to the following:

TABLE 7 TO SUBPART JJJJJJ OF PART 63—DEMONSTRATING CONTINUOUS COMPLIANCE

If you must meet the following operating limits . . .	You must demonstrate continuous compliance by . . .
1. Opacity	a. Collecting the opacity monitoring system data according to § 63.11224(e) and § 63.11221; and b. Reducing the opacity monitoring data to 6-minute averages; and c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to § 63.11224(f) and operating the fabric filter such that the requirements in § 63.11222(a)(4) are met.
3. Wet Scrubber Pressure Drop and Liquid Flow Rate.	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.11224 and 63.11221; and b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to § 63.11211.
4. Dry Scrubber Sorbent or Activated Carbon Injection Rate.	a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§ 63.11224 and 63.11221; and b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to § 63.11211.
5. Electrostatic Precipitator Total Secondary Electric Power.	a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§ 63.11224 and 63.11221; and b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to § 63.11211.
6. Fuel Pollutant Content	a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.11213 as applicable; and b. Keeping monthly records of fuel use according to §§ 63.11222(a)(2) and 63.11225(b)(4).
7. Oxygen content	a. Continuously monitoring the oxygen content of flue gas according to § 63.11224 (This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.11224(a)(7)); and b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.
8. CO emissions	a. Continuously monitoring the CO concentration in the combustion exhaust according to §§ 63.11224 and 63.11221; and b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and c. Reducing the data from the hourly averages to 10-day rolling averages; and d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.
9. Boiler operating load	a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and b. Reducing the data to 30-day rolling averages; and c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to § 63.11212(c) and Table 6 to this subpart.

■ 26. Table 8 to subpart JJJJJJ is amended by:

■ a. Revising the entry for ''§ 63.9''.

■ b. Revising the entry for ''§ 63.10(e) and (f)''.

■ c. Adding an entry for ''§ 63.10(f)''.

The revisions read as follows:

* * * * *

TABLE 8 TO SUBPART JJJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJJ

General provisions cite	Subject	Does it apply?
*	* * * *	* * *
§ 63.9	Notification Requirements	Yes, excluding the information required in § 63.9(h)(2)(i)(B), (D), (E) and (F). See § 63.11225.
*	* * * *	* * *
§ 63.10(e)	Additional reporting requirements for sources with CMS	Yes.
§ 63.10(f)	Waiver of recordkeeping or reporting requirements	Yes.
*	* * * *	* * *

[FR Doc. 2012–31645 Filed 1–31–13; 8:45 am]

BILLING CODE 6560–50–P

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: GACT Terminology
Date: Tuesday, January 10, 2017 7:34:34 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:13 PM
To: Collections.SubW
Subject: FW: GACT Terminology

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Thursday, May 05, 2016 3:08 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: GACT Terminology

I like it!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

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From: Seidman, Emily
Sent: Thursday, May 05, 2016 3:01 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: GACT Terminology

What do you think about using the term “GACT-Based standards”? See p. 7493 of the attached.

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W - Legal Comments
Date:	Tuesday, January 10, 2017 7:36:03 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:13 PM
To: Collections.SubW
Subject: FW: Subpart W - Legal Comments

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Friday, May 06, 2016 11:25 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Cc: Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Re: Subpart W - Legal Comments

I've been working a bit more on one and two and will send around some suggestions soon.

Sent from my iPhone

On May 6, 2016, at 11:21 AM, Seidman, Emily <seidman.emily@epa.gov> wrote:

> Per our discussions, I've revised Issues 1 through 10. Dan is working on Issues 11 through 14 as they are not legal comments.
>
> My plan is to accept all changes and send these over to Dan. Let me know if you'd like to take another read through before I do so. Thanks!
>
> Emily Seidman
> Air and Radiation Law Office
> Office of General Counsel
> U.S. Environmental Protection Agency
> 202-564-0906 | WJCN 7409F

<1 Legal Issues (ELS 5.06.2016).docx>

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: subpart W meeting today
Date: Tuesday, January 10, 2017 7:36:14 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:13 PM
To: Collections.SubW
Subject: FW: subpart W meeting today

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Wednesday, May 25, 2016 1:24 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: subpart W meeting today

Today, Dan is having a meeting with Alan Perrin, Lee Veal, Tom Peake and Philip Egidi on the Subpart W rule. I'm going to attend as well.

He asked whether we saw any further significant legal concerns with the rule. I've taken a first pass through what he circulated yesterday, and it's a much tighter document. The legal concerns we've discussed have been addressed.

Is there anything you'd like me to be sure is discussed at the meeting? You're welcome to join me at 3:30 in WJCW 1424 if you're interested!

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: subpart W meeting today
Date: Tuesday, January 10, 2017 7:36:24 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:13 PM
To: Collections.SubW
Subject: FW: subpart W meeting today

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Wednesday, May 25, 2016 1:28 PM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: RE: subpart W meeting today

I'm afraid I haven't had a chance to look at the revised document yet so I wouldn't want to opine yet on whether we see additional legal issues. As much as I do love this rule ☺, I think I'll pass on the 3:30 as I'm waaay behind on a whole host of things.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Wednesday, May 25, 2016 1:24 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: subpart W meeting today

Today, Dan is having a meeting with Alan Perrin, Lee Veal, Tom Peake and Philip Egidi on the Subpart W rule. I'm going to attend as well.

He asked whether we saw any further significant legal concerns with the rule. I've taken a first pass through what he circulated yesterday, and it's a much tighter document. The legal concerns we've discussed have been addressed.

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Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: subpart W meeting today
Date:	Tuesday, January 10, 2017 7:36:37 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:12 PM
To: Collections.SubW
Subject: FW: subpart W meeting today

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Stahle, Susan
Sent: Wednesday, May 25, 2016 2:14 PM
To: Seidman, Emily <seidman.emily@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: subpart W meeting today

I could participate via phone for about a half hour if that would be helpful for you, but I also trust you can handle them all on your own! ☺ I haven't had a chance to look at the new draft package yet.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Seidman, Emily
Sent: Wednesday, May 25, 2016 1:24 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>

Subject: subpart W meeting today

Today, Dan is having a meeting with Alan Perrin, Lee Veal, Tom Peake and Philip Egidi on the Subpart W rule. I'm going to attend as well.

He asked whether we saw any further significant legal concerns with the rule. I've taken a first pass through what he circulated yesterday, and it's a much tighter document. The legal concerns we've discussed have been addressed.

Is there anything you'd like me to be sure is discussed at the meeting? You're welcome to join me at 3:30 in WJCW 1424 if you're interested!

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Just a head"s up
Date: Tuesday, January 10, 2017 7:36:47 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:12 PM
To: Collections.SubW
Subject: FW: Just a head's up

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Tuesday, May 31, 2016 8:22 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: Just a head's up

that Lorie would like us (i.e. you) to brief Ethan on the Subpart W package. He has been asking for more substantive briefings on upcoming agency actions and Lorie thinks he would be interested in learning more about this rule. Nothing has been scheduled yet, but you may see an invite soon.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

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From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 7:36:57 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:12 PM
To: Collections.SubW
Subject: FW: Subpart W

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Tuesday, August 23, 2016 8:44 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Subpart W

Forwarding without e-mail string on an unrelated issue

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Friday, May 20, 2016 10:31 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Can you send me a copy of the letter granting reconsideration of the PRD issue in OWSRO

Yes. I left you a voicemail. I'll be around all day and can discuss anytime.

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7409F | phone: (202) 564-0906

From: Rodman, Sonja
Sent: Friday, May 20, 2016 10:25 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Can you send me a copy of the letter granting reconsideration of the PRD issue in OWSRO

Thanks, Btw, have you heard anything more from Dan wrt Sub W?

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: terrific news on Subpart W!
Date: Tuesday, January 10, 2017 7:37:13 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:10 PM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Friday, November 04, 2016 5:00 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: FW: terrific news on Subpart W!

FYI, this is a little premature. It hasn't actually cleared yet. They won't clear it until they get a redline showing the changes.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Peake, Tom
Sent: Friday, November 04, 2016 4:54 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>

Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: RE: terrific news on Subpart W!

And special thanks to Phil, too!

From: Peake, Tom
Sent: Friday, November 04, 2016 4:50 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

Great news on Subpart W!

Dan has heard from OMB that the rule has cleared the interagency review process!
There is still clean-up and finalizing everything and getting the docket in order and loose ends addressed, and, while time-consuming, its anti-climactic. The hard part of the interagency review is done. December is a probable time for a Federal Register notice.

Special thanks to Dan, Reid, Val, Tony and OGC staff for all their contributions.

Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question re: ICR approval for a final rule when the ICR was not sent with the proposal
Date:	Tuesday, January 10, 2017 7:37:25 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:09 PM
To: Collections.SubW
Subject: FW: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Schmidt, Lorie
Sent: Wednesday, November 09, 2016 2:57 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Check with Andy Simons. I would think someone in his group would be the PRA expert.

Lorie Schmidt
Associate General Counsel, Air and Radiation
Office of General Counsel
US Environmental Protection Agency
(202)564-1681

From: Rodman, Sonja
Sent: Wednesday, November 09, 2016 10:56 AM
To: OGC ARLO MGMT <OGC_ARLO_MGMT@epa.gov>
Subject: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

All, We are facing an issue with the Subpart W rulemaking that I have not seen before, in large part because I think we don't normally get involved in the process for approving ICRs for proposed and final rules. If you have any experience with this process of know of anyone who could help, please

let me know. More details follow.

The final Subpart W rule recently cleared OMB review. However, there appears to be problems with the ICR that we are concerned will hold up signature of the rule. We, OGC, have a strong interest in getting this rule finalized because that will conclude our obligations under an onerous settlement agreement. Apparently, the problem started at proposal. The ICR that was to accompany the proposal was prepared internally but was not sent to OMB along with the proposed rule. It does not appear that the ICR for the proposal ever went to OMB at all, but the program doesn't really even know that for sure. They say that OMB has a process that they follow with the ICR for a proposal hasn't gone over with the proposal. Have any of you dealt with this process? Know anything about it? Know anything about how OMB processes the ICRs for recordkeeping and reporting requirements that accompany our rules? Any help would be most appreciated.

Thanks! – Sonja

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question re: ICR approval for a final rule when the ICR was not sent with the proposal
Date:	Tuesday, January 10, 2017 7:37:36 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 12:09 PM
To: Collections.SubW
Subject: FW: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Wednesday, November 09, 2016 3:16 PM
To: Simons, Andrew <Simons.Andrew@epa.gov>
Subject: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Andy, I need help with an ICR Issue and hope that either you or someone in your group can help me. We are facing an issue with the Subpart W rulemaking that I have not seen before, in large part because I think we don't normally get involved in the process for approving ICRs for proposed and final rules. In this case, we feel we may need to get involved as the issue is holding up the process and we, OGC, have a strong interest in getting this rule finalized because that will conclude our obligations under an onerous settlement agreement.

Here's what I know.

The final Subpart W rule recently cleared OMB review. However, there appears to be problems with the ICR that we are concerned will hold up signature of the rule. The ICR that was to accompany the proposal was prepared internally but was not sent to OMB along with the proposed rule. It does not appear that the ICR for the proposal ever went to OMB at all, but the program doesn't really even know that for sure. They say that OMB has a process that they follow with the ICR for a proposal hasn't gone over with the proposal. Have any of you dealt with this process? Know anything about it? Know anything about how OMB processes the ICRs for recordkeeping and

reporting requirements that accompany our rules? Any help would be most appreciated.

Thanks! – Sonja

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)
Date:	Tuesday, January 10, 2017 7:37:45 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:38 AM
To: Collections.SubW
Subject: FW: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Friday, November 04, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Thanks Dan. We will get back to you as soon as possible.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621

Aaron_L_Szabo@omb.eop.gov

From: Schultheisz, Daniel [mailto:Schultheisz.Daniel@epa.gov]
Sent: Friday, November 4, 2016 9:24 AM
To: Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Aaron:

Attached is EPA's proposed response to the additional comment from the interagency review of the Subpart W final rule. We provide two options to clarify the point noted by the commenter, with our preferred option identified. Please let me know if you need anything else. Thanks.

FYI, I will be on travel next Monday and Tuesday, but should be able to respond to emails. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Thursday, October 27, 2016 3:57 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Attached please find the summary of additional interagency comments under EO 12866 and 13563 for the EPA draft final rule entitled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (2060-AP26) in response to the most recent response provided by EPA.

Please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)
Date:	Tuesday, January 10, 2017 7:38:02 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:38 AM
To: Collections.SubW
Subject: FW: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Friday, November 04, 2016 3:22 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Dan,

Thank you again for the response to comments. The interagency reviewers agree with the use of the EPA preferred approach.

At this time, please provide a redline-strikeout version reflecting all of the changes during the interagency review and a clean version. I have also opened up ROCIS for amendment such that the

revised versions of the documents can be uploaded. Please have OP email me when the new version has been uploaded to ROCIS.
Thank you again and please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Schultheisz, Daniel [mailto:Schultheisz.Daniel@epa.gov]
Sent: Friday, November 4, 2016 9:24 AM
To: Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Aaron:

Attached is EPA's proposed response to the additional comment from the interagency review of the Subpart W final rule. We provide two options to clarify the point noted by the commenter, with our preferred option identified. Please let me know if you need anything else. Thanks.

FYI, I will be on travel next Monday and Tuesday, but should be able to respond to emails. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Thursday, October 27, 2016 3:57 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
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Subject: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Attached please find the summary of additional interagency comments under EO 12866 and 13563 for the EPA draft final rule entitled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (2060-AP26) in response to the most recent response provided by EPA.

Please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: terrific news on Subpart W!
Date: Tuesday, January 10, 2017 7:38:09 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:38 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Peake, Tom
Sent: Friday, November 04, 2016 4:50 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

Great news on Subpart W!

Dan has heard from OMB that the rule has cleared the interagency review process!
There is still clean-up and finalizing everything and getting the docket in order and loose ends addressed, and, while time-consuming, its anti-climactic. The hard part of the interagency review is done. December is a probable time for a Federal Register notice.

Special thanks to Dan, Reid, Val, Tony and OGC staff for all their contributions.

Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: terrific news on Subpart W!
Date:	Tuesday, January 10, 2017 7:38:17 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:38 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Peake, Tom
Sent: Friday, November 04, 2016 4:54 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: RE: terrific news on Subpart W!

And special thanks to Phil, too!

From: Peake, Tom
Sent: Friday, November 04, 2016 4:50 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

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Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: terrific news on Subpart W!
Date: Tuesday, January 10, 2017 7:38:25 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:37 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Egidi, Philip
Sent: Friday, November 04, 2016 5:00 PM
To: Peake, Tom <Peake.Tom@epa.gov>; OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Re: terrific news on Subpart W!

Aw shucks.
I really didn't have to contribute that much since Dan was in charge - it was written as well as could be!
I am impressed with his clarity and communication skills on this effort.
It will be great to see the final rule published...

PVE

From: Peake, Tom

Sent: Friday, November 4, 2016 4:54:16 PM
To: OAR-ORIA-RPD; Flynn, Mike; Edwards, Jonathan; Cherepy, Andrea
Cc: Reid Rosnick ; Rodman, Sonja; Seidman, Emily; Stahle, Susan
Subject: RE: terrific news on Subpart W!

And special thanks to Phil, too!

From: Peake, Tom
Sent: Friday, November 04, 2016 4:50 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

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Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: terrific news on Subpart W!
Date:	Tuesday, January 10, 2017 7:38:37 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:37 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Veal, Lee
Sent: Friday, November 04, 2016 6:29 PM
To: Peake, Tom <Peake.Tom@epa.gov>
Cc: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Re: terrific news on Subpart W!

Congratulations all!

Lee Ann B Veal
Director, CREM
Office 202-343-9448
Cell 202-617-4322

On Nov 4, 2016, at 4:54 PM, Peake, Tom <Peake.Tom@epa.gov> wrote:

> And special thanks to Phil, too!
>
> ---
>
> **From:** Peake, Tom
> **Sent:** Friday, November 04, 2016 4:50 PM

To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

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Special thanks to Dan, Reid, Val, Tony and OGC staff for all their contributions.

Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: terrific news on Subpart W!
Date: Tuesday, January 10, 2017 7:38:48 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:37 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Reid Rosnick [mailto:rosnickr@gmail.com]
Sent: Friday, November 04, 2016 6:44 PM
To: Peake, Tom <Peake.Tom@epa.gov>
Cc: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Re: terrific news on Subpart W!

Great news! Thanks, Tom.

On Friday, November 4, 2016, Peake, Tom <Peake.Tom@epa.gov> wrote:

> Great news on Subpart W!
>
> Dan has heard from OMB that the rule has cleared the interagency review process! There is still clean-up and finalizing everything and getting the docket in order and loose ends addressed, and, while time-consuming, its anti-climactic. The hard part of the interagency review is done. December is a probable time for a Federal Register notice.
>
> Special thanks to Dan, Reid, Val, Tony and OGC staff for all their contributions.
>
> Tom Peake

US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: terrific news on Subpart W!
Date: Tuesday, January 10, 2017 7:39:08 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:37 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Flynn, Mike
Sent: Saturday, November 05, 2016 10:55 AM
To: Reid Rosnick <rosnickr@gmail.com>
Cc: Peake, Tom <Peake.Tom@epa.gov>; OAR-ORIA-RPD <OARORIARPD@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Re: terrific news on Subpart W!

Great to hear - congratulations everyone!

Mike

Mike Flynn
Associate Deputy Administrator
Office of the Administrator
U.S. Environmental Protection Agency
202-564-4711

On Nov 4, 2016, at 6:43 PM, Reid Rosnick <rosnickr@gmail.com> wrote:

Great news! Thanks, Tom.

On Friday, November 4, 2016, Peake, Tom <Peake.Tom@epa.gov> wrote:

> Great news on Subpart W!
>
> Dan has heard from OMB that the rule has cleared the interagency review process!
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> Special thanks to Dan, Reid, Val, Tony and OGC staff for all their contributions.
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> Tom Peake
> US EPA Radiation Protection Division
> Director, Center for Waste Management and Regulations
> phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W Update
Date:	Tuesday, January 10, 2017 7:39:22 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:32 AM
To: Collections.SubW
Subject: FW: Subpart W Update

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Schultheisz, Daniel
Sent: Thursday, November 10, 2016 8:44 AM
To: Johnson, Ann <Johnson.Ann@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Law, Donald <Law.Donald@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Benner, Tim <Benner.Tim@epa.gov>; Mills, Jason <Mills.Jason@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Subpart W Update

To the Subpart W Workgroup:

OMB officially cleared Subpart W this week. We are now working to get the package prepared to submit for signature. Thanks for all your assistance.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question re: ICR approval for a final rule when the ICR was not sent with the proposal
Date:	Tuesday, January 10, 2017 7:39:55 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:32 AM
To: Collections.SubW
Subject: FW: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Rodman, Sonja
Sent: Thursday, November 10, 2016 8:49 AM
To: Simons, Andrew <Simons.Andrew@epa.gov>
Cc: Talty, Mark <Talty.Mark@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: FW: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Thanks Andrew, We'll keep you in the loop as we learn more.

Emily, Can you follow up with Dan and emphasize the importance of getting this sorted out. Thanks – Sonja

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

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From: Simons, Andrew
Sent: Wednesday, November 09, 2016 5:29 PM

To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Cc: Talty, Mark <Talty.Mark@epa.gov>
Subject: RE: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Sonja:
I am not familiar with a special process that OMB may have for recordkeeping ICRs that don't accompany a proposal (other than the usual process which involves 2 separate comment periods, so it just takes time (as in calendar days)).

I'm cc'ing Mark Talty who is our PRA expert in case he knows what you may be referring to, or in the alternative may be able to help figure out a path forward.

Andy

Andrew Simons
Assistant General Counsel
Regulatory Issues Practice Group
Office of General Counsel
U.S. Environmental Protection Agency
Tel. 202-564-3649
WJC-N 7522C

From: Rodman, Sonja
Sent: Wednesday, November 09, 2016 3:16 PM
To: Simons, Andrew <Simons.Andrew@epa.gov>
Subject: Question re: ICR approval for a final rule when the ICR was not sent with the proposal

Andy, I need help with an ICR Issue and hope that either you or someone in your group can help me. We are facing an issue with the Subpart W rulemaking that I have not seen before, in large part because I think we don't normally get involved in the process for approving ICRs for proposed and final rules. In this case, we feel we may need to get involved as the issue is holding up the process and we, OGC, have a strong interest in getting this rule finalized because that will conclude our obligations under an onerous settlement agreement.

Here's what I know.

The final Subpart W rule recently cleared OMB review. However, there appears to be problems with the ICR that we are concerned will hold up signature of the rule. The ICR that was to accompany the proposal was prepared internally but was not sent to OMB along with the proposed rule. It does not appear that the ICR for the proposal ever went to OMB at all, but the program doesn't really even know that for sure. They say that OMB has a process that they follow with the ICR for a

proposal hasn't gone over with the proposal. Have any of you dealt with this process? Know anything about it? Know anything about how OMB processes the ICRs for recordkeeping and reporting requirements that accompany our rules? Any help would be most appreciated.

Thanks! – Sonja

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: subpart w update
Date: Tuesday, January 10, 2017 7:39:57 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:31 AM
To: Collections.SubW
Subject: FW: subpart w update

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Friday, December 16, 2016 1:43 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: subpart w update

Small chance of signature today. More likely, signature will be Monday or Tuesday. Dan will keep you updated in my absence.

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7502A | phone: (202) 564-0906

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Signed - NESHAP Subpart W
Date:	Tuesday, January 10, 2017 7:40:02 AM
Attachments:	December 20 2016 NESHAP Subpart W.pdf

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:29 AM
To: Collections.SubW
Subject: FW: Signed - NESHAP Subpart W

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Srinivasan, Gautam
Sent: Tuesday, December 20, 2016 12:59 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

This was Emily's, right?

++++++++++++
202-564-5647 (o)
202-695-6287 (c)

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa

<Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>

Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred

<Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

List of Subjects in 40 CFR part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: subpart w update
Date: Tuesday, January 10, 2017 7:40:14 AM

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:24 AM
To: Collections.SubW
Subject: FW: subpart w update

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Seidman, Emily
Sent: Friday, December 16, 2016 1:43 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: subpart w update

Small chance of signature today. More likely, signature will be Monday or Tuesday. Dan will keep you updated in my absence.

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7502A | phone: (202) 564-0906

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Signed - NESHAP Subpart W
Date:	Tuesday, January 10, 2017 7:40:37 AM
Attachments:	December 20 2016 NESHAP Subpart W.pdf

From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:24 AM
To: Collections.SubW
Subject: FW: Signed - NESHAP Subpart W

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>
Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N.

<Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

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Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

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Dated:

Gina McCarthy,

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To:	Thornton, Marisa
Subject:	Fw: Signed - NESHAP Subpart W
Date:	Tuesday, January 10, 2017 7:40:50 AM
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From: Rodman, Sonja
Sent: Thursday, January 5, 2017 11:24 AM
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Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

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Sent: Tuesday, December 20, 2016 12:59 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

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202-695-6287 (c)

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To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa

<Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>

Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred

<Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

List of Subjects in 40 CFR part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Cancelled meeting.
Date: Tuesday, January 10, 2017 7:41:04 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:29 PM
To: Collections.SubW
Subject: FW: Cancelled meeting.

-----Original Message-----
From: Emily Seidman [mailto:emilyseidman@gmail.com]
Sent: Tuesday, April 19, 2016 4:11 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Seidman, Emily <seidman.emily@epa.gov>
Subject: Cancelled meeting.

Sub part w meeting is cancelled.

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Cancelled meeting.
Date: Tuesday, January 10, 2017 7:41:17 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:28 PM
To: Collections.SubW
Subject: FW: Cancelled meeting.

From: Emily Seidman [mailto:emilyseidman@gmail.com]
Sent: Tuesday, April 19, 2016 4:50 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: Fwd: Cancelled meeting.

Sent from my iPhone

Begin forwarded message:

> **From:** "Rodman, Sonja" <Rodman.Sonja@epa.gov>
> **Date:** April 19, 2016 at 4:13:11 PM EDT
> **To:** Emily Seidman <emilyseidman@gmail.com>
> **Subject: Re: Cancelled meeting.**
>
> Ok thx
>
> Sent from my iPhone
>
> > On Apr 19, 2016, at 4:10 PM, Emily Seidman <emilyseidman@gmail.com> wrote:
> >
> > Sub part w meeting is cancelled.
> >
> > Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W RTC Call
Date: Tuesday, January 10, 2017 7:41:32 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:22 PM
To: Collections.SubW
Subject: FW: Subpart W RTC Call

-----Original Appointment-----
From: Stahle, Susan
Sent: Tuesday, March 29, 2016 10:54 AM
To: Seidman, Emily
Subject: Accepted: Subpart W RTC Call
When: Tuesday, March 29, 2016 3:00 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 202-564-1700 (or 1-855-564-1700) / Conf. Extension 1107874 / Participant Code 234567

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W RTC Document
Date: Tuesday, January 10, 2017 7:41:46 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:22 PM
To: Collections.SubW
Subject: FW: Subpart W RTC Document

-----Original Appointment-----
From: Stahle, Susan
Sent: Monday, March 28, 2016 5:46 PM
To: Seidman, Emily
Subject: Accepted: Subpart W RTC Document
When: Tuesday, March 29, 2016 9:00 AM-9:30 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Phone; Sue to call Emily at 9am (202-564-0906)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Example Response to Comments Section
Date: Tuesday, January 10, 2017 7:41:58 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:21 PM
To: Collections.SubW
Subject: FW: Example Response to Comments Section

From: Stahle, Susan
Sent: Monday, March 28, 2016 3:55 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Example Response to Comments Section

Sure – I am likely going to work at home tomorrow, but happy to "sit down" with you via phone. I am also wide open all morning. Do you want to say 9:00 am? 9:30 am? Any time works.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Seidman, Emily
Sent: Monday, March 28, 2016 1:50 PM
To: Stahle, Susan <Stahle.Susan@epa.gov>
Subject: RE: Example Response to Comments Section

Could we sit down tomorrow morning? My morning is wide open, so I can talk whenever is good for you. Thanks!

Emily Seidman
Air and Radiation Law Office
Office of General Counsel

U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Stahle, Susan
Sent: Monday, March 28, 2016 1:48 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Example Response to Comments Section

Hi –

Yes, we can do that. When do you want to talk? I'm trying to get through reviewing another document today but could talk later this afternoon or tomorrow morning.

Susan Stahle
Attorney-Advisor
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Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Seidman, Emily
Sent: Monday, March 28, 2016 12:27 PM
To: Stahle, Susan <Stahle.Susan@epa.gov>
Subject: FW: Example Response to Comments Section

Hi Sue,

Can we talk through how to attack this? I'm almost through compiling the Legal Issues comments into categories and should have it done this afternoon. For a working document, I like what Dan has done (copied the text of the comments that are summarized). I will do the same thing.

I'm going to out of the office on Thursday and Friday, but don't want to be responsible for holding up the process.

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Schultheisz, Daniel
Sent: Monday, March 28, 2016 11:10 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Egidi, Philip <Egidi.Philip@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Subject: Example Response to Comments Section

Emily and Sue:

Based on our discussion last week on formatting for response to comments, here's an example for you to look at. The comments are collected at the end to assist in review, but may or may not be in the final version.

FYI, my hope is have a complete draft package (preamble/rule, RTC, and BID/EIA) to send to the workgroup next week. I will be on travel the week of the 11th. The workgroup should have comments on the draft preamble this week (I'll send a reminder), and hopefully they will not be substantively challenging, so I can do the re-organizing that you requested (and complete the document). Our contract situation is still in flux, so the draft BID/EIA will be the one that we have had for about six weeks now.

I will probably want to sit down with you (at least Emily) sometime this week to gauge progress. Thanks.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Example Response to Comments Section
Date:	Tuesday, January 10, 2017 7:42:13 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:21 PM
To: Collections.SubW
Subject: FW: Example Response to Comments Section

From: Stahle, Susan
Sent: Monday, March 28, 2016 1:48 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Example Response to Comments Section

Hi –

Yes, we can do that. When do you want to talk? I'm trying to get through reviewing another document today but could talk later this afternoon or tomorrow morning.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Seidman, Emily
Sent: Monday, March 28, 2016 12:27 PM
To: Stahle, Susan <Stahle.Susan@epa.gov>
Subject: FW: Example Response to Comments Section

Hi Sue,

Can we talk through how to attack this? I'm almost through compiling the Legal Issues comments into categories and should have it done this afternoon. For a working document, I like what Dan has done (copied the text of the comments that are summarized). I will do the same thing.

I'm going to out of the office on Thursday and Friday, but don't want to be responsible for holding up the process.

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Schultheisz, Daniel
Sent: Monday, March 28, 2016 11:10 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Egidi, Philip <Egidi.Philip@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Subject: Example Response to Comments Section

Emily and Sue:

Based on our discussion last week on formatting for response to comments, here's an example for you to look at. The comments are collected at the end to assist in review, but may or may not be in the final version.

FYI, my hope is have a complete draft package (preamble/rule, RTC, and BID/EIA) to send to the workgroup next week. I will be on travel the week of the 11th. The workgroup should have comments on the draft preamble this week (I'll send a reminder), and hopefully they will not be substantively challenging, so I can do the re-organizing that you requested (and complete the document). Our contract situation is still in flux, so the draft BID/EIA will be the one that we have had for about six weeks now.

I will probably want to sit down with you (at least Emily) sometime this week to gauge progress. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: want to walk over to the subpart W mtg together?
Date: Tuesday, January 10, 2017 7:42:25 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:21 PM
To: Collections.SubW
Subject: FW: want to walk over to the subpart W mtg together?

From: Stahle, Susan
Sent: Tuesday, March 22, 2016 9:40 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: want to walk over to the subpart W mtg together?

Not required (of course) but if so, want to meet at the main elevators (by the spiral staircase) about 9:50 am? No worries if you are heading over separately, I will see you there.

Susan Stahle
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Air and Radiation Law Office
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U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Tuesday at 11 am?
Date:	Tuesday, January 10, 2017 7:42:42 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:21 PM
To: Collections.SubW
Subject: FW: Tuesday at 11 am?

From: Stahle, Susan
Sent: Thursday, March 17, 2016 9:00 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Tuesday at 11 am?

Either 10 or 11 on Tuesday also work for me.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Seidman, Emily
Sent: Thursday, March 17, 2016 8:55 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Tuesday at 11 am?

Both 11 and 10 am work for me. Thanks!

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency

202-564-0906 | WJCN 7409F

From: Schultheisz, Daniel
Sent: Thursday, March 17, 2016 8:53 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Tuesday at 11 am?

Emily and Sue:

If you are available Tuesday at 11 am, I will send out an invitation. We could also do it at 10. Otherwise, Monday is pretty free and Wednesday afternoon after about 2:30. Please let me know what works best. I'd like to meet with both of you initially, then maybe Emily can take the lead. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Can"t make the Subpart W monthly with Mike Flynn today
Date: Tuesday, January 10, 2017 7:43:00 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:21 PM
To: Collections.SubW
Subject: FW: Can't make the Subpart W monthly with Mike Flynn today

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From: Stahle, Susan
Sent: Thursday, March 17, 2016 8:55 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Cc: Doster, Brian <Doster.Brian@epa.gov>
Subject: Can't make the Subpart W monthly with Mike Flynn today

Hi –

I have a conflict with the 1:00 pm meeting today. I have another meeting with OTAQ and an outside organization (RFA) that was previously scheduled (e.g. scheduled before this Subpart W meeting) that I need to attend. After our conversation yesterday with ORIA folks, I am not sure you need me, but I am happy to connect before the meeting if that helps. I have meetings from 10am – 1pm so if you would like to talk it would be helpful to do so before that.

Brian – I am not sure whether you want to attend this meeting today. As I understand it, it is strictly focused on Subpart W. You may want to check with Sonja.

I am working at home so you can reach me at 703-664-0258.

Thanks,

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W monthly - still on this morning? Or now moved to Thursday? - no meeting this morning
Date: Tuesday, January 10, 2017 7:43:32 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:21 PM
To: Collections.SubW
Subject: FW: Subpart W monthly - still on this morning? Or now moved to Thursday? - no meeting this morning

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From: Stahle, Susan
Sent: Tuesday, March 15, 2016 10:44 AM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: FW: Subpart W monthly - still on this morning? Or now moved to Thursday? - no meeting this morning

FYI.

Note – I have a conflict with the Thursday meeting. I have a meeting at the same time with outside parties.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Schultheisz, Daniel
Sent: Tuesday, March 15, 2016 10:41 AM
To: Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Peake, Tom <Peake.Tom@epa.gov>
Subject: RE: Subpart W monthly - still on this morning? Or now moved to Thursday?

Yes, there is no meeting this morning. There is some glitch with the invitation and it was not on Mike's calendar, even though he is the "originator."

From: Stahle, Susan
Sent: Tuesday, March 15, 2016 10:22 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Peake, Tom <Peake.Tom@epa.gov>
Subject: Subpart W monthly - still on this morning? Or now moved to Thursday?

Hi –

Since we just received a new meeting invite for a Thursday meeting, does that mean the meeting this morning at 11:00 am is cancelled?

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W Monthly
Date:	Tuesday, January 10, 2017 7:44:03 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:20 PM
To: Collections.SubW
Subject: FW: Subpart W Monthly

From: Schultheisz, Daniel
Sent: Friday, March 11, 2016 9:51 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Subject: RE: Subpart W Monthly

Great. We will try not to scare you away.

From: Seidman, Emily
Sent: Friday, March 11, 2016 9:49 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>
Subject: RE: Subpart W Monthly

Hi Dan,

I will be supporting ORIA in the Subpart W rulemaking. Just to clarify, though, I am not the one who will be tied up on Clean Power Plan briefing over the next couple of weeks. I'm working on this subpart W rulemaking instead of him. So I can meet you and the rest of the team, I'll plan to come join the meeting in the conference room. I also just saw your note to Sonja about the helpful background information, so I'll try to review that as well in advance of the meeting. I'm looking forward to working with you on this project!

Thanks,
Emily

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

-----Original Appointment-----
From: Schultheisz, Daniel **On Behalf Of** Flynn, Mike
Sent: Friday, March 11, 2016 9:41 AM
To: Seidman, Emily; Schultheisz, Daniel; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
Cc: Holden, Patricia
Subject: FW: Subpart W Monthly
When: Occurs the first Monday of every 1 month(s) effective 2/1/2016 until 5/2/2016 from 1:00 PM to 1:45 PM (UTC-05:00) Eastern Time (US & Canada).
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

Emily:

Sonja indicated that you will be supporting ORIA in our NESHAP subpart W rulemaking. We have an update for our office director, Mike Flynn, on Tuesday morning at 11. We are also trying to set up a more general discussion on OGC support. Our lead for the rulemaking, Reid Rosnick, is retiring effective March 25. He may be in touch with you to start discussing background, although I understand you are tied to the Clean Power Plan for the next few weeks. Thanks. Please let me or Reid (202-343-9563, cell 301-461-3848) know if you need anything.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

-----Original Appointment-----
From: Flynn, Mike
Sent: Monday, March 07, 2016 12:47 PM
To: Flynn, Mike; Schultheisz, Daniel; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
Cc: Holden, Patricia
Subject: FW: Subpart W Monthly
When: Occurs the first Monday of every 1 month(s) effective 2/1/2016 until 5/2/2016 from 1:00 PM to 1:45 PM (UTC-05:00) Eastern Time (US & Canada).
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

-----Original Appointment-----
From: Flynn, Mike
Sent: Thursday, January 14, 2016 10:33 AM
To: Flynn, Mike; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
Cc: Holden, Patricia
Subject: Subpart W Monthly
When: Occurs the first Monday of every 1 month(s) effective 2/1/2016 until 5/2/2016 from 1:00 PM to 1:45 PM (UTC-05:00) Eastern Time (US & Canada).
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Possible times for call on OGC support for subpart W?
Date:	Tuesday, January 10, 2017 7:44:29 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:20 PM
To: Collections.SubW
Subject: FW: Possible times for call on OGC support for subpart W?

From: Schultheisz, Daniel
Sent: Friday, March 11, 2016 1:18 PM
To: Rodman, Sonja <Rodman.Sonja@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>
Subject: RE: Possible times for call on OGC support for subpart W?

It looks like a good time for RPD may be 3:30 on Wednesday. Does that work for everyone else?

An alternative might be Thursday after 2 pm. Jon Edwards may not be able to make it, but Alan Perrin can.

From: Rodman, Sonja
Sent: Friday, March 11, 2016 9:38 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Possible times for call on OGC support for subpart W?

Dan, Monday and Tuesday are not great days for me. Wednesday and Thursday look much better. On Wednesday I'm available 11-12 and 2-4:30. On Thursday, I'm currently available all day except for 11:30-1:30. Please include Emily also.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

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From: Schultheisz, Daniel
Sent: Friday, March 11, 2016 8:47 AM
To: Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>
Subject: Possible times for call on OGC support for subpart W?

Good morning:

We'd like to set up a call/meeting next week to talk about how to coordinate legal review on subpart W, particularly in light of Reid's situation. This would be separate from the update for Mike on Tuesday morning. Can you give me some general times when you might be available? Most of RPD management has been on travel this week, and I will try today to get some times on our end. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Tuesday at 11 am?
Date: Tuesday, January 10, 2017 7:44:47 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:20 PM
To: Collections.SubW
Subject: FW: Tuesday at 11 am?

From: Schultheisz, Daniel
Sent: Thursday, March 17, 2016 8:53 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Tuesday at 11 am?

Emily and Sue:

If you are available Tuesday at 11 am, I will send out an invitation. We could also do it at 10. Otherwise, Monday is pretty free and Wednesday afternoon after about 2:30. Please let me know what works best. I'd like to meet with both of you initially, then maybe Emily can take the lead. Thanks.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Tuesday at 11 am?
Date:	Tuesday, January 10, 2017 7:45:01 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:20 PM
To: Collections.SubW
Subject: FW: Tuesday at 11 am?

From: Schultheisz, Daniel
Sent: Thursday, March 17, 2016 9:01 AM
To: Stahle, Susan <Stahle.Susan@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Tuesday at 11 am?

Excellent. Reid prefers 10, so I will try to get a room here. Thanks.

From: Stahle, Susan
Sent: Thursday, March 17, 2016 9:00 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Tuesday at 11 am?

Either 10 or 11 on Tuesday also work for me.

Susan Stahle
Attorney-Advisor
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-1272 (ph)
202-564-5603 (fax)
stahle.susan@epa.gov

From: Seidman, Emily
Sent: Thursday, March 17, 2016 8:55 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>

Subject: RE: Tuesday at 11 am?

Both 11 and 10 am work for me. Thanks!

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Schultheisz, Daniel
Sent: Thursday, March 17, 2016 8:53 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Rosnick, Reid <Rosnick.Reid@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Tuesday at 11 am?

Emily and Sue:

If you are available Tuesday at 11 am, I will send out an invitation. We could also do it at 10. Otherwise, Monday is pretty free and Wednesday afternoon after about 2:30. Please let me know what works best. I'd like to meet with both of you initially, then maybe Emily can take the lead. Thanks.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Example Response to Comments Section
Date:	Tuesday, January 10, 2017 7:45:13 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:19 PM
To: Collections.SubW
Subject: FW: Example Response to Comments Section

From: Schultheisz, Daniel
Sent: Tuesday, March 29, 2016 10:40 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Example Response to Comments Section

Either of those times looks okay. Thanks.

From: Seidman, Emily
Sent: Tuesday, March 29, 2016 10:39 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Example Response to Comments Section

Hi Dan,

Thanks for sending this along; it looks good. Do you have time this afternoon for a call with me and Sue to discuss this example and a plan for the remaining RTC sections? Maybe around 3 or 4? Sue is working from home today, so a call might be most efficient. If that works for you, I'll send around a calendar invite & call in number. Thanks!

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

From: Schultheisz, Daniel
Sent: Monday, March 28, 2016 11:10 AM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Cc: Egidi, Philip <Egidi.Philip@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>

Subject: Example Response to Comments Section

Emily and Sue:

Based on our discussion last week on formatting for response to comments, here's an example for you to look at. The comments are collected at the end to assist in review, but may or may not be in the final version.

FYI, my hope is have a complete draft package (preamble/rule, RTC, and BID/EIA) to send to the workgroup next week. I will be on travel the week of the 11th. The workgroup should have comments on the draft preamble this week (I'll send a reminder), and hopefully they will not be substantively challenging, so I can do the re-organizing that you requested (and complete the document). Our contract situation is still in flux, so the draft BID/EIA will be the one that we have had for about six weeks now.

I will probably want to sit down with you (at least Emily) sometime this week to gauge progress. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Information as requested
Date: Tuesday, January 10, 2017 7:45:24 AM
Attachments: Index of Commenters.docx

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:19 PM
To: Collections.SubW
Subject: FW: Information as requested

From: Schultheisz, Daniel
Sent: Tuesday, March 29, 2016 4:06 PM
To: Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Information as requested

List of commenters by number attached

RTC Sections by number:
1 – Legal
2 – Definition of byproduct material
3 – GACT vs MACT
4 – Considering all radionuclides
5 – Eliminating distinction with existing impoundments
6 – Evaporation pond issues
7 – Limits on number of allowable ponds
8 – Regulation of heap leach piles
9 – Definition of operation closure
10 – Eliminate “as determined by NRC”
11 – Cost and economic impact analysis
12 – General comments
13 – Out of scope

Index of Commenters

(The main Docket Number is EPA-HQ-OAR-2008-0218;
The number in the first column is the item number within the main docket,
e.g., 0099 is actually EPA-HQ-OAR-2008-0099)

Docket Number	Commenter
0099	Sarah Fields, Uranium Watch
0101	Bill Thompson, National Tribal Air Association
0104	Frank Filas, Energy Fuels Resources (USA) Inc.
0105	Sarah Fields
0106	Sarah Fields
0107	John W. Cash, Ur-Energy
0114	Steven Le
0131	Bill Thompson, National Tribal Air Association
0132	Tribal Environmental Policy Center
0140	Jennifer Thurston
0141	Shelley Schneider, Nebraska Department of Environmental Quality
0142	Kay M. Hawklee
0143	Johnnie Head and Candace Head-Dylla, Bluewater Valley Downstream Alliance
0144	Richard Blubaugh, Powertech (USA) Inc.
0145	Christopher Lish
0149	Margaret Regan
0150	Kathy Van Dame, Wasatch Clean Air Coalition
0151	Rusty Lundberg, Utah Department of Environmental Quality, Division of Radiation Control
0152	Earthworks
0153	Sarah Fields, Uranium Watch, also on behalf of Living Rivers, Grand Canyon Trust, Greenaction for Health and Environmental Justice, Information Network for Responsible Mining, Advocacy Coalition of Telluride, Clean Water Alliance, Western Nebraska Resources Council, Western Colorado Congress, Sierra Club Nuclear Free Campaign, and Tallahassee Area Community.
0154	David C. Frydenlund and Frank FIlas, Energy Fuels Resources (USA) Inc.
0155	Celene Hawkins and H. Michael Keller, Ute Mountain Ute Tribe
0156	Jennifer Thurston, Information Network for Responsible Mining
0157	Rein Van West, Western Colorado Congress
0158	Sharyn Cunningham
0159	Jonathan Downing, Wyoming Mining Association
0160	Anonymous
0161	Mary Crowe Costello
0162	Oscar Paulson, Kennecott Uranium Company
0163	Emlyn Drake
0164	Nathan Sosa

0165	Michael Welling, Organization of Agreement States Executive Board
0166	Stephen B. Etsitty, Navajo Nation Environmental Protection Agency
0167	Travis E. Stills on behalf of Colorado Citizens Against ToxicWaste, Grand Canyon Trust, and the Rocky Mountain Chapter of Sierra Club
0168	Anne Mariah Tapp, Grand Canyon Trust
0169	Katie Sweeney, National Mining Association
0170	David C. Frydenlund and Frank FIlas, Energy Fuels Resources (USA) Inc. [identical to 0154]
0172	September 3, 2014, public meeting (Denver, CO)
0172.1	Thomas Johnson
0172.2	Frank Filas, Energy Fuels
0172.3	Sarah Fields, Uranium Watch
0172.4	Anthony Thompson, National Mining Association
0172.5	Christopher Pugsley, National Mining Association
0172.6	Katie Sweeney, National Mining Association
0172.7	Oscar Paulson, Kennecott Mining
0172.8	Sarah Fields, Uranium Watch
0172.9	Steve Brown, SENES Consultants
0172.10	Anthony Thompson, National Mining Association
0172.11	Douglas Chambers
0172.12	Kimberly Morrison, Energy Fuels
0172.13	Steve Brown, SENES Consultants
0172.14	Sarah Fields, Uranium Watch
0173	September 4, 2014, public meeting (Denver, CO)
0173.1	Scot Bakken, Energy Fuels
0173.2	Sarah Fields, Uranium Watch
0173.3	Travis Stills, Energy and Conservation Law
0173.4	Richard Blubaugh, Power Tech
0173.5	Sharyn Cunningham, Colorado Citizens Against Toxic Waste
0173.6	Kay Hawklee
0173.7	Sarah Fields, Uranium Watch
0173.8	Sharyn Cunningham, Colorado Citizens Against Toxic Waste
0173.9	John Cash, Ur-Energy
0173.10	David Frydenlund, Energy Fuels
0173.11	Sarah Fields, Uranium Watch

Commented [AMB1]: Note that the 0172 table of contents misspells this name as "Pusley."

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Possible times for call on OGC support for subpart W?
Date: Tuesday, January 10, 2017 7:45:44 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:19 PM
To: Collections.SubW
Subject: FW: Possible times for call on OGC support for subpart W?

From: Rodman, Sonja
Sent: Friday, March 11, 2016 9:38 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>
Subject: RE: Possible times for call on OGC support for subpart W?

Dan, Monday and Tuesday are not great days for me. Wednesday and Thursday look much better. On Wednesday I'm available 11-12 and 2-4:30. On Thursday, I'm currently available all day except for 11:30-1:30. Please include Emily also.

Sonja L. Rodman, Assistant General Counsel for Air Toxics, Consumer Protection and Indoor Air / Office of General Counsel / U.S. Environmental Protection Agency / (202) 564-4079 / 202-768-2120 (cell)

From: Schultheisz, Daniel
Sent: Friday, March 11, 2016 8:47 AM
To: Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>
Subject: Possible times for call on OGC support for subpart W?

Good morning:

We'd like to set up a call/meeting next week to talk about how to coordinate legal review on subpart W, particularly in light of Reid's situation. This would be separate from the update for Mike on

Tuesday morning. Can you give me some general times when you might be available? Most of RPD management has been on travel this week, and I will try today to get some times on our end. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Monthly
Date: Tuesday, January 10, 2017 7:45:57 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:18 PM
To: Collections.SubW
Subject: FW: Subpart W Monthly

From: Rodman, Sonja
Sent: Monday, March 14, 2016 2:40 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: Re: Subpart W Monthly

Ok. Let's walk over together.

Sent from my iPhone

On Mar 14, 2016, at 2:19 PM, Seidman, Emily <seidman.emily@epa.gov> wrote:

> Yes, I'm planning to attend. Either Mike or Dan forwarded me the invite last week. I told Dan that I'm planning to attend in person so I can meet the team.
>
> Emily Seidman
> Air and Radiation Law Office
> Office of General Counsel
> U.S. Environmental Protection Agency
> 202-564-0906 | WJCN 7409F
>
> -----Original Appointment-----
> **From:** Rodman, Sonja **On Behalf Of** Flynn, Mike
> **Sent:** Monday, March 14, 2016 2:10 PM
> **To:** Seidman, Emily; Stahle, Susan; Rodman, Sonja; Doster, Brian; Schultheisz, Daniel; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
> **Cc:** Holden, Patricia
> **Subject:** Fw: Subpart W Monthly
> **When:** Tuesday, March 15, 2016 11:00 AM-11:45 AM (UTC-05:00) Eastern Time (US & Canada).
> **Where:** WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference

Code: 2023439356#

You don't seem to be on the invite for this. Are you possibly available? Thanks.

From: Flynn, Mike
Sent: Thursday, March 10, 2016 11:50 AM
To: Flynn, Mike; Stahle, Susan; Rodman, Sonja; Doster, Brian; Schultheisz, Daniel; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
Cc: Holden, Patricia
Subject: FW: Subpart W Monthly
When: Tuesday, March 15, 2016 11:00 AM-11:45 AM.
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

-----Original Appointment-----
From: Flynn, Mike
Sent: Monday, March 07, 2016 12:47 PM
To: Flynn, Mike; Schultheisz, Daniel; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
Cc: Holden, Patricia
Subject: FW: Subpart W Monthly
When: Tuesday, March 15, 2016 11:00 AM-11:45 AM (UTC-05:00) Eastern Time (US & Canada).
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

-----Original Appointment-----
From: Flynn, Mike
Sent: Thursday, January 14, 2016 10:33 AM
To: Flynn, Mike; Edwards, Jonathan; Cherepy, Andrea; Rosnick, Reid; Perrin, Alan; Peake, Tom
Cc: Holden, Patricia
Subject: Subpart W Monthly
When: Tuesday, March 15, 2016 11:00 AM-11:45 AM (UTC-05:00) Eastern Time (US & Canada).
Where: WJC-W Conference Room 1317; Conference Line: 866-299-3188; Conference Code: 2023439356#

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Uranium Mill Tailings Rule - Tribal Issues
Date:	Tuesday, January 10, 2017 7:46:52 AM
Attachments:	0131 - National Tribal Air Association.pdf 0132 - Tribal Environmental Policy Center.pdf 0153 - Uranium Watch.pdf 0155 - Ute Mountain Ute Tribe.pdf Proposed Rule (5.2.2014) 2014-09728.pdf

---

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:15 PM
To: Collections.SubW
Subject: FW: Uranium Mill Tailings Rule - Tribal Issues

From: Seidman, Emily
Sent: Tuesday, April 26, 2016 12:37 PM
To: Childers, Pat <Childers.Pat@epa.gov>
Subject: Uranium Mill Tailings Rule - Tribal Issues

Pat,

It was good speaking with you today. As we discussed, below are the specific comments from the Ute Mountain Ute Tribe, the National Tribal Air Association, the Tribal Environmental Policy Center and Uranium Watch on tribal issues, our trust responsibility, our consultation responsibility and EO 13175. For additional context, I'm attaching the full comment letters from commenters who raised tribal concerns. I'm also attaching the proposed rule.

Since you have a file on the this rulemaking and an understanding of the background and history, if you're able to develop preliminary responses to these comments, that would be extremely helpful. Yesterday I discussed these issues with the Tricia Jefferson in OGC. She pointed out that we can likely respond to the comments regarding the applicability of EO 13175 by saying that even if there are tribal implications (broadly speaking), there are no substantial direct compliance costs and the regulations will not pre-empt tribal law.

Thanks so much for your assistance!

Emily Seidman
Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

Tribal Comments / EO 13175 Comments

Commenters 0131 and 0132 strongly urged EPA to do more than simply adhere to its legal consultation requirements regarding Tribes and to integrate recommendations from Tribes impacted by uranium mill tailings, mining operations into this rule and future rules. (Comments 0131-6 & 0132-8; also in Section 12)

****

Numerous commenters challenged EPA's statement that the Proposed Rule does "not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)." EPA based this statement on the fact that the Proposed Rule "imposes requirements on owners and operators of specified area sources and not tribal governments." Commenters 0131 and 0132 assert that the Proposed Rule does have tribal implications by pointing to section 1(a) of EO 13175 which defines "policies that have tribal implications" as:

[R]egulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Commenters assert that EO 13175 does not require the direct regulatory requirement be placed on Tribal governments for EO 13175 to be applicable. Further, Commenters 0131 and 0132 point to consultation letters that EPA sent to at least 53 Tribes to suggest that EPA recognizes the implications of the rule for many Tribes. Commenters encouraged EPA to reconsider the applicability of EO 13175 on the Proposed Rule, particularly in light of the historic and ongoing environmental contamination that has resulted from uranium operations in and around Tribal Lands. (Comments 0131-7 & 0132-7 & 0153-166) Commenters 0132 encourages EPA to engage with Tribes in government-to-government consultation to help insure that any actions proposed by EPA do not adversely impact Tribes. (Comment 0132-6).

****

The Commenter 0155 commented that EPA failed to properly exercise its trust responsibility to the Tribe. The Tribe has engaged the EPA (at both the Region 8 level and at the National EPA office level) for many years about the Tribe's concerns with the operation and regulation of the WMM facility. The Tribe has exhaustively documented its concerns to the EPA. In particular, the Tribe has exhaustively documented its concern that the WMM has been allowed to operate in violation of the Subpart W phased disposal work practice standard, that the legacy impoundments at the WMM may be contaminating the groundwater underneath the facility, and that the management of the legacy impoundments has resulted (and may continue to result) in Radon-222 emissions above 20 pCi/(m2s).

Despite the Tribe's significant effort to engage the EPA during the Subpart W rule revision process, and despite the fact that the Tribe's White Mesa community is located less than three miles from the only operational conventional uranium mill regulated under Subpart W, the EPA made no effort to seek Tribal input during the rulemaking. The EPA did not inform the Tribe at any point during the rulemaking process of how the EPA was approaching the rule

revision, which parts of the rule the EPA was considering revising, or how the EPA was treating the disproportionate impact that the WMM places on the White Mesa community. The EPA refused to consult with the Tribe regarding the rulemaking (despite a clear Tribal request for government-to-government consultation before the Proposed Rule was released for public comment).

The Proposed Rule, published in May of 2014, fails to address important Tribal concerns about the WMM. The Proposed Rule contains wildly inaccurate information regarding the current status and operations at the WMM facility (but did not contain any information submitted to the EPA by the Tribe), and the EPA used the inaccurate information to make important and harmful decisions in the rulemaking. The EPA also purported to exercise significant agency discretion to make determinations that may effectively de-regulate facilities like the WMM even though the EPA also had the discretion to set stricter regulations to ensure the protection of human health and the environment near facilities regulated under Subpart W. Although the EPA acknowledged that the disproportionately high Native American populations at certain facilities (including the WMM) existed, the EPA refused to address environmental justice issues associated with the rulemaking. Finally, the Proposed Rule does not acknowledge the close proximity of the WMM to the Tribe's White Mesa Community or any of the documented environmental impacts from the WMM on surrounding lands and resources used by UMU Tribal members. The EPA failed to analyze the impact that the Proposed Rule would have to the UMU Tribal Members and to the environment and Indian Trust Assets in White Mesa.

The Tribe understands that the EPA has statutory restrictions and rulemaking processes that constrain the manner in which the EPA undertakes a rulemaking like the revision to Subpart W. However, those statutory restrictions and rulemaking processes do not obviate the need for the EPA to properly exercise its trust responsibility to protect human health and the environment in White Mesa or for the EPA to consult with the Tribe about the Subpart W rule in a manner that allows the Tribe to give meaningful input into the EPA's rulemaking process. It is a violation of the EPA's trust responsibility and the EPA's duty to consult with the Tribes to, as the EPA has done to the Tribe in this rulemaking, refuse to meaningfully consult or answer questions about the rulemaking after repeated consultation requests, and to force the Tribe to give input during a public comment process. (Comment 0155-36)

****

Commenter 0153 commented that the EPA failed in its responsibility to implement Executive Order 3175 (*assume this was intended to be 13175*): Consultation and Coordination With Indian Tribal Governments, Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks, and Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations. (Comment 0153-153)

www.ntaatribalair.org
928.523.0526 office
928.523.1266 fax

National Tribal Air Association
P.O. Box 15004
Flagstaff, AZ 86011-5004

October 8, 2014

Air and Radiation Docket
U.S. Environmental Protection Agency
Mail code: 2822T
Attention Docket ID No. EPA–HQ–OAR–2008– 0218
1200 Pennsylvania Ave., NW
Washington, DC, 20460

Subject: Proposed Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

Introduction

The National Tribal Air Association (NTAA) is pleased to submit these comments regarding the U.S. Environmental Protection Agency's (EPA)'s proposed rule for Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule, 79 Fed. Reg. 25388 (May 2, 2014) (Proposed Rule).

The NTAA is an autonomous organization with 85 principal member Tribes. The organization's mission is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of Indian Tribes. As such, the NTAA uses its resources to support the efforts of all federally recognized Tribes in protecting and improving the air quality within their respective jurisdictions. Although the organization always seeks to represent consensus perspectives on any given issue, it is important to note that the views expressed by the NTAA may not be agreed upon by all Tribes. Further, it is also important that EPA understands interactions with the organization do not substitute for government-to-government consultation, which can only be achieved through direct communication between the federal government and Indian Tribes.

The NTAA disapproves generally of the Proposed Rule, namely because it does not present a sound argument in favor of continued use of generally achievable control technologies (GACT) as compared to maximum achievable control technologies (MACT); it eliminates critical monitoring and reporting requirements as well as the 20 pCi/m^2/sec flux standard for "existing impoundments;[1]" and it offers insufficient information for the public to assess the relative advantages of

[1] EPA describes "existing" impoundments as those that were in existence prior to the promulgation of Subpart W pre-December 15, 1989.

continuous versus phased disposal.

To be clear, the NTAA strongly supports stricter regulation and enforcement measures at all uranium recovery facilities, including: (1) conventional uranium mills, (2) in-situ leach recovery facilities, and (3) heap leach facilities. The Proposed Rule, however, appears to relieve industry of several fundamental responsibilities which are critical for ensuring public welfare and preventing further environmental degradation from domestic uranium processing operations.

Generally Achievable versus Maximum Achievable Control Technologies

EPA asserts that under Clean Air Act Section 112(d)(5), "the Administrator has the discretion to use generally available control technologies (GACT) in lieu of maximum achievable control technologies (MACT)."[2] The legacy of widespread contamination and the extraordinary taxpayer burden associated with uranium mining[3] and milling[4] operations in this country necessitate that EPA adopt the strongest preventive measures to safeguard public health and welfare from emissions of hazardous air pollutants (namely radon-222) and environmental contamination surrounding uranium processing facilities. In the Proposed Rule, however, EPA provides for use of the more relaxed GACT rather than MACT without giving any sound justification for doing so. The NTAA finds that, at a minimum, EPA should have thoroughly evaluated MACT options for radon emissions from mill tailings, and sought public comment about those options as part of the Proposed Rule.

Monitoring and Reporting Requirements

In EPA's own words, uranium byproduct material/tailings are "deposited in an impoundment or 'mill tailings pile' *which must be carefully monitored and controlled*."[5] The only currently operating conventional mill in the nation, White Mesa Mill, is presently the subject of a civil action that was brought against its owners in response to what the plaintiff (Grand Canyon Trust) claims are violations of the Clean Air Act, 42 U.S.C. § 7401 et seq.[6] The civil action specifically addresses ongoing exceedances of the 20 $pCi/m^2/sec$ radon flux standard at Cells 2 and 3; violation of Subpart W's work practice standards (operating more than two impoundments at the Mill); and violations of the monitoring and notification protocols and reporting standards set forth in Subpart W related to radon-flux measurements at Cell 3.[7]

Flux Requirement Versus Management Practices for Conventional Impoundments

EPA proposes to eliminate the radon flux standard of 20 $pCi/m^2/sec$ for "existing" impoundments, finding that all "existing" impoundments "appear to meet the work practice

[2] Proposed Rule at 25390.
[3] U.S. Department of Energy, Defense Related Uranium Mines – Report to Congress (August 2014).
[4] U.S. Department of Energy, Uranium Mill Tailings Radiation Control Act - Fact Sheet (July 16, 2013). URL: < http://energy.gov/sites/prod/files/2013/07/f2/UMTRCA%20sites%20fact%20sheet_0.pdf>
[5] Proposed Rule at 25391.
[6] Grand Canyon Trust, Re: Notice of Intent to Sue Energy Fuels Inc., Energy Fuels Holding Corp., EFR White Mesa LLC, and Energy Fuels Resources (USA) Inc. for Violations of the Clean Air Act at the White Mesa Uranium Mill. July 29, 2014.
[7] *Id.*

standard."[8] EPA states that it evaluated information, including facility compliance histories, in order to reach the conclusion that the radon flux standard should be abandoned. However, the aforementioned civil action against White Mesa Mill claims ongoing exceedances of the radon flux standard in Cells 2 ("new" impoundment)[9] and 3 ("existing" impoundment). This clearly obviates the need for continued monitoring and increased regulatory oversight.

EPA should provide summary data on facility compliance for all affected facilities in the docket if such an assertion contributed to the recommendation for eliminating the flux standard.

The NTAA strongly recommends that EPA reconsider eliminating the 20 $pCi/m^2/sec$ radon flux standard for "existing" impoundments and instead implement this standard for all new and existing mill tailings facilities. Measurable standards for pollutants serve as a necessary and specific metric for evaluating the long-term effectiveness of emission control technologies. Further, reporting and monitoring radon emissions ensures transparency and accountability to the American public. In the absence of measurable emissions standards and publically accessible reporting records, the public has no recourse to hold industry accountable for malpractice.

Phased versus Continuous Disposal

In the Proposed Rule, EPA provides that no new tailings impoundment can be built (after December 15, 1989) unless it's designed, constructed, and operated to meet one of the following two work practice standards for mitigating radon emissions:

(1) Phased disposal in lined impoundments that are no more than 40 acres in area, and meet the requirements of 40 CFR 192.32(a) as determined by the U.S. Nuclear Regulatory Commission (NRC) (the owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time); and

(2) Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.[10]

Regretfully, EPA does not provide a sufficiently detailed description or comparison of the two work practice standards within the text of the Proposed Rule, which is critical for public deliberation. There exists a longstanding history of site abandonment and taxpayer-funded remediation efforts for uranium operations in the U.S. Subpart W should minimize public health burdens and potential public expense associated with such abandonment and remediation by limiting the number and dimensions of tailings impoundments at uranium mills and also requiring swift, responsible disposal of tailings. The continuous disposal approach seems to be more effective at ensuring ongoing radon mitigation[11] at impoundments. However, the NTAA

[8] Proposed Rule at 25395.
[9] EPA defines "new" impoundments as those "designed and/or constructed after December 15, 1989." Proposed Rule at 25392.
[10] Proposed Rule at 25392.
[11] EPA states that the area of a given impoundment "has a direct linear relationship with the Rn-222 source term

finds the lack of clarity regarding dimensions for the disposal impoundments and total allowable number of disposal sites as unacceptable. As the regulatory language is currently written, the continuous disposal work practice standard could result in the unintended use of operating mill tailings as permanent repositories for vast quantities of radioactive mill tailings. As such, the NTAA recommends that EPA revise the regulatory language for the continuous disposal approach to specify the dimensions and number of disposal cells allowed at a mill tailings facility.

Definition of "Operation" in the Proposed Rule

The Proposed Rule provides that "as currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that "operation" means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W)."[12] EPA proposes the following amended definition to replace the current definition: "*Operation* means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins."

The NTAA supports EPA's recommendation to amend the definition of "operation" as it pertains to Subpart W, but with one important modification (italicized below): "An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure *concludes*."

Public Engagement

Regarding public outreach, NTAA finds that EPA could have done more to engage Tribal and non-Tribal communities potentially affected by the Proposed Rule by holding public hearings in and around areas with existing or proposed mill tailings operations (see Fig. 1). The only public hearings for the Proposed Rule were held September 3-4, 2014, at the EPA Region 8 Offices in Denver, Colorado.

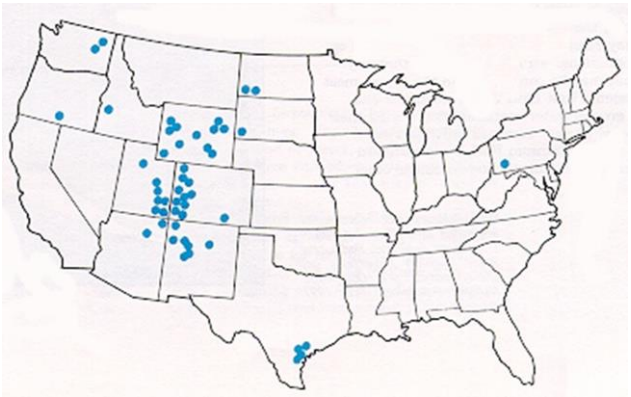

Fig.1 - Uranium Mill Tailings Piles (Courtesy, EPA Radiation Protection, Uranium Mill Tailings).
Last visited: September 21, 2014
URL: <http://www.epa.gov/radiation/docs/radwaste/402-k-94-001-umt.html>

The NTAA is pleased that EPA's Radiation Protection Division acquiesced to our request to discuss the Proposed Rule on

more so than the depth or volume of the impoundment." Proposed Rule at 25393. Thus, 2, 40-acre impoundments would likely have a greater Rn-222 emission potential than a single 10 acre section of disposal cell.

[12] Proposed Rule at 25405.

the June 26, 2014 NTAA/EPA policy call, during which Tribal representatives were allowed to ask questions about the rule. Further, the NTAA wishes to acknowledge the effort on behalf of EPA to meet its government-to-government consultation obligations to Tribes through delivery of consultation invitation letters to the 53 Tribes listed on the EPA Tribal Consultation Opportunities Tracking System (TCOTS) site.[13]

Beyond EPA simply adhering to its legal consultation requirements regarding Tribes, the NTAA strongly urges EPA to integrate recommendations from Tribes impacted currently and historically from uranium mill tailings[14] and mining[15] operations into this Proposed Rule and future proposed rules.

Tribal Consultation

EPA provides that the Proposed Rule does "not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)."

The rationale for EPA's finding is that the Proposed Rule " imposes requirements on owners and operators of specified area sources and not tribal governments." The NTAA finds that EPA does not understand fully the intent behind EO 13175 as it is not limited to federal actions with regulatory requirements imposed on Tribal governments. Specifically, section 1(a) of EO 13175 defines "policies that have tribal implications" as:

> [R]egulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.[16]

The definition makes no reference to direct regulatory requirements placed on Tribal governments.

Despite this erroneous supposition in the language of the Proposed Rule, NTAA notes that EPA did in fact deliver consultation letters to at least 53 Tribes, as noted above. This effort on behalf of EPA suggests that there are many within the agency who understand the obvious implications of this rule for many Tribes. NTAA strongly encourages EPA to reconsider the applicability of

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[13] EPA, Proposed Revisions to the Radon Emission Standards for Operating Uranium Mill Tailings Rule (Subpart W); Invitation to Consult Letter mailed to the following tribes on May 8, 2014 URL:<http://tcots.epa.gov/oita/tconsultation.nsf/ByUNID/0CE768F30DE0616985257CED00412620/$File/Invitation+to+Consultat+Letter+Sent+to+These+Tribes.pdf?OpenElement>

[14] USGS, Assessment of Potential Migration of Radionuclides and Trace Elements from the White Mesa Uranium Mill to the Ute Mountain Ute Reservation and Surrounding Areas, Southeastern Utah (Scientific Investigation Report 2011-5231). URL: <http://pubs.usgs.gov/sir/2011/5231/pdf/sir20115231.pdf>

[15] EPA, Technologically Enhanced Naturally Occurring Radioactive Materials From Uranium Mining Volume 2: Investigation of Potential Health, Geographic, and Environmental Issues of Abandoned Uranium Mines. [EPA 402-R-08-005] (April 2008).

[16] Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 9, 2000), at http://www.epa.gov/fedrgstr/eo/eo13175.htm (last visited on August 29, 2014).

EO 13175 in the Proposed Rule, particularly in light of the historic and ongoing environmental contamination that has resulted from uranium operations in and around Indian Country (see Figures 1 and 2).

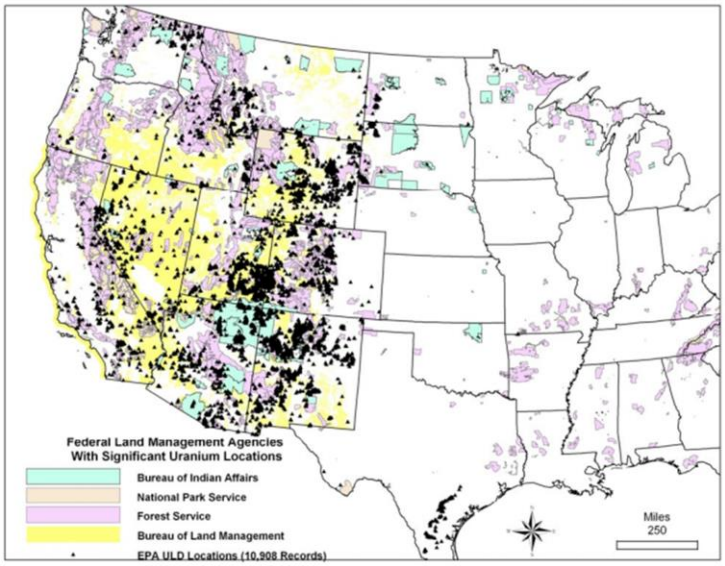

Fig. 2. Uranium Locations from EPA Database and Federal Lands. Note proximity of Bureau of Indian Affairs lands (indicated in green) to EPA Uranium Location Database locations throughout the Western U.S.

Conclusion

In summary, the NTAA is pleased to provide the aforementioned comments and recommendations concerning the Proposed Rule.

On Behalf of the NTAA Executive Committee,

Bill Thompson, Chairman, NTAA

Tribal Environmental Policy Center

PO Box 2468 ✹ Corrales, NM 87048 ✹ 505-340-6319 ✹ www.tribalepc.org

October 10, 2014

Air and Radiation Docket
U.S. Environmental Protection Agency
Mailcode: 2822T
Attention Docket ID No. EPA–HQ–OAR–2008– 0218
1200 Pennsylvania Ave., NW
Washington, DC, 20460

Subject: Proposed Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

To Whom It May Concern:

The Tribal Environmental Policy Center (TEPC) is pleased to submit these comments regarding the U.S. Environmental Protection Agency's (EPA)'s proposed Revisions to National Emission Standards for Radon Emissions (hereinafter "Proposed Rule").

Introduction

The TEPC is a non-profit organization formed in 2013 dedicated to the mission of providing Indian Tribes with the requisite policy support to advance their efforts to protect, manage, and regulate environmental, energy, and natural resources based on their own values and priorities. Our staff has a long-term relationship with many Tribal leaders and representatives in Indian Country with whom we confide and seek recommendations about actions proposed by EPA and other federal agencies, one being the Proposed Rule for which the TEPC provides its comments. However, the TEPC represents itself only as an organization having the best interest of Tribes in mind, and not as a Tribe that faces daily the impacts of air pollution on its people and the environment. As such, for this Proposed Rule and other such rules, we recommend strongly that EPA engage with Tribes in government-to-government consultation to help insure that any actions proposed by EPA do not impact such Tribes adversely in any way.

The TEPC disapproves generally of the Proposed Rule, namely because it does not present a sound argument in favor of continued use of generally achievable control technologies (GACT) as compared to maximum achievable control technologies (MACT); it eliminates critical monitoring and reporting requirements as well as the 20 pCi/m2/sec flux standard for

"existing impoundments;"[1] and it offers insufficient information for the public to assess the relative advantages of continuous versus phased disposal.

To be clear, the TEPC strongly supports stricter regulations and enforcement measures at all uranium recovery facilities, including: (1) conventional uranium mills, (2) in-situ leach recovery facilities, and (3) heap leach facilities. However, the Proposed Rule appears to relieve industry of several fundamental responsibilities that are critical for ensuring public welfare and preventing further environmental degradation from domestic uranium processing operations.

Generally Achievable versus Maximum Achievable Control Technologies

EPA asserts that under Clean Air Act Section 112(d)(5), "the Administrator has the discretion to use generally available control technologies (GACT) in lieu of maximum achievable control technologies (MACT)."[2] The legacy of widespread contamination and the extraordinary taxpayer burden associated with uranium mining[3] and milling operations[4] in this country necessitate that EPA adopt the strongest preventive measures to safeguard public health and welfare from emissions of hazardous air pollutants (*e.g.*, radon-222) and environmental contamination surrounding uranium processing facilities. However, the Proposed Rule provides for use of the more relaxed GACT rather than MACT without giving any sound justification for doing so. The TEPC finds that, at a minimum, EPA should have thoroughly evaluated MACT options for radon emissions from mill tailings, and sought public comment about those options as part of the Proposed Rule.

Monitoring and Reporting Requirements

In EPA's own words, uranium byproduct material/tailings are "deposited in an impoundment or 'mill tailings pile' *which must be carefully monitored and controlled*."[5] The only currently operating conventional mill in the nation, White Mesa Mill, is presently the subject of a civil action that was brought against its owners in response to what the plaintiff (Grand Canyon Trust) claims are violations of the Clean Air Act, 42 U.S.C. § 7401 et seq.[6] The civil action specifically addresses ongoing exceedances of the 20 pCi/m2/sec radon flux standard at Cells 2 and 3; violation of Subpart W's work practice standards (operating more than two

[1] EPA describes "existing" impoundments as those that were in existence prior to the promulgation of Subpart W pre-December 15, 1989

[2] Proposed Rule at 25390.
[3] U.S. Department of Energy, Defense Related Uranium Mines – Report to Congress (August 2014).
[4] U.S. Department of Energy, Uranium Mill Tailings Radiation Control Act - Fact Sheet (July 16, 2013). URL: < http://energy.gov/sites/prod/files/2013/07/f2/UMTRCA%20sites%20fact%20sheet_0.pdf>
[5] Proposed Rule at 25391.
[6] Grand Canyon Trust, Re: Notice of Intent to Sue Energy Fuels Inc., Energy Fuels Holding Corp., EFR White Mesa LLC, and Energy Fuels Resources (USA) Inc. for Violations of the Clean Air Act at the White Mesa Uranium Mill. July 29, 2014.

impoundments at the Mill); and violations of the monitoring and notification protocols and reporting standards set forth in Subpart W related to radon-flux measurements at Cell 3.[7]

Flux Requirement Versus Management Practices for Conventional Impoundments

EPA proposes to eliminate the radon flux standard of 20 pCi/m2/sec for "existing" impoundments, finding that all "existing" impoundments "appear to meet the work practice standard."[8] EPA states that it evaluated information, including facility compliance histories, in order to reach the conclusion that the radon flux standard should be abandoned. However, the aforementioned civil action against White Mesa Mill claims ongoing exceedances of the radon flux standard in Cells 2 ("new" impoundment)[9] and 3 ("existing" impoundment). This clearly obviates the need for continued monitoring and increased regulatory oversight.

The TEPC strongly recommends that EPA reconsider eliminating the 20 pCi/m2/sec radon flux standard for "existing" impoundments and instead implement this standard for all new and existing mill tailings facilities. Measurable standards for pollutants serve as a necessary and specific metric for evaluating the long-term effectiveness of emission control technologies. Further, reporting and monitoring radon emissions ensures transparency and accountability to the American public. In the absence of measurable emissions standards and publically accessible reporting records, the public has no recourse to hold industry accountable for malpractice.

Phased versus Continuous Disposal

The Proposed Rule provides that no new tailings impoundment can be built (after December 15, 1989) unless it's designed, constructed, and operated to meet one of the following two work practice standards for mitigating radon emissions:

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(2) Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.[10]

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[7] *Id.*

[8] Proposed Rule at 25395

[9] EPA defines "new" impoundments as those "designed and/or constructed after December 15, 1989." Proposed Rule at 25392

[10] *Id.*.

Regretfully, EPA fails to provide a sufficiently detailed description or comparison of the two work practice standards within the text of the Proposed Rule, which is critical for public deliberation. There exists a longstanding history of site abandonment and taxpayer-funded remediation efforts for uranium operations in the U.S. Subpart W should minimize public health burdens and potential public expense associated with such abandonment and remediation by limiting the number and dimensions of tailings impoundments at uranium mills and also requiring swift, responsible disposal of tailings. The continuous disposal approach seems to be more effective at ensuring ongoing radon mitigation[11] at impoundments. However, the TEPC finds the lack of clarity regarding dimensions for the disposal impoundments and total allowable number of disposal sites as unacceptable. As the regulatory language is currently written, the continuous disposal work practice standard could result in the unintended use of operating mill tailings as permanent repositories for vast quantities of radioactive mill tailings. As such, the TEPC recommends that EPA revise the regulatory language for the continuous disposal approach to specify the dimensions and number of disposal cells allowed at a mill tailings facility.

Definition of "Operation" in the Proposed Rule

The Proposed Rule provides that "as currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that "operation" means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W)."[12] EPA proposes the following amended definition to replace the current definition: "*Operation* means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins."

The TEPC supports EPA's recommendation to amend the definition of "operation" as it pertains to Subpart W, but with one important modification (italicized below): "An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure *concludes*."

Tribal Consultation

EPA provides that the Proposed Rule does "not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)."

[11] EPA states that the area of a given impoundment "has a direct linear relationship with the Rn-222 source term more so than the depth or volume of the impoundment." Proposed Rule at 25393. Thus, 2, 40-acre impoundments would likely have a greater Rn-222 emission potential than a single 10 acre section of disposal cell.

[12] Proposed Rule at 25405.

The rationale for EPA's finding is that the Proposed Rule "imposes requirements on owners and operators of specified area sources and not tribal governments." The TEPC finds that EPA does not understand fully the intent behind EO 13175 as it is not limited to federal actions with regulatory requirements imposed on Tribal governments. Specifically, section 1(a) of EO 13175 defines "policies that have tribal implications" as:

> [R]egulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

The definition makes no reference to direct regulatory requirements placed on Tribal governments. The TEPC strongly encourages EPA to reconsider applicability of EO 13175 in the Proposed Rule, particularly in light of the historic and ongoing environmental contamination that has resulted from uranium operations in and around Indian Country.

Despite this erroneous supposition in the language of the Proposed Rule, the TEPC notes that EPA did, in fact, deliver consultation letters to the 53 Tribes listed on the EPA Tribal Consultation Opportunities Tracking System (TCOTS) site.[13] However, the TEPC believes that EPA should have sent such letters to all Tribes, understanding that some of them could have historical ties to lands near uranium recovery facilities. Further, the TEPC is pleased that EPA's Radiation Protection Division discussed the Proposed Rule on the June 26, 2014 NTAA/EPA policy call, during which Tribal representatives were allowed to ask questions about the rule.

Beyond EPA simply adhering to its legal consultation requirements regarding Tribes, the TEPC strongly urges EPA to integrate recommendations from Tribes impacted currently and historically from uranium mill tailings[14] and mining operations[15] into this Proposed Rule and future proposed rules.

Conclusion

[13] EPA, Proposed Revisions to the Radon Emission Standards for Operating Uranium Mill Tailings Rule (Subpart W); Invitation to Consult Letter mailed to the following tribes on May 8, 2014 URL:<http://tcots.epa.gov/oita/tconsultation.nsf/ByUNID/0CE768F30DE0616985257CED00412620/$File/Invitation+to+Consultat+Letter+Sent+to+These+Tribes.pdf?OpenElement>

[14] USGS, Assessment of Potential Migration of Radionuclides and Trace Elements from the White Mesa Uranium Mill to the Ute Mountain Ute Reservation and Surrounding Areas, Southeastern Utah (Scientific Investigation Report 2011-5231). URL: <http://pubs.usgs.gov/sir/2011/5231/pdf/sir20115231.pdf>

[15] EPA, Technologically Enhanced Naturally Occurring Radioactive Materials From Uranium Mining Volume 2: Investigation of Potential Health, Geographic, and Environmental Issues of Abandoned Uranium Mines. [EPA 402-R-08-005] (April 2008).

In summary, the TEPC is pleased to provide the aforementioned comments regarding the Proposed Rule. If EPA should have any questions of the TEPC, please feel free to contact the TEPC via phone at (505) 340-6319 or via e-mail at info@tribalepc.org.

Respectfully submitted,

Tribal Environmental Policy Center

Uranium Watch

76 South Main Street, # 7 | P.O. Box 344
Moab, Utah 84532
435-260-8384

October 29, 2014

via www.regulations.gov

Air and Radiation Docket
Environmental Protection Agency
Mailcode: 2822T
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

Re: Docket ID No. EPA–HQ– OAR–2008–0218. Comments on Proposed Rule: Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings (40 C.F.R. Part 61 Subpart W). 79 Fed. Reg. 25388, May 2, 2014.

Dear Sir or Madam:

Below please find comments on Environmental Protection Agency's (EPA's) Proposed Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings, 49 C.F.R. Part 61 Subpart W, Docket ID No. EPA–HQ– OAR–2008–0218. 79 Fed. Reg. 25388, May 2, 2014. These comments are submitted by Uranium Watch (UW). Comments are also submitted on behalf of Living Rivers, Moab, Utah; Grand Canyon Trust, Flagstaff, Arizona; Greenaction for Health and Environmental Justice, San Francisco, California; Information Network for Responsible Mining, Norwood, Colorado; Advocacy Coalition of Telluride, Telluride, Colorado; Clean Water Alliance, Rapid City, South Dakota; Western Nebraska Resources Council, Chadron, Nebraska; Western Colorado Congress, Grand Junction, Colorado; Sierra Club Nuclear Free Campaign, Columbia, South Carolina; Tallahassee Area Community, Cañon City, Colorado.

I. SUMMARY

1. As will be shown below, the Proposed Revisions to the National Emission Standards for Radon Emissions From Operating Mill Tailings (40 C.F.R. Part 61 Subpart W) is without a sound factual, technical, and legal basis.

2. The Proposed Rule does not comply with the requirements of the 1990 Clean Air Act (CAA), specifically Section 112(h).

3. There is no factual basis for the EPA's determination that the current "existing" tailings impoundments at conventional mills, as defined by 40 C.F.R. § 61.251(d), meets or will soon meet the proposed work-practice and design standard for "new" impoundments. Therefore, there is no factual and legal basis for the elimination of the radon emission standard for "existing" impoundments at 40 C.F.R. § 61.252(a).

4. There is no legal basis for establishing work-practice and design standards, in lieu of emissions standards, for "existing" impoundments, new impoundments, in-situ leach (ISL) operations, and heap-leach operations, given the failure of the Administrator to determine that emission standards are not feasible, as required by the CAA Section 112(h).

5. The assumption that a water cover on conventional mill tailings serves to limit radon emissions is no longer supported by facts and data. The high levels of radium and resulting significant radon emissions from the liquid effluents at four White Mesa Mill impoundments means that the EPA must establish a radon emission standard for liquid effluents and require methodologies to reduce those emissions.

6. The EPA failed to seek relevant data and information from mill licensees and place relevant data on the Rulemaking Docket. The EPA failed to include decades of Subpart W compliance reports, or even the most relevant recent reports, in the Rulemaking Docket.

7. The EPA failed in its responsibility to implement Executive Order 3175: Consultation and Coordination With Indian Tribal Governments, Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks, and Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations.

8. The Proposed Rule leaves a long-standing regulatory gap. The current and proposed 40 C.F.R. Part 6s Subpart W regulations and the EPA's rescission of Part 61 Subpart T means that at the very time when radon emissions increase due to the drying out of a tailings impoundment, the radon emissions are unregulated. This period of unregulated, unmonitored, unreported, and unmitigated radon emissions can amount to ten years or more before the placement of the final radon barrier.

9. Uranium recovery operations should be considered, by definition, major sources of hazardous air pollutants and subject to major source requirements. The EPA has avoided this designation since 1990. All uranium recovery operations licensed by the Nuclear Regulatory Commission (NRC) or an NRC Agreement State is subject to the 40 C.F.R. Part 61 Subpart W regulations. There is no emission level that divides those sources that are subject to the rule and those that are not. There is no emission level that separates those that must have EPA or Utah State authorization to construct and operate a source at a new or existing license operation and those that are not.

10. Due to the numerous factual, technical, and legal inadequacies in the Proposed Rule, the EPA must 1) correct those errors; 2) develop new proposed regulations that can be supported factually, technically, and legally; and 3) issue a new Proposed Rule for public comment.

II. LEGAL ISSUES

1. Clean Air Act Amendments of 1990.

1.1. The current Subpart W Rulemaking is being conducted under the provisions of the CAA Amendments of 1990. The existing 40 C.F.R. Part 61 Subpart W rule was promulgated in December 1989,[1] prior to the promulgation of the 1990 CAA Amendments. The 1990 CAA at Section 112(q)(1) states, with respect "Standards Previously Promulgated": "Each such standard shall be reviewed and, if appropriate, revised, to comply with the requirements of subsection (d) within 10 years after the date of enactment of the Clean Air Act Amendments of 1990." The standards in Subpart W for uranium mills were not exempted from this provision by subsection (q)(3).

1.2. Subsection (d) is a subsection of Section 112, entitled "Emission Standards." Therefore, any proposed emission standards promulgated under subsection (d) must comply with all applicable provisions of Section 112. This means that the proposed Subpart W emission standards, whether not they change or restate emission standards in the current Subpart W regulation, must comply with all applicable requirements in Section 112 of the 1990 CAA Amendments.

1.3. Section 112(d)(2), Standards and Methods, states that "emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section." Therefore, Section 112(d)(2) requires maximum achievable control technology (MACT) for both major and area sources. However, Section 112(d)(5) allows for the use of generally available control technology or management practices (GACT) to reduce hazardous air emissions from area sources.

1.4. Section 112(d)(2) lists some of the types of measures, processes, methods, systems or techniques that could be used to reduce hazardous air emissions. Section 112(d)(5) applies to the same list of potential emission reduction methodologies; it just says that an area source can use GACT in place of MACT. The list of possible control technologies or combination of technologies—whether used as the maximum or generally available technologies—includes design, equipment, work practice, or operational standards (Section 112(d)(2)(D)). Subsection (d)(2)(D) requires that the application of design and work practice standards must be "as provided in subsection (h)."

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[1] 54 Fed. Reg. 51654, 51654-51713; December 15, 1989.

1.5. Subsection (h), Work Practice Standards and Other Requirements, applies to standards promulgated pursuant to Section 112. Subsection (h) states that it is "for the purposed of this section." Therefore, subsection (h) applies to Section 112 and the establishment of "work practice standards" under subsection (d). Such "work practice standards," through the use of generally available technologies, have been proposed by the EPA.

1.6. Section 112(h) of the CAA states:

(h) WORK PRACTICE STANDARDS AND OTHER REQUIREMENTS.

(1) IN GENERAL.—For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f). In the event the Administrator promulgates a design or equipment standard under this subsection, the Administrator shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

(2) DEFINITION.—For the purpose of this subsection, the phrase ''not feasible to prescribe or enforce an emission standard'' means any situation in which the Administrator determines that—

(A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or

(B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.

1.7. As stated above, under the provisions of subsection (h), the EPA cannot establish a design, equipment, work practice, or operational standard, or combination thereof (whether through the application of maximum available technologies or generally available technologies) **in lieu of** an emission standard unless the Administrator makes certain findings. If the EPA proposes to establish a design, equipment, work practice, or operational standard, or combination thereof, the Administrator must find that it is not feasible to prescribe or enforce an emission standard, meaning that the the application of a measurement methodology is not technologically and economically practicable.

1.8. The EPA Air Toxics Website's "Overview by Section of CAA, Introduction to CAA and Section 112 (Air Toxics)," states with respect "Overview of Section 112 and

its Subsection" for subsection (h) Work Practice Standards and Other Requirements: "Allows the EPA, in cases where it is not feasible to prescribe or enforce an emission standard [under Section 112(d) or (f)], to promulgate a design, equipment, work practice, or operational standard." [2]

1.9. There is no evidence that the EPA Administrator has found that it is not feasible to prescribe or enforce radon emission standards for area sources subject to Subpart W, including conventional impoundments, liquid waste impoundments, and heap leach operations.

1.10. Compliance with the emission standard for existing impoundments involves radon flux measurements to demonstrate compliance using a methodology that has been incorporated into EPA Part 61 regulation.[3] That measurement methodology has been found to be both technically and economically feasible and has been used for decades to demonstrate compliance with the Subpart W radon emission standard for existing impoundments at uranium mills.

1.11. There are measurement technologies, including calculation of radon emissions from nonconventional fluid impoundments, based on measurements of radium content and meteorological conditions, that can be used to demonstrate compliance with a radon emission standard for liquid impoundments. There are other possible measurement technologies that can be applied to heap leach operations to demonstrate compliance with a radon emission standard. The EPA had not demonstrated that other possible methodologies for measuring or calculating radon emissions from nonconventional impoundments or heap-leach operations are not technically or economically feasible.

1.12. Therefore, the EPA has no legal basis for the promulgation of a design, equipment, work practice, or operational standard, or combination thereof, **in lieu of** a radon emission standard, pursuant to Section 112 of the CAA. Design, equipment, work practice, or operational standards are meant to supplement, not replace, a standard that places specific numerical limitations on the emission of a hazardous air pollutant. The EPA may supplement an emission standard with a design, equipment, work practice, or operational standard, but it cannot replace a numeric emission standard without the Administrator making the required findings. In this instance, the Administrator has not, and cannot make such findings.

III. GENERAL COMMENTS

1. The public and various stakeholders expected the EPA to improve environmental protection concerning the process of uranium milling and closure. The EPA has

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[2] http://www.epa.gov/ttn/atw/overview.html

[3] 40 C.F.R. Part 61, Appendix B, Method 115-Monitoring for Radon-222 Emissions, 2. Radon-222 Emissions from Uranium Mill Tailings Piles.

proposed a drastic step that will degrade environmental and community protection against radon emissions from uranium recovery operations.

2. As will be shown below, in developing the proposed rule the EPA relied on erroneous, incomplete, and misleading information.

3. The *Federal Register* Notice (FRN) contains numerous misleading and erroneous statements and assertions that are not supported by citations to supportive documents. *See* 79 Fed. Reg. 25388, May 2, 2014.

4. The EPA has not attempted to learn from the experience over the previous decades by analyzing available data and incorporating the results of the analyses into an organized body of knowledge about the radon emissions from liquid and solid tailings impoundments and the performance of these impoundments and designs and work practices over the past several decades.

5. The EPA failed to consider Subpart W and its implementation and enforcement as a whole regulatory program with various parts, including the regulations and how those regulations have been and will be implemented and enforced. The EPA egregiously failed to provide documentation regarding the enforcement so Subpart W since 1989 and discuss the numerous issues associated with that enforcement.

IV. PROPOSED REVISIONS TO 40 C.F.R. PART 61 SUBPART W

1. Proposed Rule, at II.A. Background Information for Proposed Area Source Standards, *What is the statutory authority for the proposed standards?* (page 25390, col. 1, ¶ 2) states (in part):

> Section 112(d) of the CAA requires EPA to establish emission standards for major and area source categories that are listed for regulation under CAA section 112(c). A major source is any stationary source that emits or has the potential to emit 10 tons per year (tpy) or more of any single hazardous air pollutant (HAP) or 25 tpy or more of any combination of HAP. An area source is a stationary source of HAP that is not a major source. . . . Calculations of radon emissions from operating uranium recovery facilities have shown that facilities regulated under Subpart W are area sources (EPA- HQ-OAR-2008-0218-0001, 0002).

1.1. The discussion of whether the Subpart W radon standard applies to an area or major source is highly misleading. Radon is never measured in tons per year. Very high and hazardous levels of radon emission would never reach the tons per year major source levels, because that source category applies to particulates, not radioactive gases. The EPA never intended the 10 or 25 tons per year emission level to apply to the emission of radon or other radionuclides. It is disingenuous of the EPA to suggest otherwise.

1.2. The Clean Air Act (CAA), Section 112 —Hazardous Air Pollutants, defines "major" and "area" sources:

> SEC. 112. HAZARDOUS AIR POLLUTANTS.
> (a) DEFINITIONS.—For purposes of this section, except subsection (r)—
> (1) MAJOR SOURCE.—The term ' 'major source' ' means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. **The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.**
> (2) AREA SOURCE.—The term ''area source'' means any stationary source of hazardous air pollutants that is not a major source. [Emphasis added.]

The part of the definition of "major source," which the EPA inexplicably left out of the discussion in the May 2 FRN, clearly states that the Administrator could establish lesser criteria for major sources and, in the case of radionuclides a **different criteria**. The problem is that the Administrator never took it upon his or herself to establish criteria for determining whether a radionuclide source is a "major source."

1.3. Also, EPA regulation at 40 C.F.R. Part 70, State Operating Permit Programs, provides addition information:

> Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Act.
> ***
> Major source means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person (or persons under common control)) belonging to a single major industrial grouping and that are described in paragraph (1), (2), or (3) of this definition. For the purposes of defining "major source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

> **(1) A major source under section 112 of the Act, which is defined as:**
> (i) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or
> **(ii) For radionuclides, "major source'' shall have the meaning specified by the Administrator by rule.** [Emphasis added.]

Again, the CAA and EPA Part 70 regulation anticipated that the EPA Administrator would issue a rulemaking that would specify the basis for determining whether a radionuclide source is a "major source." Subsequent to the passage of the 1990 amendments to the CAA, the EPA Administrator failed to establish specific criteria for "major" radionuclide sources, as was contemplated by the Clean Air Act, Section 112(a)(1), and 40 C.F.R.
§ 70.2. The EPA cannot, and should not justify the failure of the Administrator to establish specific criteria for "major" radionuclide sources.

1.4. The radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPS) themselves state whether a emission source must adhere to a emission standard and apply for a permit pursuant to 40 C.F.R. Part 61 Subpart A. Under Subpart W, all uranium recovery facilities that are licensed by the Nuclear Regulatory Commission (NRC) or an NRC Agreement State under the Atomic Energy Act are subject to Subpart W, no matter now much radon is emitted. Under Subpart B (National Emission Standards for Radon Emissions from Underground Uranium Mines), uranium mines that produce or are expected to produce more than 100,000 tons of uranium ore are subject to the Part 61 Subpart B standard. Therefore, the EPA established criteria for regulation of that emission source. The EPA singled out radon emissions from uranium mills for its own specific NESHAP radon emission standard, clearly demonstrating that that source category warranted a specific regulation and regulatory program to control radon emissions.

1.5. Under 40 C.F.R. § 70.3(b)(1), states that administer EPA CAA regulations may exempt area sources from the obligation to obtain a permit:

> § 70.3 Sec. 70.3 Applicability.
> ***
> (b) Source category exemptions.

> (1) All sources listed in paragraph (a) of this section that are not major sources, affected sources, or solid waste incineration units required to obtain a permit pursuant to section 129(e) of the Act, may be exempted by the State from the obligation to obtain a part 70 permit until such time as the Administrator completes a rulemaking to determine how the program should be structured for nonmajor sources and the appropriateness of any permanent exemptions in addition to those provided for in paragraph (b) (4) of this section.

However, a state that administers the Part 61 radionuclide NESHAPS may not exempt a uranium mill (or other radionuclide source subject to Part 61 regulations) from the necessity of obtaining a permit pursuant to Subpart A (General Requirements) and Subpart W. In other words, the State of Utah cannot treat a uranium mill as a area source subject to a permitting exemption. Instead, it must treat a uranium mill as a "major" source.

1.6. The Administrator of the EPA should make a determination that any source subject to the National Emission Standards for Radon Emissions From Operating Mill Tailings is, by definition, a major source.

2. Proposed Rule, at II.A. Background Information for Proposed Area Source Standards, What is the statutory authority for the proposed standards? (page 25390, col. 1, ¶ 2) states (in part): "For the purposes of Subpart W, the HAP at issue is radon-222 (hereafter referred to as "radon"). We presently have no data or information that shows any other HAPs being emitted from these impoundments."

2.1. The EPA is clearly aware that materials that emit radon-220 from the decay of thorium-232 have been disposed of in tailings impoundments subject to Subpart W standard. The NRC authorized the receipt, storage, processing, and disposal of wastes containing thorium-232 and its more highly radioactive progeny at the White Mesa Mill, San Juan County, Utah. The licensee even developed standard operating procedures (SOPs) for the handling of high-thorium content material. The thorium-232 and thorium-232 progeny were not removed during processing. Therefore, radon-220 from the decay of thorium-232, is probably emitted from tailings Cells 2 and 3 at the White Mesa Uranium Mill, San Juan County, Utah. The reason that the EPA has no data or information that shows that radon-220 is being emitted at the White Mesa Mill is because the method used by the Mill licensee to measure radon from Cells 2 and 3 in order to demonstrate compliance with Subpart W does not capture and measure radon-220 or radon-220 progeny.[4] Nor is there evidence that other radioactive measurements at or near the site are capable of measuring radon-220 and radon-220 progeny. So, it is no wonder the EPA has no data showing that radon-220 is being emitted from the White Mesa Mill.

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[4] Tellco Environmental, Grand Junction, Colorado. Personal communication.

3. Proposed Rule, at II.A. Background Information for Proposed Area Source Standards, *What is the statutory authority for the proposed standards?* (page 25390, col. 2, ¶ 1) states:

> Under CAA section 112(d)(5), the Administrator may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.'' Under section 112(d)(5), the Administrator has the discretion to use generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT) under section 112(d)(2) and (d)(3), which is required for major sources. Pursuant to section 112(d)(5), we are proposing revisions to Subpart W to reflect GACT.

3.1. Any state that administers and enforces Subpart W has the authority to determine that such sources are "major sources." Since the State of Utah, which regulates the only operating uranium mill in the U.S., administers and enforces the radionuclide NESHAPS. it would be highly improper to only consider the GACT in lieu of MACT. Radon, radon progeny, and other radionuclides that are emitted from uranium mill sites should be subject to MACT.

3.2. As discussed above, it was the intention of the CAA and EPA regulation that the EPA Administrator specify criteria for determining "major" sources of radionuclide emissions. As also discussed above, the fact that all uranium recovery facilities are subject to regulation under Subpart W means that, by definition, they are "major" sources. Therefore, the EPA has no basis whatsoever using generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT)

4. Proposed Rule, at II.B. Background Information for Proposed Area Source Standards, *What criteria did EPA use in developing the proposed GACT standards for these area sources?* (page 25390, col. 2, ¶ 3) states:

> Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that may include small businesses.

4.1 EPA should define "small business" in the context of this rule, which applies to the owners and operators of uranium mills and other uranium recovery facilities. The EPA should provide information on the size of the companies, assets, and incomes that will be affected by these rules.

4.2. It is doubtful that any facility in this source category is owned by a small business. The only operating uranium mill in the US is owned by a large foreign

company. Other owners and operators of uranium recovery facilities are often large, multi-national companies, with incomes and resources in the millions of dollars.

4.3. A small business that would be adversely by the proposed regulation is the company that manufactures the canisters that measure radon on tailings impoundments and determines the radon flux from those canisters. The EPA should provide more financial information about how small companies that provide support for compliance with the Subpart W standard will be impacted.

5. Proposed Rule, at II.B. Background Information for Proposed Area Source Standards, *What criteria did EPA use in developing the proposed GACT standards for these area sources?* (page 25390, col. 2, ¶ 4), states:

> Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources[2] in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.
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> [2] None of the sources in this source category are major sources.

5.1. The following portion of the above paragraph should be deleted: "We also consider the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue." This statement should be deleted because it is a false and misleading statement, typical of other false and misleading statements in the Proposed Rule.

The EPA could not have "considered the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources." This is because all of the facilities in the same industrial sector, that is, uranium recovery facilities and 11e.(2) byproduct material impoundments, are considered to be area sources by the EPA, so there are no major sources in the same industrial sector to consider.

6. Proposed Rule, at II.C. Background Information for Proposed Area Source Standards, What source category is affected by the proposed standards? (page 25390, col. 3, ¶ 1), states (in part):

> As defined by EPA pursuant to the CAA, the source category for Subpart W is "facilities licensed [by the U.S. Nuclear Regulatory Commission (NRC)] to manage uranium byproduct material during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings." 40 CFR 61.250. Subpart W defines "uranium byproduct material or tailings" as "the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content." 40 CFR 61.251(g).

6.1. Based on the definition above, there is a significant question regarding how Subpart W applies to the wastes that have been placed in impoundments at licensed conventional uranium mills that do not come from the processing of uranium ores. These uranium recovery wastes come from the processing of wastes from other mineral processing facilities. Thousands of tons of materials that are not "ore,"[5] as contemplated by the Atomic Energy Act of 1946 (as supplemented and amended by the Atomic Energy Act of 1954 and the Uranium Mill Tailings Radiation Control Act of 1978, and the EPA and NRC regulations promulgated pursuant to UMTRCA) have been disposed of at a licensed uranium mill (White Mesa Mill). The EPA has never amended its regulations, nor has ever claimed that 40 C.F.R. Part 61 Subpart W or 40 C.F.R. Part 192 apply to the wastes produced by the extraction or concentration of uranium from materials other than "ore" that have been processed primarily for its source material content. Therefore, there is no legal basis for the application of Subpart W to the wastes from the processing of wastes from other mineral processing operations at licensed uranium mills. The EPA must address this issue in the Proposed Rule.

7. Proposed Rule, at II.C. Background Information for Proposed Area Source Standards, *What source category is affected by the proposed standards?* (page 25390, col. 3, ¶ 1) states (in part):

> Uranium recovery facilities process uranium ore to extract uranium. The HAP emissions from any type of uranium recovery facility that manages uranium byproduct material or tailings is subject to regulation under Subpart W. This currently includes three types of uranium recovery facilities: (1) conventional uranium mills; (2) in-situ leach recovery facilities; and (3) heap leach facilities.

7.1. The EPA must consider types of uranium recovery facilities, using new

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[5] White Mesa Mill Radioactive Materials License. http://www.deq.utah.gov/businesses/E/energyfuels/docs/2010/06Jun/4BER%20UT1900479%20061410.pdf

technologies, that process uranium ore to extract uranium. These facilities include borehole mining operations and ablation processing. Black Range Minerals and their joint venture with Ablation Technologies LLC, Mineral Ablation, have undertaken research and development activities associated with the ablation process, and Black Range Minerals is developing a borehole mining project. [6] The EPA must investigate and evaluate these technologies with respect Subpart W standards.

7.2. The EPA must also consider the applicability of Subpart W to research and development uranium recovery operations, particularly ablation.

7.3. The EPA must have a process for evaluating new uranium recovery technologies in a timely manner with respect Subpart W standards and compliance with those standards.

8. Proposed Rule, at II.D(1)(D). Background Information for Proposed Area Source Standards, *What are the production operations, emission sources, and available controls?,* (1) Conventional Mills (page 25391, col. 1, ¶ 8), states (in part):

> Uranium byproduct material/tailings are typically created in slurry form during the crushing, leaching and concentration processes and are then deposited in an impoundment or ''mill tailings pile,'' which must be carefully monitored and controlled. This is because the mill tailings contain heavy metal ore constituents, including radium. The radium decays to produce radon, which may then be released to the environment. Because radon is a radioactive gas which may be inhaled into the respiratory tract, EPA has determined that exposure to radon and its daughter products contributes to an increased risk of lung cancer.

8.1. The EPA states here that a "mill tailings pile" must be carefully monitored and controlled. However, the proposed rule removes any requirement for active monitoring and control of radon emissions from mill tailings piles. The EPA cannot claim, on one hand, that a tailing pile must be carefully monitored and controlled and, on the other hand, remove any requirement for monitoring and remove any possibility for "control" of those emissions when the emissions exceed a specific radon emission standard.

8.2. Here the EPA should have discussed the operations that produce liquids and other materials that are held in liquid effluent ponds and ponds on top of the solid tailings disposal impoundments, their radiological constituents, and the emissions from such effluents. The EPA should have discussed the sources of these liquids and the solids in those liquids. These effluent sources would include effluents and raffinates from ore

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[6] http://www.blackrangeminerals.com/content/wp-content/uploads/2014/10/24-Oct-2014-Further-Positive-Results-From-Ablation-Testwork.pdf
http://www.blackrangeminerals.com/content/ablation-joint-venture/

processing, tailings pore water, liner system leachates, liquids from tailings dewatering, pumpback from groundwater corrective actions, natural precipitation, and runoff. The EPA should also have discussed the solids dissolved and suspended in the liquids and the sources of those particulates and their radiological properties. Further, the EPA should have discussed and provided data regarding the generation of radon from the radium in these ponds, which the EPA proposes to call "nonconventional impoundments."

8.3. The Proposed Rule must consider and address the radon emissions from stockpiled uranium ore as a radon emission source at uranium recovery facilities. The EPA should have, but did not, identify and consider other sources of emissions of radon and other radionuclides at conventional, ISL, or heap leach operations (including contaminated soil, ore pads, windblown tailings, stockpiled radioactive wastes prior to processing, ore handling areas, stacks). The CAA directs the EPA to regulate radionuclides, including radon, not just radon emissions from 11e.(2) byproduct material. There is no legal or technical justification for the EPA disregarding other sources of radon and other radioactive emissions at uranium recovery operations. All radioactive contaminants that are inhaled or are taken up by soils, water, and enter the food chain have health risks. The health risks from uranium and other radioactive particulate emissions from uranium mills (e.g., uranium isotopes, radium-226, thorium-230, and polonium-126) must also be considered.

9. Proposed Rule, at II.E. Background Information for Proposed Area Source Standards, *What are the existing requirements under Subpart W?,* (page 25392, col. 2 to col. 3).

9.1. The EPA leaves out any discussion of the requirement in Subpart W at Section 61.252(b)(1): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." The FRN should have discussed the implementation and enforcement, or lack of implementation and enforcement, of that provision. The EPA should discuss how the EPA and the State of Utah, Division of Air Quality (DAQ), ignored that provision since 1989 for the White Mesa Mill. Since 1989, there have been at least 3 operational impoundments at the White Mesa Mill. At the time the FRN was issued, there were 6 impoundments (Cells 1, 2, 3, 4A, 4B, and Roberts Pond) "in operation" at White Mesa.

9.2. The FRN states, "The owners or operators of existing impoundments must report to EPA the results of the compliance testing for any calendar year by no later than March 31 of the following year." The EPA should also mention that the owner and operator of the only operating mill (White Mesa Mill) and one of the mills on standby (Shootaring Canyon Mill) must report to the Utah Division of Air Quality (an EPA Delegated State), which administers and enforces the EPA radionuclide NESHAPs in Utah.

10. Proposed Rule, at II.E. Background Information for Proposed Area Source Standards, *What are the existing requirements under Subpart W?,* (page 25392, col. 3, ¶ 6, to page 25392, col. 1, ¶ 2) states:

> The work practice standards described above were promulgated after EPA considered a number of factors that influence the emissions of Rn-222 from tailings impoundments, including the climate and the size of the impoundment. For example, for a given concentration of Ra-226 in the tailings, and a given grain size of the tailings, the moisture content of the tailings will control the radon emission rate; the higher the moisture content the lower the emission rate. In the arid and semi- arid areas of the country where most impoundments are located or proposed, the annual evaporation rate is quite high. As a result, the exposed tailings absent controls like sprinkling) dry rapidly. In previous assessments, we explicitly took the fact of rapid drying into account by using a Rn-222 flux rate of 1 pCi/m2/s per pCi/g Ra-226 to estimate the Rn-222 source term from the dry areas of the impoundments. (Note: The estimated source terms from the ponded (areas completely covered by liquid) and saturated areas of the impoundments are considered to be zero, reflecting the complete attenuation of the Rn-222).
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> Another factor we considered was the area of the impoundment, which has a direct linear relationship with the Rn- 222 source term, more so than the depth or volume of the impoundment. Again, assuming the same Ra-226 concentration and grain sizes in the tailings, a 100-acre dry impoundment will emit 10 times the radon of a 10-acre dry impoundment. This linear relationship between size and Rn-222 source term is one of the main reasons that Subpart W imposed size restrictions on all future impoundments (40 acres per impoundment if phased disposal is chosen and 10 acres total uncovered.

10.1. There are only 2 impoundments that more or less meet the size requirement for new impoundments, Cells 4A and 4B at the White Mesa Mill. Only Cell 4A, which has only been operational for a few years, has received solid tailings. Therefore, the EPA has no operational history for 40 acre impoundments. Additionally, the EPA give no justification for not requiring 20-acre or 10-acre impoundments, to reduce the amount of radon emissions.

10.2. The fact is, at the White Mesa Mill, additional impoundments, no matter what their size, mean additional radon emissions from the mill site. The White Mesa Mill licensee the "existing" impoundments continue to emit radon and those emissions will increase as the impoundments dry out. The new impoundments emit radon from the liquids. Based on the EPA's determination that there are radon emissions of 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium and recent data on the radium content of new Cells 4A and 4B, the radon emissions from Cell 4A are 110.6 pCi/m^2-sec and those from Cell

4B are 102.2 pCi/m^2-sec. This is over 5 times the current radon emission standard. *See* Section IV. 45.11, below.

11. Proposed Rule, at II.F.1. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25393, col. 3, ¶ 3), states (in part):

> The White Mesa Conventional Mill in Blanding, Utah, has one pre-1989 impoundment (known by the company as Cell 3) that is currently in operation and near capacity but is still authorized and continues to receive tailings. The company is now pumping any residual free solution out of the cell and contouring the sands. It will then be determined whether any more solids need to be added to the cell to fill it to the specified final elevation. It is expected to close in the near future (EPA-HQ-OAR-2008-0218- 0069). The mill also uses an impoundment constructed before 1989 as an evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

11.1. The EPA should have acknowledged another pre-1989 impoundment that was an existing tailings impoundment at the time the Proposed Rule was issued on May 2, 2014. Cell 2 (66 acres) was an "existing" tailings impoundment, constructed before December 1989.

11.2. The White Mesa Mill licensee, currently Energy Fuels Resources (USA) Inc. (EFRI), continued to monitor the radon flux for Cell 2 and submit the results to the EPA and the Utah Division of Air Quality (DAQ)[7] on an annual basis. In 2012, the radon flux from Cell 2 exceeded the Subpart W standard of 20 pCi/m^2-sec of radon-222 for an existing uranium tailings impoundment. 40 C.F.R. § 61.252(a). The exceedance was reported to the DAQ and EPA in March 2013.[8] The April 17, 2013, DAQ White Mesa Mill Subpart W compliance review states that "due to the exceedance from Cell #2, monthly reports are required to be submitted," and that "the first report will be submitted April 2013." Until May 2014, Energy Fuels submitted monthly reports on the radon flux for Cell 2 and the measures taken to bring Cell 2 into compliance with the Subpart W standard, pursuant to Section 61.254(b). The Licensee, EPA, and DAQ's actions were the result of a determination that the provisions of Section 61.252(a) applied to Cell 2 as an "existing" tailings impoundment.

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[7] In 1995 the State of Utah assumed administrative and enforcement authority for the radionuclide NESHAPS for Utah.

[8] White Mesa Uranium Mill, National Emissions Standards for Radon Emission from Operating Mill Tailings Transmittal of 2012 Annual Radon Flux Monitoring Reports; Energy Fuels Resources (USA) Inc. to Bryce Bird, Director, Division of Air Quality; March 29, 2013.

11.3. Even though the Licensee was submitting annual and monthly Subpart W compliance reports for Cell 2 as late as the end of May 2014, the EPA failed to even mention Cell 2 in the Proposed Rule. The was an egregious oversight on the part of the EPA.

11.4. In the monthly compliance for April 2014, submitted in May 2014 (after the publication of the May 2 Proposed Rule), the Licensee requested permission to cease monthly monitoring because Cell 2 was in compliance with the radon flux standard. On July 23, 2014, the Utah Division of Radiation Control (DRC) issued an order stating that Cell 2 is not in operation and is in closure. The DRC directive stated that no additional radioactive materials of any sort or other waste may be added to the cell.[9] However, it is doubtful that Cell 2 can be considered to be in "closure." The White Mesa Mill License[10] does not include an approved Closure Plan for Cell 2. There are no enforceable reclamation milestones for the closure and reclamation of Cell 2 that have been incorporated into the License as license conditions, as required by and 10 C.F.R. Part 40, Appendix A, Criterion 6A, and 40 C.F.R. § 192.32(a)(3).

11.5. The 2012 Annual Compliance Report submittal (page 1) states that the Cell 2 dewatering activities are mandated by the Mill's State of Utah Groundwater Discharge Permit. There is no reference to dewatering activities mandated by the Mill's Radioactive Materials License or a closure plan. There is no reference to enforceable reclamation milestone for the removal of free-standing liquids from Cell 2. The EPA rescinded 40 C.F.R. Part 61 Subpart T under the assumption that that enforceable reclamation milestones would be incorporated into uranium mill licenses as part of closure.[11]

11.6. The FRN neglects to mention another "existing" 11e.(2) byproduct material disposal impoundments at the White Mesa Mill. Cell 1, constructed in 1981, receives and stores processing liquids and solid material. Eventually, part of Cell 1 will be used to dispose of solid 11e.(2) byproduct material from the reclamation of the Mill. Another impoundment that receives processing liquids is Roberts Pond, yet there is no mention of that impoundment in the FRN, and it does not appear that it was approved pursuant to 40 C.F.R. §§ 61.07 and 61.08.

12. Proposed Rule, at II.F.1. Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25394, col. 1, ¶ 1), states (in part):

> The mill also uses an impoundment constructed before 1989 as an

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[9] http://www.deq.utah.gov/businesses/E/energyfuels/docs/2014/07Jul/EnergyFuels072814.pdf

[10] http://www.deq.utah.gov/businesses/E/energyfuels/docs/2010/06Jun/4BER%20UT1900479%20061410.pdf

[11] 59 FR 36302, July 15, 1994

> evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

12.1. Cell 1 contains 11e.(2) byproduct material. But it is misleading to state that its HAP emissions are also regulated by Subpart W. There is no requirement to measure the radon emissions from Cell 1 because Cell 1 contains liquids. So, it may be regulated, but with no requirement to actually measure the radon emissions, it might as well not be regulated. The EPA should make that clear. The materials, solids and liquids, in Cell 1 are 11e.(2) byproduct material. Even the Cell 1 liner is 11e.(2) byproduct material.

12.2. Further, since 1990, the EPA, DAQ, and the White Mesa Mill license did not include Cell 1when determining compliance Section 61.252(b)(1), which states (in part): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." If Cell 1 was really being regulated by Subpart W, it would have counted as the third operating impoundment when Subpart W became effective. In reality, at no time since 1990 has the EPA or DAQ actually regulated Cell 1 under Subpart W.

12.3. Recent data indicates that there are, have been, and will continue to be significant radon emissions from the liquid effluents in Cell 1. *See* Section IV. 45.11, below. Yet, the EPA has maintained that radon emissions from liquid evaporation ponds, now called nonconventional impoundments, were negligible.

12.4. Roberts Pond, which also receives liquid effluent and solids, was also constructed before December 1989. Neither the EPA, nor the DAQ, ever approved the construction of, or later relining of, Roberts Pond.

13. Proposed Rule, at II.F.1. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25394, col. 1, ¶ 3, and col. 2, ¶ 1), states (in part):

> The Shootaring Canyon project is a conventional mill located about 3 miles north of Ticaboo, Utah, in Garfield County. The approximately 1,900-acre site includes an ore pad, a small milling building, and a tailings impoundment system that is partially constructed. The mill operated for a very short period of time. Shootaring Canyon did pre-date the standard, but the mill was shut down prior to the promulgation of the standard. The impoundment is in a standby status and has an active license administered by the Utah Department of Environmental Quality, Division of Radiation Control. The future plans for this uranium recovery operation are unknown.
> ***
> The Shootaring Canyon mill operated for approximately 30 days.

> Tailings were deposited in a portion of the upper impoundment. A lower impoundment was conceptually designed but has not been built. Milling operations in 1982 produced 25,000 cubic yards of tailings, deposited in a 2,508 m ^{2} (0.62 acres) area.

13.1. Most of the tailings at the Shootaring Canyon Mill did not come from the processing of ore at the mill. The tailings came from the disposal of equipment and wastes from the cleanup of the Hyrdo-Jet Heap-Leach operation (NRC Docket No. 40-7869).

13.2. The EPA should include the fact that the Shootaring Canyon Mill site includes stockpiled ore, ore on the tailings impoundment berm, and areas of radioactively contaminated soils that must be removed and placed in the tailings impoundment[12] The estimated amout of ore and contaminated soil is 114,000 cubic yards. The ore stockpile and soil beneath the ore pile that will be removed is 65,500 cubic yards. An additional 6,700 cubic yards of ore is on top of one of the tailings impoundment berms. The average radium-226 concentration of 30 ore samples is 225.68 pCi/gm (rounded to 226 pCi/gm). The average tailings radium concentration is 78.8 pCi/gm.[13]

13.3. The EPA seriously underestimates the amount of contaminated soils, ore, and other tailings that are at the Shootaring Canyon Mill.

13.4. Regarding future plans for the Shootaring Mill, on October 17, 2014, the Utah Division of Radiation Control (DRC) authorized the Transfer of Control and Ownership from Uranium One Americas, Inc. to Anfield Resources Holding Corp.[14]

14. Proposed Rule, at II.F.1. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25394, col. 1, ¶ 3, and col. 2, ¶ 2), states:

> A fourth mill is Cotter Corporation in Cañon City, Colorado. The mill no longer exists, and the pre-1989 impoundments are in closure.

14.1. It is questionable whether the pre-1989 impoundments at the Cotter Mill are "in closure." To the best of Commenters' knowledge, the Cotter Mill does not have an approved Closure Plan. To the best of Commenters' knowledge, there are no enforceable

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[12] Tailings Reclamation and Decommissioning Plan for Shootaring Canyon Uranium Project, Garfield County, Utah. License Number SUA-1371 (NRC); UT 0900480 (DAQ). Hydro-Engineering LLC, Environmental Restoration Inc. Revised November 2003. Updated and submitted March 29, 2012. http://www.radiationcontrol.utah.gov/Uranium_Mills/uraniumone/docs/2012/March/DRC-2012-001447.pdf

[13] Id. Section 5.4.4, page 5-6.

[14] http://www.deq.utah.gov/businesses/U/uraniumone/docs/2014/10Oct/TransferofContorl101714.pdf

reclamation milestones for the closure and reclamation the tailings impoundments that have been incorporated into the Cotter Mill license as license conditions, as required by 40 C.F.R. Part 192 and 10 C.F.R. Part 40, Appendix A, Criterion 6A. Closure demands a closure plan and enforceable reclamation milestones for the removal of free-standing liquids (dewatering), placement of the interim cover, and placement of the final radon barrier.

15. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25394, col. 3, § 4; page 25395, col. ¶ 1), states (in part):

> In performing our analysis we considered the information we received from all the existing conventional impoundments. We also looked at the compliance history of the existing conventional impoundments. After this review we considered two specific questions: (1) Are any of the conventional impoundments using any novel methods to reduce radon emissions? (2) Is there now any reason to believe that any of the existing conventional impoundments could not comply with the management practices for new conventional impoundments, in which case would we need to continue to make the distinction between conventional impoundments constructed before or after December 15, 1989? We arrived at the following conclusions: First, we are not aware of any conventional impoundment that uses any new or different technologies to reduce radon emissions.
>
> Conventional impoundment operators continue to use the standard method of reducing radon emissions by limiting the size of the impoundment and covering tailings with soil or keeping tailings wet. These are very effective methods for limiting the amount of radon released to the environment.

15.1. Here, the EPA has asked the wrong questions. This question that should be asked is whether the existing regulations are protective of the public health and safety, how those regulations have been implemented, and how the regulations can be improved to limit the amount of radon released from a conventional uranium mill tailings impoundment prior to the placement of the final radon barrier. By asking Question 2, the EPA is going down a path of manipulating the experience of the implementation and enforcement of Subpart W. The EPA is assuring that, in the future, radon emissions will not be monitored and therefore, no mitigative measures will be taken to bring tailings impoundments within the accepted 20 pCi/m^2-sec standard when that standard is exceeded.

15.2. Another question that should be asked is not whether existing conventional impoundments can comply with the management practices for new mill tailings

impoundments (40 C.F.R. § 61.252(b)), but whether the new mill tailings impoundments should also be subject to the radon flux standard for existing mill tailings piles (40 C.F.R. § 61.252(a)).

15.3. UW strongly believes that all tailings impoundments must be subject to the current radon flux standard for "existing" impoundments, or a more restrictive standard, no matter the size or when they were constructed. Unless there is monitoring of the radon flux, a mill operator, the public, and regulatory agencies will not know how much radon is actually being emitted from a tailings. With no standard and no monitoring, the mill operator will not be required to take effective measures to limit the radon emissions. It is only when there is a radon emission standard, requirement for yearly compliance monitoring and reporting, requirement for monthly reporting and mitigative measures if an impoundment is out of compliance, and possibility of an enforcement order, that the EPA can assure that effective methods are being used to limit the amount of radon released to the environment.

15.4. A tailings impoundment that limits the size of the impoundment to 40 acres, is not required under Subpart W to use any other method to limit the radon emissions. By having a 40-acre impoundment the mill owner has satisfied the EPA requirement for an effective method to reduce radon emissions. There is no EPA requirement to cover the tailings with soil or keep the tailings wet. If the radon emissions increase due to drying out of the pile, through natural evaporation or active dewatering, presence of wild-blown tailings, or placement of material in the impoundment with higher radon emissions than expected or emissions of radon-220, with no monitoring, the emissions would not be documented. Therefore, there is no prospect of using other "effective methods for limiting the amount of radon released to the environment."

15.5. The Clean Air Act (CAA) has guidance for the promulgation of work practice standards. Section 112(h) of the CAA states:

> (h) WORK PRACTICE STANDARDS AND OTHER REQUIREMENTS.
>
> (1) IN GENERAL.—**For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f).** In the event the Administrator promulgates a design or equipment standard under this subsection, the Administrator shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

> (2) DEFINITION.—**For the purpose of this subsection, the phrase "not feasible to prescribe or enforce an emission standard" means any situation in which the Administrator determines that—**
>
> (A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or
>
> **(B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.** [Emphasis added.]

Clearly, it is feasible to prescribe and enforce the radon emission standard in Section 61.252(a). Clearly, the application of the measurement methodology is practicable and there are no technological and economic limitations related to the use of the measurement methodology used to determine compliance with the standard. For 25 years the EPA has relied on an emission standard for the control of radon from uranium mill tailings. EPA has not demonstrated that this method is unreliable, unfeasible, or has significant technical or economic limitations. Therefore, there is no legal basis for eliminating this standard for existing mill tailings impoundments and replacing it with a work practice standard.

15.6. The EPA and, in Utah the DAQ, have consistently failed to enforce the work practice standard applicable to both existing and new tailings impoundments. The EPA and DAQ failed to enforce the 2-impoundment provision in Section 61.252(b)(1): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time."

16. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 1, ¶ 2), states (in part):

> Second, we believe that only one existing operating conventional impoundment designed and in operation before December 15, 1989, could not meet the work practice standards. This impoundment is Cell 3 at the White Mesa mill, which is expected to close in 2014 (Personal communication between EPA staff and Utah Department of Environmental Quality staff, May 16, 2013, EPA–HQ– 2008–0218–0081).

16.1. At the time of the issuance of the May 2 FRN, there was another existing tailings impoundment at the White Mesa Mil that did not meet the work practice standards. Up until July 23, 2014, Cell 2 was an existing impoundment subject to the provisions of Subpart W. *See* Section 11, above.

16.2. The EPA has not provided any documentation that demonstrates that the Shootaring Canyon and Sweetwater Mills meet the work practice and design standards in Section 61.252(b). For some reason, the EPA failed to send letters to the owners of the Shootaring Canyon and Sweetwater Mills requesting information about their tailings impoundments, pursuant to Section 114 of the CAA. At least, no letters and no responses have been posted on the EPA Subpart W Review website where the EPA has posted inquiries and responses from other mill owners.

16.3. Also, there is documentation that White Mesa Cells 4A and 4B are larger than 40 acres. Any EPA claim that White Mesa Cells 4A and 4B are 40 acres must be supported by documentation.

16.4. There is no documentation from the licensee that supports the assumption that Cell 3 will close in 2014. The DAQ Public Participation Summary for the Dawn Mining Alternate Feed Amendment Request provides information regarding the status of Cell 3:

> Cell 3: Cell 3 was approved by the NRC in September of 1982, and is one of the Mill's two operating cells. It is currently near capacity, but is still accepting byproduct material such as in situ leach waste for direct disposal, an activity authorized by the Mill's license. This material is currently going to Cell 3 rather than Cell 4A. Because byproduct material for direct disposal is delivered by truck rather than by slurry, there must be a minimum amount of tailings in a cell in order to protect the integrity of the cell's liner and other structural elements (e.g., the leak detection system). Cell 4A does not yet have enough tailings in it to allow trucks to drive on it safely, ensuring the liner is property protected. For that reason, and consistent with its License, Energy Fuels has indicated that it intends to continue to use Cell 3 for direct byproduct disposal until those materials can go into Cell 4A. All but approximately seventeen acres of Cell 3 are covered by a clean soil liner. [15]

Therefore, according to Energy Fuels, the White Mesa Mill will be placed on standby at the end of 2014, pending improvements in market prices.[16] Currently, there is a water cover on the Cell 4A bulk tailings. This means that it may be years before Cell 4A will have enough solid tailings to be used for the disposal of ISL waste. In order to dispose of ISL waste in Cell 4A, the License must be amended, which takes an application, public notice, comment, and an opportunity for a hearing, DAQ review and

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[15] Public Participation Summary, Dawn Mining Alternate Feed Amendment Request, Energy Fuels Resources (USA) Inc. (Energy Fuels) (Utah Radioactive Material License UT1900479), White Mesa Uranium Mill; San Juan County, Utah; July 10, 2014. Page 3. http://www.deq.utah.gov/businesses/E/energyfuels/docs/2014/07Jul/EnergyFuelsDawnMiningPPSummary61014.pdf

[16] http://www.energyfuels.com/investors/press_releases/index.php?content_id=297

approval. Therefore, it may be years before ISL materials can be disposed of in Cell 4A. Further, for Cell 3 to close, it requires a license amendment and the incorporation of a closure plan and reclamation milestones for Cell 3 into the License. Again, this license application, public participation, and approval process will take some time.

Therefore, for the foreseeable future, Cell 3 will be an operational mill tailings impoundment, subject to the monitoring and reporting requirements in Subpart W.

16.5. There is nothing on the record that would justify any cessation in the monitoring and reporting requirements in Subpart W for Cell 3. In fact, it will be this monitoring and reporting that will assure that, when the tailings impoundment dries out, the expected radon flux increase will be documented in annual Subpart W compliance reports, and any exceedance of the standard will be met with timely and effective mitigative measures. The DAQ and EPA have demonstrated that the unfettered release of radon from the existing Cell 2 as Cell 2 dried out was not acceptable: the radon must be measured, the radon flux reported, and appropriate measures be taken to bring the tailings cell back into compliance with the flux standard when the flux is exceeded. So, why would it be acceptable to do otherwise for Cell 3?

16.4. The EPA has not provided any documentation that would support the assertion that the existing Shootaring Canyon and Sweetwater Mill impoundments have synthetic liners and meet the design standards in Section 61.252(b).

17. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 1, ¶ 2), states (in part):

> We were very clear in our 1989 rulemaking that all conventional mill impoundments must meet the requirements of 40 CFR 192.32(a), which, in addition to requiring ground-water monitoring, also required the use of liner systems to ensure there would be no leakage from the impoundment into the ground water. We did this by removing the exemption for existing piles from the 40 CFR 192.32(a) requirements (54 FR 51680). **However, we did not require those existing impoundments to meet either the phased disposal or continuous disposal work practice standards, which limit the exposed area and/or number of conventional impoundments, thereby limiting the potential for radon emissions.** [Emphasis added.]

17.1. It is **not true** that in 1989 the EPA did not require existing impoundments to meet the requirement that limited the number of impoundments and thereby limit the potential for radon emissions. Section 61.252(b)(1) clearly states: "The owner or operator shall have no more than two impoundments, **including existing impoundments**, in operation at any one time." Emphasis added. Also, there is no mention that this impoundment limitation applies to so-called "conventional impoundments."

17.2. Just because the EPA and State of Utah failed to enforce the two-impoundment limitation, does not mean that such a limitation was not a requirement in the Subpart W rule promulgated in 1989.

18. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 2, ¶ 1) states (in part):

> We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a).

18.1. Contrary to the EPA's claim that the Shootaring Canyon Mill tailing impoundment is synthetically lined, the tailings impoundment does not have a synthetic liner.[17] [18] The Shootaring Canyon Mill impoundment has a clay liner. The DAQ would not permit the use of that impoundment for the disposal of 11e.(2) byproduct material if the Mill restarts commences processing of uranium ore.

18.2. The Sweetwater Mill tailings impoundment is 60 acres, not 40 acres.[19]

19. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 2, ¶ 1) states (in part):

> As a result, we find there would be no conventional impoundment designed or constructed before December 15, 1989 that could not meet a work practice standard. Since the conventional impoundments in existence prior to December 15, 1989 appear to meet the work practice standards, we are proposing to eliminate the distinction of whether the conventional impoundment was constructed before or after December 15, 1989. We are also proposing that all conventional impoundments (including those in existence prior to December 15, 1989) must meet the requirements of one of the two work practice standards, and that the flux

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[17] Tailings Reclamation and Decommissioning Plan for Shootaring Canyon Uranium Project, Garfield County, Utah. License Number SUA-1371 (NRC); UT 0900480 (DAQ). Hydro-Engineering LLC, Environmental Restoration Inc.

[18] John Hulquist, Division of Radiation Control, electronic communication, May 20, 2014.

[19] NRC Staff, electronic communication.

> standard of 20 pCi/m2/sec will no longer be required for the impoundments in existence prior to December 15, 1989.

19.1. The Shootaring Canyon Mill does not have a synthetic liner, therefore it does not meet the requirements of 40 C.F.R. § 192.32(a) and the work practice standard in Section 61.252(b). Also, the EPA has not substantiated the assertion that the Sweetwater Mill has a synthetic liner. Therefore, there is no basis for the EPA's conclusion that the radon flux standard is no longer required.

19.2. If a tailings impoundment meets the work practice standard in Section 61.252(b), it is not a forgone conclusion that the "flux standard of 20 pCi/m2/sec will no longer be required for the impoundments in existence prior to December 15, 1989." The work practice standard should not be used in place of an emission practice standard for any mill tailings impoundment no matter the size and year of construction. The EPA has not and cannot demonstrate that the radon flux standard and monitoring method are unreliable, unfeasible, or have significant technical or economic limitations, pursuant to Section 112(h) of the CAA. Therefore, the EPA cannot replace the emission standard with a work practice standard. Nor can the EPA rely solely on a work practice standard for new tailings impoundments.

19.3. If the EPA relies solely on a work practice standard for uranium mill tailings impoundments, the EPA will sanction the indefinite, unmonitored, unreported, unfettered, and unmitigated release of radon from tailings impoundments.

20. Proposed Rule, at II.H. Background Information for Proposed Area Source Standards, *Why did we conduct an updated risk assessment?* (page 25395, col. 2, to 25396, col. 3).

20.1. The risk assessment information for the White Mesa Mill only references radon emissions from 2008.

20.2. The risk assessment is not supported by actual studies of the health impacts to people living in the vicinity of uranium mills since 1989, or before that time.

20.3. The risk assessment does not consider the risks for other health effects besides cancer from exposure to radon. The EPA must also identify, characterize, and assess those risks.

21. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 2, ¶ 1), states (in part):

> As discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed. We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities

> can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a)(1). The existing cell 3 at the White Mesa mill will undergo closure in 2014 and will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard. Therefore, there is no reason not to subject these older impoundments to the work practice standards required for impoundments designed or constructed after December 15, 1989. By incorporating these impoundments under the work practices provision of Subpart W, it is no longer necessary to require radon flux monitoring, and we are proposing to eliminate that requirement.

21.1. As discussed above, the Shootaring Canyon Mill tailings impoundment does not have a synthetic liner. The Sweetwater Mill impoundment is far greater than 40 acres. Further, the EPA has provided no documentation that substantiates the assumption that both the Shootaring Canyon Mill and Sweetwater Mill impoundments can meet the work practice standards of the current Subpart W regulation and, apparently, failed to request the pertinent information about those impoundments from the licensees. White Mesa Mill Cell 3 is an existing tailings impoundments and documentation supports the assumption that Cell 3 will remain in operation for the indefinite future. Further, there is every reason to continue to monitor the radon emissions from existing tailings impoundments until the end of the closure period so that the EPA will not sanction the indefinite, unmonitored, unreported, unfettered, and unregulated emission of radon from existing tailings impoundments.

21.2. The EPA clams that the White Mesa Mill Cell 3 "will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard." Actually Cell 4A and 4B have already been constructed and are receiving 11e. (2) byproduct material. Tailings slurry and effluents are being placed in Cell 4A, and Cell 4B is being use to contain liquids, including liquids from the dewatering of Cell 2. Cell 3, like Cell 2, is not really being replaced. The number of solid tailings impoundments emitting radon are increasing, and the radon emissions are increasing at the Mill. So, there are at least 5 operating impoundments currently at the Mill (Cell 1, Cell 3, Cell 4A, Cell 4B, and Roberts Pond), a clear violation of the so-called work practice standard that only permits 2 operational impoundments at any one time.

21.3. The regulatory program for existing uranium tailings impoundments at the White Mesa Mill, as it have been implemented since 1989 to the present, must continue. Monitoring and reporting of the radon emissions from Cells 2 and 3 and actions to reduce those radon emissions if the standard is exceeded, as happened at Cell 2 in 2012, must not be eliminated by EPA fiat. Maintaining the requirements in Sections 61.252(a), 61.253, 61.254, and 61.255 is the only way that the EPA can fulfill its statutory responsibility to reduce and control radon emissions.

22. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 2, ¶ 2), states (in part):

> While we are proposing to eliminate the radon monitoring requirement for these three impoundments under Subpart W, this action does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements of their operating license issued by the NRC or its Agreement States. These requirements are found at 10 CFR Part 40, Appendix A, Criterion 8 and 8A. Additionally, NRC, through its Regulatory Guide 4.14, may also recommend incorporation of radionuclide air monitoring at operating facility boundaries.

22.1. 10 C.F.R. Part 40, Appendix A, Criterion 8 and 8A, do not require the monitoring of radon emissions from tailings impoundments, so NRC regulations do not replace the radon emission standards in Subpart W.

22.2. The EPA should have referenced 10 C.F.R. § 20.1301, which requires compliance with an dose standard to the nearest occupant. Recently, the NRC provided an opportunity to comment on NRC revised draft guidance: "Evaluations of Uranium Recovery Facility Surveys of Radon and Radon Progeny in Air and Demonstrations of Compliance with 10 CFR 20.1301."[20] The NRC will now require annual demonstration of compliance. One of the methods for demonstrating compliance and demonstrating the assumptions in a calculated dose assessment is the actual measurement of the radon source emissions. However, since the EPA now believes that the actual measurement of radon emissions from tailings impoundments is not appropriate at any uranium mill, it is unlikely that any uranium mill licensee will be able to justify radon emission assumptions with actual data from tailings impoundments and liquid effluents to support those assumptions over time. It is very short sighted of the EPA not to require licensees to determine the radon emissions from a major source of those emissions.

22.3. Other regulatory requirements that the EPA is conveniently ignoring are the provisions of 40 C.F.R. Part 192.32(a)(3) and 10 C.F.R. Part 40, Appendix A, Criterion 6A. These regulations require a closure plan (radon) and the enforceable reclamation milestones. If, after these milestones have been incorporated into the license as license amendments, the licensee wishes to extend the milestone(s), the licensee must demonstrate compliance with the 20 pCi/m^2-sec radon flux standard. After that, the licensee must demonstrate compliance on an annual basis. Maybe the EPA is not mentioning such requirements because the EPA, NRC, and States of Utah and Colorado are not seeing to it that reclamation milestone requirement is implemented and enforced

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[20] Interim Staff Guidance FSME–ISG–01, ''Evaluations of Uranium Recovery Facility Surveys of Radon and Radon Progeny in Air and Demonstrations of Compliance with 10 CFR 20.1301.'' Revised Draft Report for Comment. March 2014. 79 Fed. Reg. 17194; March 27, 2014. Docket ID NRC-2011-0266.

for the White Mesa and Canon City Mills. With no milestones, there is no need to extend the milestones if enforceable milestones are not met and, thus, no need to ever again be required to comply with the 20 pCi/m^2-sec standard on an annual basis until the final radon barrier is in place. This lack of milestones provides an open window for indefinite, unmonitored, unreported, unfettered, and unregulated emission of radon from tailings impoundments.

23. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 2, ¶ 4), states (in part):

> From a cost standpoint, by not requiring radon monitoring we expect that for all three sites the total annual average cost savings would be $29,200, with a range from about $21,000 to $37,000.

23.1. If the licensees of the Shootaring Canyon and Sweetwater Mill would like to save on the annual costs of monitoring their radon emissions, the licensee can commence the long-delayed decommissioning and reclamation. The EPA states that "standby" is a period of time that "usually takes place when the price of uranium is such that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so." The 2 mills on standby last operated in the early 1980's. Since that time there have been times when the price of uranium increased sufficiently to support the operation of the White Mesa Mill and even the licensing of a new mill in Colorado. The most recent uranium price upswing started about 2006, and the White Mesa Mill started mining and processing uranium ore again. That uranium boom, which lasted less than an decade, is now over. During those uranium price upswings, neither the Shootaring Canyon nor the Sweetwater Mill re-established operations. How many more up and down uranium price cycles will have to occur before the regulators realize that these mills are unlikely to operate again and must commence decommissioning and reclamation?

23.2. Also, when a licensee does not wish to continue operations is does not "surrender its operating license." This is a mischaracterization of what happens when a mill ceases operation completely. At that time decommissioning and reclamation, which can last for decades, commences. The license is eventually terminated by the NRC or NRC Agreement State when certain conditions are met and the reclaimed tailings impoundment turned over to the U.S. Department of Energy (or other authorized state or federal authority) for perpetual care and maintenance.

23.3. The costs of monitoring radon emissions at the White Mesa Mill is minimal, considering the money that is being made on the sale of uranium and the assets of the company. The cost of not monitoring radon emissions, for example, if the emissions from Cell 2 had not been monitored, is the indefinite, unmonitored, unreported, unfettered, and unregulated emission of radon from the tailings impoundment.

24. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 3, ¶ 1), states:

> We determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for design and operation of surface impoundments at 40 CFR 264.221, are the only requirements necessary for EPA to incorporate for Subpart W, as they are effective methods of containing tailings and protecting ground water while also limiting radon emissions. This liner requirement, described earlier in this preamble, remains in use for the permitting of hazardous waste land disposal units under RCRA. The requirements at 40 CFR 192.32(a)(1) contain safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. We are therefore proposing to retain the two work practice standards and the requirements of 40 CFR 192.32(a)(1) as GACT for conventional impoundments because these methods for limiting radon emissions while also protecting ground water have proven effective for these types of impoundments.

24.1. The EPA, in relying on 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 for containing tailings and protecting ground water while also limiting radon emissions, fails to recognize the fact that, as tailings impoundments are dewatered to protect groundwater, radon emissions can be expected to increase. The active dewatering of Cell 2 at the White Mesa Mill in 2011 and 2012 resulted in an increase in the radon flux to above the Subpart W regulatory standard. Under the Mill's Ground Water Discharge Permit (UGW-370004), the licensee was required to accelerate dewatering of solutions in the Cell 2 slimes drain.[21] As the pore moisture in the tailings impoundment decreased, the radon emissions increased. The radon emissions subsequently exceeded the radon flux standard for existing mill tailings impoundments. As the EPA would now have it, that monitoring that determined that an exceedance had occurred and the mitigative measure taken to bring the impoundment back into compliance should not even have occurred. Rather, the EPA has determined that Cell 2 and Cell 3 no longer need to be monitored and the radon emission are better left in the realm of the unknown. Since the radon emissions will not be ascertained, there will be no reason to conduct such frivolous (and costly) activities as determining the cause of radon emission exceedances or taking corrective actions, cleaning up windblown tailings, or placing additional clean materials on top of the impoundment. This also applies to new tailings impoundments. According to the EPA, it's just better not to know what the radon emissions really are.

24.2. EPA regulations at 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 do not require any additional measures to control radon emissions from an impoundment once it is constructed and throughout the life of the impoundment, including the dewatering period. These provisions do not require clean material on top of an impoundment to attenuate the radon emissions. These provisions do not take into consideration the

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[21] http://www.uraniumwatch.org/whitemesamill/EFR-DAQ_SupartWAnnualRpt.130329.pdf

placement of materials containing thorium-232 and progeny or material containing higher than expected levels of radium-226 (possibly from the disposal of wastes other than tailings from the processing of natural ore).

24.3. EPA regulations at 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 do not protect uranium tailings impoundments, whether they contain solid tailings or liquid effluents, from impacts caused by extreme weather events; for example, hurricanes or tornadoes. The EPA has provided no engineering data and information that supports any claim that 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 assure that solid and liquid tailings will not be dispersed outside the confines of a liquid effluent impoundment (of indeterminate size, since the EPA will not regulate the size of such effluent ponds) or a solid tailings impoundment.

24.4. An "early warning" leak detection system at the bottom of a tailings impoundment is irrelevant for the control of radon emissions from the top of an impoundment.

24.5. EPA's claim that 40 C.F.R. § 192.32(a)(1) as GACT is sufficient for conventional impoundments because these methods for limiting radon emissions, while also protecting ground water, have proven effective for these types of impoundments. The EPA has no data on an new tailings impoundment at a licensed uranium mill that supports this assertion. The only new tailings impoundment subject to the current Section 61.252(b)(1) provisions are Cells 4A and 4B, at the White Mesa Mill. Cell 4A has only been receiving tailings slurry for a short period of time, and Cell 4B is only receiving processing liquids. It will be decades before a determination can be made regarding the extent to which the design and work practice standards in Section 61.252(b) actually limit radon emissions while also protecting ground water.

24.6. The EPA, licensees, and the public will not know exactly how effective 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 62.252(b) are in limiting radon emissions, because there will be no requirement to actually measure those radon emissions under Subpart W. Plus, there is no definition of "effective," such as a radon flux limit, to use to determine whether the design and work practice standards are actually "effective." And, with no monitoring, if the provisions do not prove "effective," there is no way to know that and no requirement to mitigate any lack of effectiveness. Is this what the CAA contemplated?

25. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25397, col. 3, ¶ 2), states:

> Today we are proposing a GACT standard specifically for non-conventional impoundments where uranium byproduct materials are contained in ponds and covered by liquids. Common names for these structures may include, but are not limited to, impoundments and evaporation or holding ponds. These affected sources may be found at any

of the three types of uranium recovery facilities.

25.1. The whole discussion of "Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids" is very confusing and should be rewritten. Title says that Nonconventional Impoundments are those where tailings are contained in ponds and covered by liquids. However, tailings in "convention ponds" are also covered or partially covered by liquids during much of the operating life of the impoundment. The EPA does not differentiate between impoundments at conventional uranium mills that contain bulk tailings and are covered by liquids and the "nonconventional" impoundments that are specifically used to hold, and sometimes treat or evaporate, liquids. The EPA fails to discuss the fact that conventional impoundments designed for the long-term disposal of solid tailings are often used to hold liquid effluents prior to being used for the disposal of solid tailings; for example Cell 4B at the White Mesa Mill.

25.2. The terminology "nonconventional impoundments" is confusing. It implies that these impoundments are only at uranium recovery facilities other than conventional uranium mills and that conventional impoundments are found at conventional uranium mills. The EPA should use another term to avoid confusion.

25.3. The main difference between a "nonconventional impoundment" and a newly defined "conventional impoundment" is that the latter is used for permanent disposal of uranium mill tailings, whether or not the impoundment contains liquids, liquids and solids, semi-solids, or solids at any one time. An impoundment that will be used for permanent disposal of 11e.(2) byproduct material can sometimes contain mainly liquids or solid tailings covered by a liquid. The definition of these 2 types of impoundments should reflect their long-term purpose, not what they contain at any one time.

25.4. If the EPA intends to regulate impoundments that are not designed for the permanent disposal of 11e.(2) byproduct material, the EPA must be a lot clearer about what exactly is being regulated and the justification for such regulation. Accurate terminology and accurate descriptions are important.

26. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25397, col. 3, ¶ 3), states (in part):

> These units meet the existing applicability criteria in 40 CFR 61.250 to classify them for regulation under Subpart W. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct material, either in solid form or dissolved in solution, and therefore their emissions are regulated under Subpart W.

26.1. Here, the EPA states that the emissions from nonconventional impoundments, which old liquid effluents, are regulated under Subpart W. Not so! There is no radon emission standard for these liquid effluent impoundments and no requirement to determine the radon flux. Based on recent data, the radon flux from the nonconventional Cell 1 at the White Mesa Mill, the radon flux is 228.9 pCi/m^2-sec. This is based on EPA's determination that at the White Mesa Mill, the radon flux is 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium[22] and data on the radium content of Cell 1 in 2013.[23] *See* Section IV. 45.11, below. Since the radium content fluctuates over time, the radon flux will also fluctuate. The EPA has for decades claimed that the radon flux from liquid holding ponds is negligible and did not need to be measured or calculated. It is blatantly false the emissions from these liquid impoundments have ever been regulated under Subpart W.

26.2. Since 1989, the EPA failed to include liquid impoundments when calculating the number of operational tailings impoundments, which are limited to 2. Further Roberts Pond at the White Mesa Mill, which also holds liquid effluents, was never approved pursuant to the requirements of 40 C.F.R. §§ 61.07 and 61.08.

27. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25398, col. 1, ¶ 2), states (in part):

> Evaporation or holding ponds, while sometimes smaller in area than conventional impoundments, perform a basic task. They hold uranium byproduct material until it can be disposed. Our survey of existing ponds shows that they contain liquids, and, as such, this general practice has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero. Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions. We have found that as long as approximately one meter of liquid is maintained in the pond, the effective radon emissions from the pond are so low that it is difficult to determine whether there is any contribution above background radon values. *EPA has stated in the Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Background Information Document* (August, 1986):

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[22] Risk Assessment Revision for40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010.

[23] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

27.1. The liquid holding pond (Cell 1) at the only operating conventional mill is about 55 acres. Liquids are often held in such ponds so that the liquids can be recirculated in the uranium recovery operation.

27.2. The EPA's assertion that "Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions," is not supported by the facts. Based on the EPA's calculations and data from the White Mesa Mill regarding the radium content of the liquids in Cells 1, 3, 4A, and 4B, the radon emissions from those cells range from 102.2 pCi/m^2-sec to 573.3 pCi/m^2-sec. *See* Section IV. 45.11, below.

27.3. The EPA can no longer mislead the public regarding the significant levels of radon that are being emitted from liquids effluents at the White Mesa Mill. The radon emissions from these liquids must monitored and controlled. The EPA must require compliance with the current radon emission standard for liquids.

27.4. The quote from the August 1986 Background Information Document is confusing, because it applies to conventional impoundments, not what the EPA now defines as "nonconventional impoundments."

28. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25398, col. 1, ¶ 3), states:

> Therefore, we are proposing as GACT that these impoundments meet the design and construction requirements of 40 CFR 192.32(a)(1), with no size/area restriction, and that during the active life of the pond at least one meter of liquid be maintained in the pond.

28.1 There is now documentation that the radon emissions from liquid impoundments at conventional mills is 5 times or more than the current radon standard for existing tailings impoundments. *See* Section IV. 45.11, below. The more impoundments, the larger the size of those impoundments, the more radon will be emitted. The number and size of these impoundments, particularly at conventional mills, must be limited in size and number.

28.2. A single meter of radium-laden effluents will not limit the radon emissions at liquid impoundments. The radium will continue to be a source of radon emissions.

28.3. One reason for limiting the size and number of liquid impoundments is the propensity for liquid impoundments at in-situ leach operations to leak or spill their contents. The larger the impoundment, the more liquids are available to leak from an impoundment and the greater the possibility that during construction there will be flaws in the impoundment. Additionally, in regions where liquid impoundments may be

compromised, or even destroyed, due to hurricanes or tornadoes, a smaller impoundment would be easier to control and repair or replace.

28.4. The EPA does not define "active life of a pond." The EPA failed to discuss the radon emissions when there is no longer one meter of liquid or when there are only solids after the liquids have evaporated. The EPA must consider the whole life cycle of a nonconventional impoundment (now referred to as "ponds) and the radon emissions up to the time the nonconventional impoundment is removed and disposed of in a conventional impoundment as part of decommissioning.

28.5. The EPA must also consider whether there is greater turbulence at larger impoundments and, thus, greater dispersal of radon and radon progeny from liquid impoundments.

28.6. The EPA may no adopt a work practice standard (whether GACT or MACT) in lieu of an emission standard unless that Administration determines that an emission standard is not feasible. The Administrator have not made such a finding. Therefore, the EPA must adopt an emission standard for nonconventional impoundments. *See* Section II, above.

29. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25398, col. 1, ¶ 4, to col. 2, ¶ 1), states (in part):

> We are also proposing that no monitoring be required for this type of impoundment. We have received information and collected data that show there is no acceptable radon flux test method for a pond holding a large amount of liquid. (Method 115 does not work because a solid surface is needed to place the large area activated carbon canisters used in the Method). Further, even if there was an acceptable method, we recognize that radon emissions from the pond would be expected to be very low because the liquid acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for most of the radon produced by the solids or from solution to migrate to the water surface and cross the water/air interface before decaying (EPA–HQ–OAR–2008–0218– 0087). It therefore appears that monitoring at these ponds is not necessary for demonstrating compliance with the proposed standards. We do, however, ask for comment and supporting information on three issues: (1) Whether these impoundments need to be monitored with regard to their radon emissions, and why; (2) whether these impoundments need to be monitored to ensure at least one meter of liquid is maintained in the pond at all times, and (3) if these impoundments do need monitoring, what methods could a facility use (for example, what types of radon collection devices, or methods to measure

liquid levels) at evaporation or holding ponds.

29.1. The EPA is ignoring data that shows that there are high levels of radon emissions from the liquid impoundments, both the liquids in the Cell 1 evaporation pond (now to be defined as a nonconventional impoundment) and the liquids on top of and in the conventional impoundments Cells 3, 4A, and 4B. *See* Section IV. 45.11, below. The EPA has already determined that the radon flux from liquid impoundments can be determined by calculations based on the meteorological conditions and radium content of the liquids.[24] The EPA's assumption that the radon emissions from liquid impoundments are minimal and do not need to be determined by measurement or calculation has no basis in fact.

29.2. The radon emissions from liquid impoundments need to be determined based on the radium content of the liquids and local meteorological conditions. The radium content fluctuates over time, the effluents are added, fluids evaporate, sediments accumulate, and the underlying tailings or sediments increase and the radiological content changes. Therefore, measurement of radium and calculation of the radon flux must occur at least quarterly at conventional mills and there must be methods for removing the radium. The radon flux standard for "existing" impoundments must be made applicable to existing and new conventional and nonconventional impoundments that hold liquid effluents.

29.3. If the liquids in a nonconventional impoundment evaporate to expose solid sediments, regular radon flux measurements must be taken.

29.4. The EPA must amend Method 15 to include an honest and accurate methodology to calculate the radon emissions from liquid impoundments, base on meteorological data, radium content, and any other relevant parameter. These calculations must take place at least quarterly. The licensee must not be permitted to average the radon flux from liquid impoundments with the radon flux measurements on solid tailings.

29.5. Licensees, particularly conventional mill licensees, must be required to use a technical methodology for removing radium from the liquid effluents in order the reduce the radium content and resulting radon emissions to meet the radon emission standard. One generally available technical method is the treatment of effluents with barium chloride to remove radium. The EPA must also explore other technologies that are available, whether defined as GACT or MACT. The EPA can no longer allow high high levels of radon to be emitted at the White Mesa Mill.

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[24] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010.

29.6. When measuring the radium content, the licensee must measure the radium-224 content (thorium-232 decay chain) as well as radium-226. Thousands of tons of materials containing thorium-232 and progeny were disposed of at the White Mesa Mill. Therefore, radium-224 will be present in the Mill's liquid effluents.

29.7. There may be other effective methods for measuring radon emissions from liquid effluents. These could be used to verify radon emission calculations.

30. Proposed Rule, at III.B.3. Summary of the Proposed Requirements, *What are the proposed requirements?*, Heap Leach Piles (page 25398, col. 2 to col. 3):

30.1. The discussion of heap leach piles does not contain information about the process of developing a heap leach pile and the amount of ore that would be placed in such a pile, and the time it would take to create a heap leach pile. There is no information about the life cycle of these operations and how radon emissions will be controlled.

30.2. The EPA references a presentation by Titan Uranium presentation to the to the NRC of May 24, 2011 (NRC Accession No. ML111740073; NRC Docket No. 40-9094) (Titan 2011). There are some claims and assumptions in that presentation that must be addressed by the EPA. The Titan presentation contains a list of "Our Understandings" (slide 53): 1) There are no size limits on the size of **active** heaps (emphasis in original); 2) heap pad designs are approved solely by the NRC; 3) process pond designs are approved solely by NRC; and 4) heap material only become tailings (11e.(2) byproduct material) once active uranium recovery is complete. Titan also states (slide 54) that "Part 61 applies only to spent heap material (tailings)." All of these assumptions appear to be contrary to the EPA's assumptions in the discussion of Subpart W provisions applicable to heap leach operations. Whether or not these assumptions reflect the current thinking of the current owner of the Sheep Mountain Project (Energy Fuels), the EPA must respond to the assumptions in the 2010 Titan presentation.

30.3. The EPA BID has a minimal discussion of heap leaching and a proposed heap leach operation in Wyoming. The discussion references the Titan Uranium 2011 presentation to the NRC, which includes a conceptual design and outline of a heap leach operation. However, Energy Fuels' April 30, 2013, conceptual and operational design for the same facility is very different that that of Titan (NRC Accession No. ML13144A693). Also, Energy Fuels has not submitted an application and has not communicated with the NRC about the project since May 2013.

30.4. Neither the FRN nor the BID provide a complete and accurate description of a potential heap leach operation and the potential radon emissions during the whole heap leach operational process, including ore stockpiling, ore crushing, ore loading and placement prior to leaching, length of time ore will be exposed prior to leaching, leaching schedule, exposure of ore during leaching process, emissions after leaching when leach piles dry out, and possible methods of reducing radon emissions during the life of a heap leach pile. The EPA must regulate the radon emissions from all aspects of the operation,

not just the heap leach piles. EPA must regulate the emission of radon during the period of time the heap leach piles are drying out, when the radon emissions increase. Although heap leaching is usually used on low-grade ore, the method removed about 70% of the uranium, so the wastes may have higher levels of radon emissions than those of typical uranium ore tailings. The EPA must also consider the uranium dust that results from crushing, ore transportation, and loading to create the heap leach piles.

30.5. Commenters support a radon emission monitoring from all radon and other radionuclide sources at a heap leach operation.

30.6. The EPA must also consider the radon emissions when a licensee creates a heap leach pile, but fails to conduct a leaching operation, or interrupts that operation.

30.7. The proposal to require the licensee to maintain 30% moisture content in a heap leach pile might not be technically feasible and may interfere with the leaching process. The 30% moisture is based on the definition of "dewatering" of conventional tailings impoundments, where most of the uranium has been removed from the tailings.

31. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 1):

> Since we have now determined that existing older conventional impoundments can meet one of the two work practice standards, we are proposing to eliminate the radon flux monitoring requirement.

31.1. As discussed above, the EPA has not demonstrated with facts and documentation that existing older conventional impoundments "can meet one of the two work practice standards." Licensing records for the Shootaring Canyon Mill document the fact that the mill does not have a "synthetically" lined impoundment. Rather it has a clay impoundment. Further, Cells 3 at the White Mesa Mill meets the definition of an existing impoundment (constructed prior to December 1989 and licensed to receive 11e. (2) byproduct material for disposal) and will continue to be regulated by the DAQ as an existing impoundment subject to the Section 61.252(a) radon flux standard. Therefore, there is no factual or regulatory support for the elimination of the Section 61.252(a) radon flux monitoring requirement.

31.2. Additionally, the EPA has not shown that the use of a work practice and design standard meets the requirements of the CAA at Section 112(h), therefore there is no legal justification for eliminating the radon flux monitoring requirement.

31.3. Elimination of the radon flux monitoring requirement is not supported by the need for continual monitoring of existing tailings impoundments to control the radon emissions as the tailings piles dry out prior to placement of the final radon barrier.

31.4. Even if "existing" impoundments met one of the two design and work practice standards in Section 61.252(b), that is still no justification for eliminating the

requirement for radon monitoring, reporting, and control at White Mesa Mill Cell 3 at the very time when Cell 3 will likely be dewatered. This dewatering has, and will continue to, cause an increase in the radon emissions. That increase must be monitored, documented, studied, reported, and mitigated. It is the EPA responsibility to regulate radon emissions, not deregulate these emissions, as currently proposed.

32. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

> In reviewing Subpart W we looked into whether we should extend radon monitoring to all affected sources constructed and operated after 1989 so that the monitoring requirement would apply to all conventional impoundments, nonconventional impoundments and heap leach piles containing uranium byproduct materials. We also reviewed how this requirement would apply to facilities where Method 115 is not applicable, such as at impoundments totally covered by liquids.

32.1. First of all, the EPA has not demonstrated that there is a factual and legal basis for the use of a design and work practice standard in place of an emissions standard for "existing" impoundments complies with the statutory requirements of Section 112(d) and 112(h) of the CAA.

32.2. Second, the EPA has not demonstrated that there is factual and legal basis for EPA's determination that "existing" conventional mill impoundments can meet one of the two work practice standards in Section 61.252(b).

32.3. There is no basis for the assumption that conventional tailings impoundments that currently meet the definition of "existing" impoundments meet one of the two design and work practice standards in Section 61.252(b). The White Mesa Mill Cell 3 is more than 40 acres, and the EPA has no knowledge regarding when Cell 3 will no longer be licensed to receive 11e.(2) byproduct material; therefore, for the purposes of this Rulemaking, Cell 3[25] is an "existing" impoundment subject to Section 61.252(a) standard and the monitoring and reporting requirements in Sections 61.253 and 61.254. There is no documentation on the record of this Rulemaking that supports the notion that tailings impoundments at the Shootaring Canyon and Sweetwater Mills have synthetic liners. However, there is documentation that the Shootaring Canyon Mill has a clay liner, not a synthetic liner.[26] There is no documentation that the Sweetwater Mill impoundment is 40 acres.

33. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

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[25] White Mesa Cell 2 also meets the definition of "existing" impoundment in Section 61.252(a).

[26] http://www.deq.utah.gov/businesses/U/uraniumone/docs/2012/03Mar/DRC-2012-001447.pdf

> We concluded that the original work practice standards (now proposed as GACT) continue to be an effective practice for the limiting of radon emissions from conventional impoundments and from heap leach piles.

33.1. "Effective" is a relative term, which the EPA has not defined. The EPA does not state what expectations the EPA has for the limiting of radon emissions. Without any standard and without any measurements there is no basis for assuming that any design or work practice standards are "effective. "

33.2. There is no basis for the EPA's conclusion that the work practice standards "continue to be an effective practice for the limiting of radon emissions from conventional impoundments . . . ." There are only 2 conventional tailings impoundment in operation that were constructed according to the design and work practice standard in Section 61.252(b)(1), impoundments 4A and 4B at the White Mesa Mill. Cell 4A was reconstructed in 2007/2008. Cell 4A has operated for only a few years and currently has about a 100% water cover, because the impoundment has not accumulated bulk tailings above the water surface. Cell 4B is only receiving liquid effluents, including liquids from the dewatering of Cell 2. Since there are no radon monitoring and reporting requirements, there is no data to support the assertion that the radon emissions have been effectively limited or will continue be limited. There is data, however, on the emission of radon from the liquid cover. Data shows that the radon emissions from Cells 4A and 4B are over 100 pCi/m^2-sec. *See* Section IV. 45.11, below.

33.3. There is no basis for the EPA's conclusion that the work practice standards "continue to be an effective practice for the limiting of radon emissions from . . . heap leach piles." There are no licensed heap leach piles and no evidence of any radon emissions being effectively limited from heap leach piles. The EPA assertion is absurd.

34. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

> We also concluded that by maintaining an effective water cover on nonconventional impoundments the radon emissions from those impoundments are so low as to be difficult to differentiate from background radon levels at uranium recovery facilities.

34.1. There is no citation for the assertion that maintaining an effective water cover on nonconventional impoundment would cause radon emissions to be close to background.

34.2. The Rulemaking Risk Assessment for Radon Emission from Evaporation

Ponds[27] does not support this assertion. The Risk Assessment for Radon Emission from Evaporation Ponds does not fully consider the radon emissions from nonconventional impoundments at conventional uranium mills. This may be due to the fact that the White Mesa Mill licensee did not respond to the EPA's May 2009 request for information regarding the evaporation ponds and other radioactive emissions at the Mill.[28] There is no description of the White Mesa Mill liquid impoundments and no data on actual emissions on the Rulemaking Docket. The Risk Assessment estimates 7.0 pCi/m^2-sec radon emissions per 1,000 pCi/L of radium in a White Mesa Mill liquid impoundment. However, the Risk Assessment does not tie that to actual radium concentrations in Cell 1, Roberts Pond, or Cell 4A (which receives liquids, but was designed and constructed as a conventional impoundment). Nor does the Risk Assessment tie their formula to the actual radium concentrations from the pond on top of Cell 3 or the liquids in Cell 4A. The EPA could have obtained information about the radium content of those liquid impoundments in order to determine how far above background, or above the radon flux standard, the radon emissions have been for the White Mesa liquid impoundments. If the radium content is above 3,000 pCi/L, as has been reported for Cell 1,[29] the radon emissions would be greater than 20.0 pCi/m^2-sec. Comparing radon emissions from ISL liquid pond total radon emissions is not the same as comparing to background.[30]

35. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

> Therefore, we are proposing today that it is not necessary to require radon monitoring for any affected sources regulated under Subpart W. We seek comment on our conclusion that radon monitoring is not necessary for any of these sources as well as on any available cost-effective options for monitoring radon at non- conventional impoundments totally covered by liquids.

35.1. The EPA has no factual or legal basis for it desire to forego radon monitoring requirements and a radon emission standard for any affected sources regulated under Subpart W. As discussed above at Section II, the provisions of Section 112(d) and 112(h) require a determination by the Administrator that it is not feasible

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[27] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings; Task 5 – Radon Emission from Evaporation Ponds, by S. Cohen & Associates, November 9, 2010.

[28] http://www.epa.gov/radiation/docs/neshaps/subpart-w/uranium-denison-test.pdf

[29] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

[30] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings; Task 5 – Radon Emission from Evaporation Ponds. Table 11, page 20.

prescribe or enforce an emission standard for control of radon emissions from uranium recovery facilities.

35.2. The EPA's justification for removing any requirement for radon monitoring from "existing" impoundments is that any remaining "existing" impoundments will be closed at some undetermined time in the future or already meet the Section 1.252(b)(1) work practice and design standard. However, the Shootaring Canyon Mill impoundment does not have a synthetic liner, and there is no documentation that the Sweetwater Mill's impoundment is 40 acres or less.

35.3. Basically, what the EPA is saying is that knowledge and awareness of the level of radon emissions from tailings impoundments and liquid storage impoundments is a bad thing. Apparently, the EPA feels that it is so much better if the licensee, EPA, DAQ, NRC, workers, and the community are not aware of the level of radon emissions from conventional and nonconventional impoundments. If there is a radon emission standard and requirement to reduce the emissions if the standard is exceeded that can only lead to the difficulties. The licensee will have to spend money and the public will be concerned, so the best plan is for everyone to remain ignorant of the radon emission levels and any increase in those level, particularly when a tailings impoundment is drying out. As the EPA sees it, de-regulation is better than having pesky radon emission standards that have to be enforced. It's the EPA's equivalent of "Don't Ask, Don't Tell."

35.4. It is necessary to monitor radon for affected sources in order to assure that radon emissions are kept as low as reasonably achievable.

35.5. The EPA has not explained why—at the very time that the radon emissions for tailings cells at the White Mesa that are drying out and exceeded the emission standard and can be brought back into compliance because of monitoring, reporting, and timely corrective action—the most appropriate thing the EPA can do to reduce radon emissions during dewatering is to eliminate the requirement for radon monitoring as dewatering continues. Clearly, there the GACT work practice standard that would be an "effective practice" for limiting the radon emissions from dewatered. It is the monitoring, reporting, and timely corrective actions that have proved to be the "effective practice" for limiting the radon emissions from tailings impoundments that are drying out.

36. Proposed Rule, at III.D. Summary of the Proposed Requirements, *What are the notification, recordkeeping and reporting requirements?* (page 25399, col. 1, ¶ 4 to col. 2, ¶ 1), states (in part):

> Today we are also proposing that all affected sources will be required to maintain certain records pertaining to the design, construction and operation of the impoundments, both including conventional impoundments, and nonconventional impoundments, and heap leach piles. We are proposing that these records be retained at the facility and contain

> information demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1), including but not limited to, all tests performed that prove the liner is compatible with the material(s) being placed on the liner. For nonconventional impoundments we are proposing that this requirement would also include records showing compliance with the continuous one meter of liquid in the impoundment; [29] for heap leach piles, we are proposing that this requirement would include records showing that the 30% moisture content of the pile is continuously maintained. . . . Records showing compliance with the one meter liquid cover requirement for nonconventional impoundments and records showing compliance with the 30% moisture level required in heap leach piles can be created and stored during the daily inspections of the tailings and waste retention systems required by the NRC (and Agreement States) under the inspection requirements of 10 CFR 40, Appendix A, Criterion 8A.

36.1. The EPA appears to disregard the fact that the affected sources are also regulated by the NRC or an NRC Agreement State under the Atomic Energy Act. The NRC and Agreement States have found that one element of an effective regulatory program is public participation and the timely availability of pertinent licensing and permitting documents. Transparency is required if the public is to have any confidence in government regulatory program.

36.2. The EPA is, in fact expanding its Subpart W regulatory program. An EPA regulatory program demands public knowledge and public participation. Public participation demands the timely availability of pertinent documents. So, by proposing that pertinent compliance records be retained at the sites and not be submitted to the EPA, the EPA is making sure that documents related to Subpart W compliance will not be available to the public. This is a policy of withholding information from the public is not a policy of openness and transparency. It shows a lack of confidence in the uranium recovery licensees and the EPA and State regulatory staff.

36.3. In a day and age when most documents are created and retained electronically or can be readily scanned and made available electronically, there is no justification for the EPA not requiring the submittal of records that document compliance with Subpart W requirements. Further, some of the documents EPA does not care to take and make available to the public—via a website that posts the Subpart W regulatory documents or via a Freedom of Information Act (FOIA) request—will also need to be submitted to the NRC or Agreement State as part of their source material license. There is no excuse for the EPA not to require the submittal of all relevant Subpart W compliance records.

36.4. In sum, any records demonstrating compliance with Subpart W must be submitted to the EPA or EPA authorized state in a timely manner. The revised Subpart W must include a schedule for the timely submittal of this documentation.

36.5. Documents showing that the impoundments and/or heap leach pile meet the requirements in Section 192.32(a)(1) are required as part of the pre-construction application submitted under 40 C.F.R. § 61.07. However, there was a situation where those documents were not submitted and there was no application submitted under 40 C.F.R. § 61.07 and no approval under 40 C.F.R. § 61.08. This was the reconstruction and relining of Cell 4A at the White Mesa Mill. The EPA had approved the construction of that impoundment in the 1980s, prior to the promulgation of the current Subpart W requirements. The impoundment was constructed in 1989 and licensed to receive tailings in 1990.[31] Little material was placed in the impoundment and it eventually deteriorated and need to be cleaned out and replaced. The Utah DRC approved the design and construction of a replacement impoundment and liner system. However, the licensee at the time (Denison Mines) did not submit a application to the Utah Division of Air Quality, which administers and enforces Subpart W and other radionuclide NESHAPS in Utah, pursuant to 40 C.F.R. § 61.07. Rather, the licensee relied on the pre-December 1989 EPA approval of the construction of Cell 4A. As it was, Cell 4A is approximately 40 acres (though a few acres more) and was constructed pursuant to Section 192.32(a)(1).[32] However, the DAQ and EPA had no active role in assuring that the reconstructed Cell 4A met those Section 192.32(a)(1) requirements.

Therefore, Subpart W must include provisions related to the reconstruction or replacement of a solid tailings or liquid impoundment. A licensee must be required to submit a new Section 61.07 application and receive a Section 61.08 approval before reconstructing or replacing a conventional or nonconventional impoundment. There shouldn't be cracks in the Subpart W regulatory program.

36.6. Additionally, there should be a limit on the time between the authorization of the construction of an impoundment and when it is actually constructed. A licensee should not be able receive approval of construction, then construct the impoundment years, if not decades, later. Authorization should have an expiration date, requiring a new application after 5 years if the impoundment has not been constructed and used.

37. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 1, ¶ 4), states:

> As provided in CAA section 112(d)(5), we are proposing standards representing GACT for this area source category. In developing the proposed GACT standards, we evaluated the control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities.

37.1. The EPA has not, but should, provide a regulatory and technical justification

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[31] http://www.epa.gov/radiation/docs/neshaps/subpart-w/denisionresponsetosection114letter.pdf

[32] http://www.radiationcontrol.utah.gov/Uranium_Mills/IUC/cell4a/IUC.htm

for relying on the GACT described in Section 112(d)(5) in place of MACT, as described in Section 112(d)(2). The EPA must explain their use of "discretion." What, exactly, was the basis for that determination? Just stating that it was based on information received from industry and other stake holders is not an explanation. The EPA cannot make a discretionary determination without explaining, with particularity and specificity, the reasoning behind that determination.

37.2. The EPA should make a full comparison of all the potential GACT and MACT that might be used to control radon emissions from uranium recovery operations.

37.3. The EPA should have identified the "control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities" that the EPA reviewed and evaluated. These would include technologies used or previously used at conventional mills, ISLs, and heap leach operations. For example, in the past heap leaching was done in vats.

37.4. The EPA did not give full consideration of the technologies that are generally available and utilized by operating uranium recovery facilities. Most specifically, the EPA does not include a description of and evaluate the technologies and management practices associated with compliance with 40 C.F.R. § 61.252(a). This is an egregious omission.

38. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 2, ¶ 2, below Table 1), states (in part):

> We identified two general management practices that reduce radon emissions from affected sources. These general management practices are currently being used at all existing uranium recovery facilities. First, limiting the area of exposed tailings in conventional impoundments limits the amount of radon that can be emitted. The work practice standards currently included in Subpart W require owners and operators of affected sources to implement this management practice by either limiting the number and area of existing, operating impoundments or covering dewatered tailings to allow for no more than 10 acres of exposed tailings.

38.1. Of significance is the fact that the work practice standards currently included in Subpart W do not include a requirement to limit the area of exposed tailings by any other method, other than limiting the general size of the impoundment. This limited standard does not require the limitation of the exposed tailing by the maintenance of a water cover or saturated tailings or the placement of soil on the impoundment when it is technically feasible. The current work practice standard in Section 61.252(b) has only been applied to one impoundment and only recently (White Mesa Mill Cell 4A). Therefore, the EPA has no information whatsoever regarding the effectiveness of this methodology at a currently operating uranium mill. What the EPA is ignoring are the

general management practices that have been applied to the "existing" affected sources over the past 25 years. The EPA has not explained the reason for disregarding these general management practices. Such disregard of the management practices that have been used at "existing" conventional impoundments since Subpart W was promulgated in 1989 is hard to comprehend.

38.2. The EPA must provide data on the radon emissions from tailings that are dry on top (but uncovered), saturated tailings, and liquids that are being used to attenuate radon on top of solid tailings. The EPA has always maintained that a water cover reduces the radon emissions from solid tailings impoundments. More data is needed to substantiate that assumption.

38.3. The EPA is disregarding the GACT that are currently being used to reduce radon emissions: 1) water on top of conventional impoundments,[33] 2) keeping tailings wet, 3) placement of soil as tailings dry out, and 4) monitoring the radon, reporting the radon flux, and taking corrective actions to bring the radon flux back into compliance with the standard. These are the primary technologies and work practices being used at conventional mills to reduce radon emissions, yet the EPA is completely disregarding these methods.

39. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 2, ¶ 3 to col. ¶ 1, below Table 1), states (in part):

> Second, covering uranium byproduct materials with liquids is a general management practice that is an effective method for limiting radon emissions. This general management practice is often used at nonconventional impoundments, which, as stated earlier, are also known as evaporation or holding ponds.

39.1. This discussion is confusing. First, there is no requirement in the proposed rule for the use of liquids on top of conventional impoundments to attenuate the radon. The EPA does not acknowledge the fact that the liquids in nonconventional evaporation pond or holding ponds are the uranium byproduct material. The nonconventional impoundments are there to hold and sometimes evaporate liquids, not hold solids covered by liquids. Some sediments and solids may be at the bottom of these ponds, but the solids come from the liquid wastes. So, a management practice for liquids in nonconventional ponds is not covering the solids with liquids. The management practice is placing liquids in these ponds for evaporation, recycling, treatment and discharge, or other containment purposes (e.g., prior to deep well disposal or land application), because the liquids that are the byproduct material that must be contained in the ponds. Without

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[33] There is now data the brings into question the effectiveness of maintaining a liquid cover over solid tailings. The radon emissions from the liquid cover on Cell 3 at White Mesa are far above the emission standard and the emissions are not controlled.

these liquid wastes, there is no need for the ponds. It is primarily the radium in the liquids that produce the radon. The liquids are not there to reduce the radon emissions.

39.2. The EPA must provide a clearer description of these evaporation and holding ponds, their purpose, how they are created, how sediments accumulate, and other relevant information.

39.3. Since it is now apparent that nonconventional effluents and the liquid in conventional impoundments can be major sources of radon emissions, the EPA must fully consider the methods (GACT and MACT) that will be required to reduce those emissions and the need for a radon standard and demonstration of compliance for these types of impoundments.

40. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 3, ¶ 1, below Table 1), states (in part):

> While this management practice of covering uranium byproduct materials in impoundments with liquids is not currently required under Subpart W, facilities using this practice have generally shown its effectiveness in reducing emissions in both conventional impoundments (that make use of phased disposal) and nonconventional impoundments (i.e. holding or evaporation ponds). We are therefore proposing to require the use of liquids in nonconventional impoundments as a way to limit radon emissions.

40.1. This paragraph is confusing. The purpose of nonconventional impoundments is to hold liquids that are contaminated with radium and other radionuclides. How can you use liquids as a way to limit radon emissions in an impoundments that serve to contain and evaporate liquid effluents? Is it that additional, non-contaminated, water would serve to dilute and radium and limit the emissions?

40.2. Recent White Mesa Mill data regarding the radon emissions from liquids in nonconventional impoundments and those placed in and on conventional impoundments demonstrates that the radon emissions from these liquids is greater than 100 pCi/m^2/sec. *See* Section IV. 45.11, below. *See*, also, 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings. Calculation Brief: Radon Emissions from Evaporative Ponds White Mesa Uranium Mill, July 7, 2014.[34] Therefore, the EPA must demonstrate that, in fact, the presence of liquid processing effluents on top of or in conventional tailings impoundments limit radon emissions.

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[34] Non Privileged Records (July-Sept 2014, Part 1), pages 405-416.
http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part1.pdf
Non Privileged Records (July-Sept 2014, Part 2) pages 1-3 and 200-246.
http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part2.pdf

40.3. The EPA must also consider whether the radium-laden processing effluents actually increase the radon emissions in conventional and nonconventional impoundments at conventional mills.

40.4. The EPA must analyze the radon emissions from liquid-covered impoundments that are produced during the transfer of radium-laden effluents to and between impoundments and during enhanced evaporation sprays.

41. Proposed Rule, at IV. B.2. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Conventional Impoundments (page 25402, col. 1, ¶ 1) states (in part):

> We are proposing as the GACT standard that *all* conventional impoundments—both existing impoundments and new impoundments—comply with one of the two work practice standards, phased disposal or continuous disposal, because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments (reference EPA 520–1–86–009, August 1986). We are proposing that existing impoundments also comply with one of the two work practice standards because, as discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed.

41.1. As was discussed above, there are conventional impoundments that meet the definition of "existing" impoundments in Section 61.251(d) and are subject to the emission standard in Section 61.252(a), but do not meet the work practice standard in Section 61.252(b). Cells 2 and 3 at the White Mesa Mill are licensed to accept additional tailings and were in existence as of December 15, 1989. Cells 2 and 3 do not meet the work practice standards in Section 61.252(b) because they are greater than 40 acres. There is no evidence on the Subpart W Rulemaking Docket that supports EPA's assertion that the tailings impoundments at the Shootaring Canyon Mill in Utah and the Sweetwater Mill in Wyoming have synthetic liners and meet the requirements of 40 C.F.R, § 192.32(a)(1). There is evidence that the tailings impoundment at the Shootaring Canyon Mill has a clay, not a synthetic, liner.[35] Therefore, at least 3 current existing conventional impoundments cannot meet the work practice standard at Section 61.252(b).

41.2. The EPA proposal to solely rely on a design and work practice standard for both existing and new conventional tailings impoundments is contrary to the CAA Section 112 provisions that apply to this Emission Standard rulemaking. Specifically, Section 112(h) provisions do not authorize the adoption of a design or work practice standard in place of an emission standard unless a determination has been made by the

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[35] http://www.radiationcontrol.utah.gov/Uranium_Mills/uraniumone/docs/2012/March/DRC-2012-001447.pdf

Administrator that it is not feasible to prescribe or enforce an emission standard for control of a hazardous air pollutant. Given the 25-year history of the enforcement of the radon emission standard for existing uranium tailings impoundments, it is doubtful that the Administrator could honestly make such a finding.

41.3. The EPA asserts that the Section 61.252(b) minimal work practice standards are the only ones necessary for both existing and new impoundments "because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments." However, as discussed above, there is only one, new conventional impoundment that is licensed to receive tailings. That ~ 40-acre impoundment was recently constructed to meet the Section 61.252(b)(1) design and work practice standard. So, there is really no data regarding the effectiveness of this design standard to reduce the area of exposed tailings, as compared to the effectiveness of the use of water or soil on existing impoundments (which are not required under the proposed Rule) for limiting the area of exposed tailings. There is no data that shows that the Section 61.252(b) design and work practice standard will be as effective or more effective for reducing radon than the use of Section 61.252(a) emission standard and the generally accepted methodologies for complying with that standard.

41.4. The EPA is completely ignoring the emission standard and the work practices that have been used for over 25 years to effectively reduce radon emissions to meet that standard. Without a radon flux standard to comply with, there will be no incentive to use the most effective methods of keeping the radon emissions within the regulatory standard. It is the radon emission standard and the practices that are used to comply with that standard that are the most effective methods of reducing radon emissions. A work practice standard that only requires a certain size impoundment, but no requirement to take any active measures during the life of the impoundment to reduce the radon emissions and no requirement to even measure the radon emissions does not assure that the emissions will be kept a low as reasonably achievable.

41.5. The EPA must provide a full evaluation of the differences in the short and long term radon emissions associated with phased disposal and continuous disposal. The EPA must justify not requiring continuous disposal method for all new impoundments. This comparison is especially relevant given the fact that any ponded water on top of a phased disposal impoundment may emit high levels of radon. Any comparison must look at the radon emissions from various phases of impoundments that use the continuous and phased disposal methods.

41.6. The provisions in Section 112(d)(3) for New and Existing Sources state: "The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator." The emission control practice for current existing impoundments (that is, a radon flux emission standard, monitoring, reporting, placement of a soil barrier when

parts of the impoundment are dry, and corrective actions when the standard is exceeded) generally achieve a radon emission level of below 20 pCi/m^2-sec. The EPA has not demonstrated that the reduction of emissions solely by the use of the 40-acre tailings impoundment design standard for new impoundments will achieve the same or higher level of radon emission control as used at existing impoundments. Therefore, the EPA has not demonstrated, with facts and data, that maximum degree of reduction in emissions that is deemed achievable for new sources (that is, new impoundments) will not be less stringent than the current emission controls currently in use at existing tailings impoundments (that is, the combination of a radon flux emission standard, monitoring, placement of a soil barrier when parts of the impoundment are dry, and corrective actions when the standard is exceeded.

41.7. Clearly, the EPA must require the use of the most effective methodologies for reducing the emission of radon from conventional uranium tailings impoundments. This means that the CAA and the application of the most effective methodologies to reduce radon emissions require that the radon-flux standard in Section 61.252(a) be applied to all conventional tailings impoundments, no matter when they were constructed.

42. Proposed Rule, at IV. B.2. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Conventional Impoundments (page 25402, col. 1, ¶ 2) states:

> We are also not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. Operators continue to use the general management practices discussed above for reducing radon emissions from their conventional impoundments, i.e., limiting the size and/or number of the impoundments, and covering the tailings with soil or keeping the tailings wet. These management practices form the basis of the work practice standards for conventional impoundments and continue to be very effective methods for limiting the amount of radon released to the environment.

42.1. This paragraph is misleading. The EPA claims that the "covering the tailings with soil or keeping the tailings wet" are general management practices used to reduce radon emissions. However, the proposed Subpart W Rule does not include any requirement to implement those practices. The EPA implies that they are; but, they are not. Therefore, these methodologies are not part of the general management practices that the EPA will require for conventional impoundments in the revised Subpart W.

42.2. The EPA claims that they are not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. The EPA is perfectly aware that of the most prevalent methodology used to reduce radon emissions at conventional impoundments is the

combined use of a radon emission standard, monitoring, annual reporting, monthly reporting and investigation if the emissions exceed the standard, corrective actions along with the practice of maintaining a moisture content in the tailings, and placement of soil when areas of the impoundment have dried out. This package of management practices is based on the radon flux limitation. Without a radon flux standard, there is no definition of "effective" when it comes to technologies and management practices. Without the radon flux standard and the requirement to demonstrate compliance, there is no necessity under Subpart W to maintain a moisture content or a soil cover to limit the exposed tailings. Without the radon flux standard and monitoring there is no way to determine whether the soil cover is effectively limiting the radon emissions to the desired level. Without monitoring, there would be no awareness of the actual amount of the radon emissions and no awareness of any increase in those emissions. Without a requirement to take timely corrective actions to lower radon emissions if the standard is exceeded, there would be no necessity for determining the cause of the radon emission increase, nor the necessity of taking an mitigative measures. Without a radon emission standard there is no incentive to propose or try new technologies.

So, it is the radon emission standard and provisions that implement that standard in Subpart W that have been used as means of assuring that the radon emissions will be kept as low as reasonably achievable.

42.3. Other measures to reduce radon emissions are the cleanup of windblown tailings, adding additional fill on areas that have higher emissions, as determined by radon emission monitoring. There are probably ways to deposit tailings in the impoundment that do not create small areas with higher radon emissions. The only way to determine whether there may be areas of higher radium concentration, windblown tailings, or other issues related to radon emissions is through annual monitoring across the tailings area.

42.4. The EPA should identify the maximum available technologies that could be used to reduce radon emissions at uranium mills. Additionally, the EPA must compare the expected radon emissions from impoundments using the phased disposal methods as opposed to continuous disposal methods. Considering the fact that conventional mills do not operate continuously, but experience both short and long-term periods of non-operation, the EPA must consider requiring smaller impoundments that use continuous disposal methods. Data and information on the costs and effectiveness of these methods over the life of a conventional mill should be considered. In addition to reducing the potential for radon emissions via continuous disposal, dry tailings do not hold liquids that can leak into the groundwater. Leakage of tailings fluids into groundwater has been, and will continue to be, an ongoing issue at conventional uranium mills.

42.5. No matter how the industry or the EPA defines "operating" or "closure," the fact is that radon monitoring at "existing impoundments" needs to continue during and after the placement of an interim cover on the impoundment and when an impoundment is drying out, whether reduction of water on top of or within a tailings pile occurs

naturally or via active dewatering. The EPA acknowledged that if the impoundment is allowed to dry out, "emissions can increase significantly."[36] As stated in the 1989 Final Rule: "EPA recognizes that the risks from mill tailings piles can increase dramatically if they are allowed to dry and remain uncovered."[37] Tailings dry out during periods of low precipitation and reduced ore processing. For every impoundment there comes a time when the impoundment must be dried out to remove standing liquids and pile moisture to facilitate settlement of the impoundment (necessary for placement of the final radon barrier) and to reduce the potential for leakage of tailings effluents and groundwater contamination. This dewatering process can take decades.

42.6. In 1989 the EPA addressed the problem of the increase in radon emissions during the "closure" period, by establishing a 20 pCi/m^2-sec limit on emissions and a schedule for compliance.[38] However, 40 C.F.R. Part 61 Subpart T was rescinded for commercial uranium mills, based on the assumption that the NRC and Agreement State programs would assure timely placement of an interim cover and final radon barrier.[39] The EPA assumed that there would be approved closure (reclamation) plans and reclamation milestones for the reclamation of tailings impoundments. However, there is no approved closure plan and no reclamation milestones for the Cotter Mill (Cañon City, Colorado) or for Cell 2 at the White Mesa Mill, as required by 10 C.F.R. Part 40 Appendix A, Criterion 6A, and 40 C.F.R. § 192.32.

42.7. The recent experience at the White Mesa Mill for Cell 2 demonstrates the need for and effectiveness of continued monitoring of an "existing" impoundment prior to the placement of the final radon barrier and during the dewatering period. In 2012 the radon emissions from Cell 2 increased due to dewatering, areas on the pile that had higher radon emissions, and windblown tailings. Due to compliance with the Subpart W requirements for "existing" impoundments, the licensee became aware of the radon emission increases, discovered the cause, and took corrective actions. Corrective actions included cleanup of windblown tailings and placement of additional soil cover. Therefore, continued monitoring at "existing" and at any new impoundments is part of a program to assure that effective measures are taken to reduce emissions. Another reason for the monitoring program is that data on the relationship between dewatering and the increase in radon emissions has been collected.

The only way to attenuate the radon emissions throughout this period is 1) knowledge of what the radon emissions are through monitoring, 2) a radon emission limit, 3) investigation of the causes of the emissions, 4) identification of the actions that would effectively reduce the emissions over the long term, 5) and corrective actions. Another reason to continue monitoring for radon emissions.

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[36] 56 Fed. Reg. 51654, 51679, col. 2, ¶ 3; December 15, 1989.

[37] 56 Fed. Reg. 51654, 51680, col. 2, ¶ 2.

[38] 56 Fed. Reg. 51654, 51702. 40 C.F.R. Part 61 Subpart T, § 61.222(a).

[39] http://www.epa.gov/radiation/docs/neshaps/subparttrecission.pdf

42.8. Given the high level of radon emissions from the liquid effluents on top of the White Mesa Mill Cell 3 (*See* Section IV. 45.11, below), the EPA must reconsider its assumption that maintaining a pond of radium laden fluids on top of tailings impoundments is an effective means of limiting the radon emissions. The EPA must throughly examine, with supporting data, whether or not these liquid ponds should be permitted and whether or not all tailings should be dewatered before placement in a tailings impoundment. The EPA must determine the difference between emissions from tailings that are "wet" and tailings covered by radium laden processing fluids. The EPA must consider the radon emissions during the drying out period for wet tailings that are disposed of in phases, as compared to the emissions from dry tailings that are dewatered prior to "continuous" disposal.

43. Proposed Rule, at IV. B.2. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Conventional Impoundments (page 25402, col. 1, ¶ 3) states:

> These work practice standards are a cost-effective method for reducing radon emissions from conventional impoundments. In addition, the liner requirements for conventional impoundments are also required by the NRC in their licensing requirements at 10 CFR part 40. Therefore, we are proposing that GACT for conventional impoundments will be the same work practice standards as were previously included in Subpart W.

43.1. The liner requirement is supposed to serve two (2) purposes: 1) prevent the contamination of ground and surface water from the leakage of tailings fluids from the tailings impoundment and 2) hold water in the impoundment so that liquids on top of the within the pile that serve to attenuate the radon do not leak from the pile. However, with no specific radon flux limit and no requirement for active measures to attenuate the radon emissions with liquids in and on the impoundment, the liner system serves a minimal radon reduction function under Subpart W.

43.2. As discussed above, the proposed GACT does not include the work practice standards that the EPA claims have been cost effective methods for reducing radon emissions at conventional impoundments. GACT does not include monitoring, a radon flux limit, active measures (such as the use of fluids or soil) to attenuate the radon, or any other active measure beyond the limitation of the size of the impoundment and use of a liner system. (Assuming here that no mill used the continuous tailings disposal method.)

44. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25402, col. 3, ¶ 3) states (in part):

> The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct materials, either in solid form or dissolved in solution, and therefore their

HAP emissions are regulated under Subpart W.

44.1. Commenters agree with the EPA that holding or evaporation ponds at conventional mills, ISL facilities, and any heap leach facilities fall under the authority of the EPA under Section 112 of the CAA and the radionulide NESHAPS in Subpart W. The Section 112(b) of the CAA give the EPA the authority to regulate radionuclides, including radon.

44.2 Commenters do not agree with the EPA that it should limit its authority over radon to emissions to uranium mill tailings, liquid effluent ponds, heap leach piles. Radon is emitted, and sometimes in significant amounts from other areas and sources at these uranium recovery facilities. Large amounts of radon are emitted from wellfields and other parts of ISL operations. The radon emissions from the Smith Ranch-Highland operation in Wyoming is quite high, yet the EPA takes no responsibility under the CAA for the regulation of those emissions. The EPA must assert its authority under the CAA for all sources of radon emissions at uranium recovery operations.

44.3. The EPA and/or the DAQ consistently failed to enforce the work practice standard applicable to both existing and new tailings impoundments since 1989. The EPA and DAQ failed to enforce the 2-impoundment provision in Section 61.252(b)(1): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." The EPA never applied this requirement to both tailings piles and liquid impoundments at conventional mills. The EPA avoids a discussion of this fact in the Proposed Rule.

45. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25402, col. 2, ¶ 4 to col. 3, ¶ 1) states (in part):

> We are proposing that these nonconventional impoundments (the evaporation or holding ponds) must maintain a liquid level in the impoundment of no less than one meter at all times during the operation of the impoundment. Maintaining this liquid level will ensure that radon-222 emissions from the uranium byproduct material in the pond are minimized. We are also proposing that there is no maximum area requirement for the size of these ponds since the chance of radon emissions is small. Our basis for this determination is that radon emissions from the pond will be expected to be very low since the liquid in the ponds acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for approximately 98% of the radon produced by the solids or from the solution to migrate to the water surface and cross the water/air interface before decaying.

45.1. The EPA states above that a nonconventional impoundment is where tailings are contained in ponds covered by liquids. Then in the quote above, it states that nonconventional impoundments are evaporation ponds or holding ponds. It is confusing because the EPA claims that nonconventional impoundment is where tailings are contained in ponds covered by liquids. That is just not the case. As stated in the proposed definition of nonconventional impoundment, nonconventional impoundments contain uranium byproduct material suspended in and/or covered by liquids. The ponds exist to hold liquids effluents, not solid wastes. The solids are suspended in the liquids and may eventually settle to the bottom. It is also the case that conventional impoundments are used as liquid holding ponds before they transition to use for the deposition of solid wastes.

45.2. There are times when a liquid impoundment will hold less than 1-meter of liquids. For example, when White Mesa Cell 4B, which is currently receiving liquids needs to transition to an impoundment that only receives tailings slurry. Some impoundments are used to hold liquids prior to deep well disposal, off-site discharge after treatment, or land application. In these instances or when it is necessary to dry out the impoundment for repair or during periods of limited or standby operations, the operator may have a reason decrease the liquid level below the 1-meter level. Some ponds do not have enough depth to have 1-meter of liquid and a free space above the liquid level. The EPA regulation must take all design and operating contingencies into consideration.

45.3. The EPA must consider more than just the radon emissions from a nonconventional impoundment in determining whether a size limit is not required. The EPA must also consider the primary function of a nonconventional impoundment: containment of the liquids within the impoundment.

There is a long history of leakage and spills from liquid impoundments. The EPA should provide data and information regarding leakage from liquid impoundments. That data should include information on nonconventional impoundments that have leaked. Information that may be included: the name of facility, impoundment number or other identifier, date of leakage was detected, length of time of leakage, time before discovery of the leak, rate of leakage, size of the impoundment, amount of liquid released, nature of liner and leak detection system, reason for leaks, cleanup, liner replacement, and other pertinent information. The EPA should provide information that compares stresses and strains on liner systems that could cause leakage for different sizes of impoundments; for example, underlying ground and materials, wind, waves, temperature differences, sunlight, liquid pressure, and other influences. All things being equal, the stability and long-term performance of a liner system and liquid impoundment may be influenced by the size. The EPA and the public must have the information necessary to determine how the size of an impoundment may impact not just the radon emissions, but the long-term stability and performance of the liquid impoundment.

45.4. A larger impoundment will hold more liquids so there are more fluids to leak, particularly when there is a significant failure of the system. Therefore, failures of

liquid impoundments of large areas and liquid volume would have more significant impacts than those of a smaller size.

45.5. The EPA does not differentiate between a nonconventional liquid impoundment that is designed only hold liquids and a conventional one that will hold liquids, but will eventually be used to hold more solid tailings for disposal and perpetual storage. An example is Cell 4B at the White Mesa Mill. Such impoundments must be limited in size.

45.6. The EPA has not adequately addressed the possibility of large liquid impoundments in a region, such as Virginia, where impoundments are constructed to hold processing fluids from tailings impoundments for treatment to remove radium, particulates, and possibly uranium and hazardous constituents, pursuant to 40 C.F.R. § 440.34(b)(2).[40] The EPA has not evaluated the long-term stability and performance of various sizes of impoundments in a region that is subject to flooding, hurricanes, and tornadoes. One would expect that the impact of extreme weather events on impoundments of a large size would be greater that impacts on smaller impoundments. The EPA has provided no information about these types of impoundments and the differences in long-term stability and performance for different size impoundments that are subject to extreme weather events.

45.7. The EPA must limit the size of nonconventional liquid impoundments.

45.8. The information provided by the Risk Assessment for Radon Emissions from Evaporation Ponds [41] does not support the notion that the radon emissions from liquid impoundments will be "very low" and "the chance of radon emissions is small." Also, the EPA has not defined "low" or "very low." The Risk Assessment concluded:

> Using actual radium pond concentrations and wind speed data, Equation 13 was used to calculate the radon pond flux from several existing ISL sites. It was determined that the radon flux ranged from 0.07 to 13.8 pCi/m2-sec (see Table 10). From this, it can be seen that the radon flux above some evaporation ponds can be significant (e.g., may exceed 20 pCi/m2-sec).

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[40] 40 C.F.R. § 440.34.(b)(2): "In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in paragraph (a) of this section."

[41] Risk Assessment Revision for40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010; page 26.

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> Again, using actual ISL site data, the total annual radon release from the evaporation ponds was calculated and compared to the reported total radon release from the site. As Table 11 shows, the evaporation pond contribution to the site's total radon release is small (i.e., <1%).

One the one hand, the Risk Assessment states that the radon flux from some evaporation ponds can be significant, on the other hand, the Risk Assessment states that the evaporation ponds total contribution to radon emissions is small. First, the Risk Assessment is only considering emissions at ISL operations, not at conventional mills. That is not made clear in these conclusions. Second, the EPA should not be evaluating radon emissions in comparison to total site radon emissions. A radon emission standard is applicable to a particular source (for example, evaporation pond or tailings pile), not a source in comparison to other possible sources or total sources at a particular uranium recovery operation. So, the radon emissions from a particular evaporation pond—as compared to total emissions from an ISL operation—is irrelevant. Additionally, the EPA has been mandated to regulate radon and reduce radon emissions at uranium recovery operations, which includes all radon emission sources, not just evaporation ponds. The EPA has identified very high levels of radon emissions from other sources at an ISL operations. Therefore, the EPA must also regulate the radon emissions from those other site sources.

45.9. The Evaporation Pond Risk Assessment at Table 2: Radon Flux for Various Radium Concentrations[42] shows the radon flux from three conventional mills and the eight ISL facilities for radium concentrations of 1, 100, and 1,000 pCi/L. The Risk Assessment concludes, "The fluxes at the largest concentration, while below the criteria, are not negligible." However, the largest concentration is not the actual concentration, it is the concentration per 1000 pCi/L. So, a pond with a concentration of 36,700 pCi/L would have a radon flux far in excess of the current 20 pCi/m^2-sec criteria. The Risk Assessment should have, but did not, compare the actual radon flux for the various evaporation ponds at conventional mills.

45.10. Table 2 fails to include, for comparison, the actual radium concentrations for the evaporation ponds at ISL and conventional mills. There is no data in the Subpart W Rulemaking Docket regarding the radium concentration in liquid impoundments at the Sweetwater and White Mesa Mills. So information regarding the actual radon flux from

[42] Id. Page 17.

those mills is completely disregarded by the EPA. Therefore, the EPA has no basis for the assumption that those emissions will be "very low" (what ever that means).

45.11. There is recent data regarding the radium concentration at the impoundments at the White Mesa Mill.[43] The White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report[44] provides data on the Gross Radium Alpha (pCi/L) for the liquids in 4 impoundments.

Table. 1. White Mesa Mill Radium Concentration and Radon Flux for 2013.

Cell	Gross Radium Alpha	Radon Emissions
Cell 1	32,700 pCi/L	228.9 pCi/m^2-sec
Cell 3	81,900 pCi/L	573.3 pCi/m^2-sec
Cell 4A	15,800 pCi/L	110.6 pCi/m^2-sec
Cell 4B	14,600 pCi/L	102.2 pCi/m^2-sec

Cell 1 is a liquid evaporation pond, Cell 4B is being used for the storage of tailings liquids, Cell 4A is almost entirely covered by liquids, and Cell 3 has a liquid pond on top of the more solid tailings. The information for Table 1 is based on the assumption provided by the EPA that a White Mesa liquid impoundment has a radon flux of 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium. Unfortunately, the EPA never required the White Mesa licensee to report on the radium content of the liquids in the tailings cells and calculate the radon flux based on those measurements. This data and the data provided by the Ute Mt. Ute Tribe[45] demonstrates that the radon emissions from the liquid effluents in conventional and nonconventional impoundments at the White Mesa Mill are significant and must be controlled. The data also challenges the long-held assumption that a pond of processing fluids on top of a conventional impoundment serves to limit radon emissions to an insignificant levels.

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[43] http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/tailingswastewater_rpt.htm

[44] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

[45] Non Privileged Records (July-Sept 2014, Part 1), pages 405-416. http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part1.pdf
Non Privileged Records (July-Sept 2014, Part 2) pages 1-3 and 200-246. http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part2.pdf

45.12. The data for White Mesa Mill liquid impoundments does not support the EPA's claim that radon emissions from evaporation ponds "will be expected to be very low" and "the chance of radon emissions is small." In fact, at the White Mesa Mill, these radon emissions are very high. Cell 1, designed to contain and evaporate liquid effluents, is 55 acres. Cell 4B is approximately 40 acres, because it was designed to hold solid tailings. Therefore, no liquid impoundment should be over 40 acres at a conventional mill. The EPA should consider further limits on impoundments specifically designed to hold liquids at conventional mills, given the high radon fluxes from those impoundments.

45.13. The discussion of the attenuation of radon emanation by water (i.e., the amount by which a water cover will decrease the amount of radon emitted from the impoundment) implies that there is "water" on top of a liquid tailings impoundment. That is not the case. Any plain water in a nonconventional fluid impoundment is there due to precipitation or addition by the mill operator. That water does not form a "cover" to existing effluents, it serves to dilute the existing liquids and create a deeper cover over any sediments at the bottom of the pond.

46. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25402, col. 3, ¶ 4 to page 25403, col. 1, ¶ 1) states:

> The benefit incurred by this [1-meter of liquid] requirement is that significantly less radon will be released to the atmosphere. The amount varies from facility to facility based on the size of the nonconventional impoundment, but across existing facilities radon can be expected to be reduced by approximately 24,600 curies, a decline of approximately 93%.

46.1. There is no factual basis for the assumption that maintaining 1-meter of liquid on existing or proposed nonconventional liquid impoundments will result in a decline of approximately 93% of radon emissions.

46.2. The 1986 Nelson and Rogers study that the EPA uses to support this assertion is a study of liquid covers on top of conventional tailings piles. The Nelson and Rogers study is not a study of the radon emissions from nonconventional liquid impoundments. The purpose and function of nonconventional impoundments is to contain liquid 11e.(2) byproduct material. It is not the function of nonconventional impoundments to hold solid wastes and cover them with water or other liquids. A liquid nonconventional impoundment may contain sediments that sink to the bottom of the liquid impoundment or are precipitated out through the addition of barium chloride.

46.3. Nelson and Rogers' conclusion that at least 1-meter of water would serve to greatly attenuate radon emissions from a tailings impoundment applies to conventional tailings piles. The EPA's proposed 1-meter liquid cover requirement only applies to nonconventional impoundments that hold mostly radium-bearing liquids with some

sediments below the liquids. Therefore, the assumptions associated with 1-meter of water on top of a conventional tailings pile do not apply to nonconventional liquid effluent impoundments.

46.4. There is no information in the Evaporation Pond Risk Assessment regarding the depth of existing nonconventional impoundments and how maintaining a 1-meter liquid level would serve decrease the level of radon emissions for those impoundments if less than 1-meter of liquid was maintained; say, 1 or 2 feet.

46.5. Evaporation Pond Risk Assessment estimation of the radon emissions from nonconventional impoundments is based on wind disturbance and the radium concentration of the fluids. It is not based on the depth of the water. The primary factor for the radon emissions is the radium content of the liquid effluents, not the depth of those fluids. The nonconventional impoundments at the White Mesa Mill already emit high levels of radon.

47. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25403, col. 1, ¶ 4 to page 25403, col. 1, ¶ 2 to ¶ 3) states (in part):

> If the evaporated water is not replaced by naturally occurring precipitation, then it would need to be replaced with make-up water supplied by the nonconventional impoundment's operator. The most obvious source of water is what is known as ''process water'' from the extraction of uranium from the subsurface.

47.1. The Proposed Rule only refers to make-up water at a ISL operation and ignores the sources of make-up water at a conventional mill. The liquids at the White Mesa Mill are primarily processing solutions, or raffinates, that come from the processing of the ore in the mill. They do not come from the extraction of uranium from the subsurface. The Mill also disposes of storm-water run off and mill laboratory wastes in Cell 1. The Mill solutions can come directly from the processing circuit or from slimes drains or other dewatering system.

47.2. Although the EPA's primary concern is radon from the decay of radium, processing solutions at conventional uranium mills also include chloride, fluoride, magnesium, ammonia, potassium, sodium, sulfate, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, uranium, vanadium, and zinc. VOCs (acetone, chloroform, chloromethane, methylethyl ketone), and other radiological and non-radiological constituents. These solutions are also very acidic.

47.3. The Proposed Rule does not make clear whether a licensee must maintain 1-meter of liquid on a conventional tailings impoundment that is being used for evaporation of mill solutions. One White Mesa Mill conventional impoundment receives

Mill tailings and is being used for evaporation of processing solutions (Cell 4A), the other just for the evaporation of Mill solutions (Cell 4B). Only Cell 1 and Roberts Pond are dedicated to the containment of Mill solutions and would be considered to be nonconventional impoundments.

47.4. Based on recent White Mesa Mill data on the radium content and radon emissions from the liquid effluent ponds or impoundments(See Section IV. 45.11, above), there is no basis for the assumption that maintaining 1-meter of fluid will significantly reduce radon emissions. In fact, it is the radium laden fluids themselves that are the source of the significant radon emissions. There is not enough clean water available at the mill to continually dilute the fluid impoundments. Other methods, such as dewatering the tailings before placement in the conventional impoundments, and use of barium chloride to remove radium from impoundments that are being used to hold or evaporate fluids (whether a conventional or nonconventional impoundment) must be considered by the EPA.

48. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25403, col. 2, ¶ 2) states (in part):

> We conclude that this proposed requirement is a cost-effective way to significantly reduce radon emissions from nonconventional impoundments, and is therefore appropriate to propose as a GACT standard for nonconventional impoundments.

48.1. As discussed above at 1.1, under Sections 112(d) and (h) of the CAA the EPA cannot establish a design, equipment, work practice, or operational standard, or combination thereof (whether through the application of maximum available technologies or generally available technologies) **in lieu of** an emission standard unless the Administrator finds that it is not feasible to prescribe or enforce an emission standard, meaning that the the application of a measurement methodology is not technologically and economically practicable.

The Proposed Rule does not include such a finding by the Administrator for the radon emissions from nonconventional liquid and tailings solution impoundments at conventional mills and ISL facilities. Commenters do not believe that the Administrator could make such a finding with respect nonconventional liquid impoundments. Also, the Administrator could not make such a finding with respect conventional impoundments that are being used to evaporate mill solutions.

48.2. The Evaporation Pond Risk Assessment provides a methodology for determining the radon emissions from liquid impoundments based on wind turbulence data and the fluid's radium concentration. The Risk Assessment discusses the development of this model and methodology and how to use the model to calculating the radon flux from liquid impoundment. The EPA and the NRC has traditionally used

modeling and calculations as a method for determining compliance with a radionuclide emission or dose standard. Additionally, radon monitoring devices have been floated on liquid impoundments to determine the radon flux, and measurements have been made near the impoundments to determine radon emissions.

48.3. In sum, the EPA cannot rely on a 1-meter liquid standard to control and reduce radon emissions from nonconventional uranium recovery liquid impoundments, because such a stand-alone standard dose not meet the statutory requirements of the CAA. The EPA must establish an emission standard and develop feasible methodologies for demonstrating compliance with that standard. As discussed above, the 1-meter of liquid requirement would likely do little to reduce the high levels of radon emissions at the nonconventional impoundments at the White Mesa Mill. At some facilities, it would require large amounts of uncontaminated water that is not readily available or may be costly.

48.4 There are other generally available technologies that the EPA is not considering. The Evaporation Pond Risk Assessment concluded that the use of barium chloride would reduce the radon emissions.[46] There has been a significant reduction of radon emissions from liquid impoundments at the Smith Ranch-Highlands facility through the treatment of the fluids and placement of berms. However, the EPA is not requiring the use of these effective measures to reduce radon effluents, nor providing an incentive through a radon flux emission standard. The EPA must also include the use of berms to reduce wind turbulence and the use of barium chloride as generally available technologies that can be used to meet a radon flux standard. Without such a standard, licensees will have little incentive to reduce their radon emissions. The White Mesa Mill licensee must be required to use barium chloride to remove the radium and reduce the emissions from their liquid impoundments.

48.5. Considering the very high levels of radon emissions from the liquid impoundments and the pond on the tailings pile at the White Mesa Mill, conventional mills must be required to limit the number of both their conventional and nonconventional impoundments. At a maximum, there must be no more than 3 operating (conventional plus nonconventional) impoundments at any one time. Further, a mill owner should not be permitted to construct and operate a new impoundment until all impoundments that are no longer receiving tailings have a closure plan, reclamation milestones, and demonstrate annual compliance with the 20 pCi/m^2-sec criteria.

48.6. The EPA must also limit the size of new nonconventional liquid impoundments.

48.7. Since 1989 the EPA has not required a licensee to demonstrate compliance with the radon standard for existing nonconventional impoundments. Nor is there a requirement to determine the radon emissions from the liquid ponds on top of the

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[46] Risk Assessment, page v, ¶ 4.

conventional impoundments. Method 115 states that no measurements are required for water covered areas, as radon flux is assumed to be zero.[47] Based on current information regarding the radium content of the liquid ponds on the conventional impoundments, there is no basis for that assumption. So, for decades the radon emissions from conventional mill impoundment have been significantly and egregiously under estimated.

The EPA must amend Method 115 to require a determination, through measurement or calculation, of the radon emissions from liquid ponds, whether nonconventional liquid impoundments, conventional impoundments being used for evaporation of mill solutions, or ponds on top of conventional tailings piles.

48.8. While we are on the subject of compliance with Subpart W with respect evaporation ponds, it would be appropriate to discuss how the EPA and DAQ have enforced the Section 61.252(b)(1) standard that states: "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." Although the EPA now agrees that the limitation of operating impoundments included all operating impoundments that received 11e.(2) byproduct material (liquids and solids), the EPA and DAQ never enforced the 2-impoundment rule. Therefore since 1989 that White Mesa Mill has always had at least 3 operating impoundments.

Leaving aside the question of whether Cell 2 is an "existing" tailings impoundment that should be counted when determining the number of operating impoundments, the White Mesa Mill currently has 5 operating 11e.(2) byproduct material impoundments, Cells 1, 3, 4A, and 4B and Roberts Pond. This is a clear violation of 40 C.F.R. § 61.252(b)(1). Yet, when this issue was brought to the EPA, the EPA determined that, yes, the White Mesa Mill was out of compliance with the 2-impoundment rule, but it didn't matter, since the emissions from the liquid impoundments (now called nonconventional impoundments) do not represent a health hazard. The EPA believed, without providing any documentation to support their assertion, that the radon emissions from Cell 1 and Cell 4B were minimal. However, putting together recent data on the radium content of Cells 1 and 4B[48] and the EPA contractor's statement that there are 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium in a liquid impoundment[49], the radon emissions from Cells 1 and 4B are far higher than those from the solid portions of Cells 2 and 3. The radon flux from Cell 4A, completely covered by liquids, is also higher than those of the solid portion of Cell 3 and of Cell 2. Cell 1 has a radon flux over 10 times

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[47] 40 C.F.R. Part 61, Appendix B, Method 115, Subsection 2.13(a).

[48] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

[49] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010; page 26.

the radon flux standard for Cells 2 and 3. Cells 4A and 4B has approximately 5 times that standard.

The EPA's solution to this failure to enforce Section 61.252(b)(1) at the White Mesa Mill is to just change the rule. Now, under the Proposed Rule, those liquid impoundments are defined as nonconventional impoundments, and licensee can have as many as they want and of any size. The EPA is not even honest enough to discuss this egregious regulatory failure in the proposed Rule. There is nary a mention of the White Mesa Mills current Section 61.252(b)(1) compliance status.

The EPA must enforce the current Section 61.252(b)(1) regulatory requirement as it applies to the number of operating impoundments at the White Mesa Mill. The EPA can no longer claim that the emissions from liquid impoundments are minimal and do not present a health risk.

49. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25403, col. 2, ¶ 3 to col. 3, ¶ 1) states (in part):

> As a result, we are proposing GACT standards for heap leach piles. We are proposing that these piles conform to the phased disposal work practice standard specified for conventional impoundments in 40 CFR 61.252(a)(1)(i)(which limits the number of active heap leach piles to two, and limits the size of each one to no more than 40 acres) and that the moisture content of the uranium byproduct material in the heap leach pile be greater than or equal to 30% moisture content.

49.1. As discussed above at 1.1, Section 112(h) of the CAA does not authorize the establishment of, or the promulgation of, a design, equipment, work practice, or operational standard, or combination thereof, **in lieu of** an emission standard, unless the Administrator makes a determination that it is not feasible to prescribe or enforce an emission standard for a specific type of emission source. The Administrator has not made such a finding for heap leach operations. Therefore, the EPA cannot rely solely on the proposed GACT standards to satisfy the statutory requirements applicable to the promulgation of a radon emissions standard for heap leach uranium recovery operations.

49.2. The EPA must promulgate a radon emission standard for uranium heap leach operations, or the Administrator must make a finding that it is not feasible to prescribe or enforce an emission standard. In order to do this, the EPA must evaluate all possible methods for determining the radon emissions from heap leap operations.

49.3. There have not been any heap leach operations for decades, so no generally applicable control technologies have been developed for these types of operations. Therefore, the EPA must identify and consider various types of control technologies to limit the emission of radon from heap leach operations.

50. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25403, col. 3, ¶ 2) states (in part):

> Limiting the size of the operating heap leach pile to 40 acres or less (and the number of operating heap leach piles at any one time to two) has the same effect as it does on conventional impoundments; that is, it limits the area of exposed uranium byproduct material and therefore limits the radon emissions from the heap leach pile. While we believe that the 40 acre limitation is appropriate for heap leach piles, we are requesting comment on what should be the maximum size (area) of a heap leach pile.

50.1. The EPA must provide additional information regarding the life cycle of a heap leach operation and the radon emissions from such operations from all radon emission sources. The Subpart W BID does not provide sufficient information to support the proposed work practice and design standard. For example, there is no evaluation of other radon emission sources at the milling operation, which would include loading, grinding, and other ore handling operations. The EPA does not provide information regarding the potential radon emissions from the time ore is placed on the heap leach pad or impoundment to the time when the final radon barrier is placed on the impoundment.

50.2. The EPA has not provided a legal basis for only considering and limiting the radon emissions from the heap leach pile, rather than controlling the radon emissions from all on sources at a heap leach operation. The CAA directs the EPA to control radon emissions. Therefore, the EPA must regulate all radon sources at a heap leach operation.

50.3. The EPA has not provided any data comparing the potential radon emissions from a 40-acre impoundment to smaller impoundments. Also, the EPA has not provided any information on the number of impoundments that would be emitting radon during the life of an operation and the expected emissions based on different parameters, such as uranium content of the ore. This information would include an evaluation of the radon emissions from impoundments during the placement of ore prior to the use of a leachate. There will be radon emissions during this time. The EPA must also evaluate the radon emissions from a heap leach operation up to the placement of the final radon barrier.

50.4. The EPA must have a radon emission standard that applies to all phases of a heap leach impoundment operation—from the placement of ore on the pile to the placement of a final radon barrier. Further, there must be specific regulation applicable to periods of standby. A licensee should not be permitted to place ore in a heap leach pile and not complete the operational cycle, including placement of the final radon barrier. The radon emissions from a pile that is drying out must also be subject to the radon emission standard.

51. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25403, col. 3, ¶ 3) states (in part):

> However, we request further information on all the chemical mechanisms in place during the leaching operation, and whether the 30% moisture content is sufficient for minimizing radon emissions from the heap leach pile. We also request comment on the amount of time the 30% moisture requirement should be maintained by a facility.

51.1. Section 112(h) of the CAA requires a radon emission standard, not just a work practice or design standard. Experience at a leaching operation will demonstrate whether maintaining 30% moisture content is sufficient to meet the standard. If there is no emission standard, there is no way to determine whether a 30% moisture content is sufficient for minimizing radon emissions.

52. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25404, col. 1, ¶ 1) states (in part):

> We are proposing that the operational life of the heap leach pile be from the time that lixiviant is first placed on the heap leach pile until the time of the final rinse. We believe this incorporates a majority of the time when the heap leach pile is uncovered (no radon barrier has been constructed over the top of the heap) and when the ability for radon to be emitted is the greatest.

52.1. A heap leach pile must be regulated under Subpart W from the time ore is placed on the pile or within the heap leach impoundment through the period when the pile will dry out, prior to placement of the final radon barrier. The CAA demands that the EPA regulate radionuclides, including radon. The EPA has not been directed to regulate radon emissions from uranium industry operations for part of the time, and disregard these emissions when it serves the interests of the uranium industry. Radon will be emitted as soon as the unprocessed ore is brought onto the site, whether for direct placement in the heap leach impoundment or for physical processing, such as grinding, prior to placement on the heap leach impoundment. The radon emissions from the heap leach operation include radon emissions from any conveyor belt, during physical processing of the ore, during the placement of the ore in the impoundment, during chemical processing, during periods when the ore is resting, during the post processing period, during any period when the impoundment dries out to facilitate the final reclamation, during and before placement of an interim cover, and prior to placement of the final radon barrier. There must be a radon emission limits from all radon sources and during all stages of operation. The EPA is not authorized under the CAA to pick and choose certain radon sources and certain times and operational phases where the radon

emissions must be limited and pick and choose the radon sources and operation phases that the EPA will just ignore.

52.2. The EPA has not provided any data and information from heap leach operations that demonstrate that the radon emissions from the heap leach pile will be greatest from "the time that lixiviant is first placed on the heap leach pile until the time of the final rinse." The EPA has provided no information regarding the radon emissions during the period of time that ore is being transported, physically processed, and placed on the heap leach pile. There is no information about how long it will take to place the ore on the pad. Since the ore will be broken up via sorting and grinding, will be fairly dry, and will have the full uranium content, the radon emissions during that period should be higher than during the time the lixiviant is being used to remove uranium.

52.3. As with conventional uranium tailings impoundments, the radon emissions will increase when the impoundment starts to dry out. The EPA has provided no information regarding the length of the period, the radon emission limit, and the available technologies that might be used to control and reduce radon emissions during the time when heap leach piles are drying out.

53. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25404, col. 3, ¶ 1) states (in part):

> Our estimates for costs of monitoring the heap include 100 sensors located within the heap, with a meter on each sensor. We chose 100 sampling stations because heaps are generally the same size as conventional impoundments, and Method 115 prescribed 100 measurements for the tailings area of a conventional impoundment.

53.1. The EPA fails to include a description of possible methods that could be used to measure the radon emissions from the pile in order to demonstrate compliance with a radon emission limit. Such an emission limit is required under Section 112(h) of the CAA, unless the Administrator finds that demonstrating compliance with a specific limit is not feasible. The EPA has not made such a finding. That is why the EPA must discuss all possible methods of demonstrating compliance with a radon emission limit for heap leach piles and other aspects of the operation.

53.2. The EPA claims that "heaps are generally the same size as conventional impoundments" and, therefore, only need 100 sampling locations under Method 115. The reasoning is faulty. Under the current proposed rule, during the operation of a 40-acre "new" conventional impoundment and during the operation of an "existing" impoundment that may be larger than 40 acres, there is no requirement to measure the radon emissions, so a comparison of the sizes is irrelevant. Additionally, if there was an emission standard, most of the impoundment would be covered with water or later have a soil cover, so that the area for 100 sampling locations would be far smaller than 40-acres.

For "existing" impoundments under existing Section 61.252(a) radon emission limit, much of the impoundment is either covered with liquids or with a soil cover. Therefore, over the years the area that was measured using 100 locations was smaller than 40-acres. The EPA has data from the annual Subpart W compliance reports that would provide a picture of the size of the areas where the licensee used 100 sampling locations. However, the EPA failed to provide this important data. Instead, the EPA is making unsubstantiated claims and assumptions.

54. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25404, col. 2, ¶ 2) states:

> We are also aware that there could be a competing argument against regulating the heap leach pile under Subpart W while the lixiviant is being placed on the heap leach pile. While not directly correlative, the process of heap leach could be defined as active ''milling.'' The procedure being carried out on the heap is the extraction of uranium. In this view, the operation is focused on the production of uranium rather than on managing uranium byproduct materials. Therefore, under this view, the heap meets the definition of tailings under 40 CFR 61.251(g) only after the final rinse of the heap solutions occurs and the heap is preparing to close. In this scenario the heap leach pile would close under the requirements at 40 CFR part 192.32 and Subpart W would never apply. We are requesting comments on the relative merits of this interpretation.

54.1. There is no basis for any argument against regulating heap leach piles under Subpart W prior to and during the placement of lixiviant on a heap leach pile. The EPA has been charged with the responsibility to regulate the emission of radionuclides, including radon. The CAA does not state that the EPA is only responsible for limiting the emission of radon from "tailings," or other 11(e)(2) byproduct materials at operating uranium recovery operations and ignoring radon emissions from other uranium recovery radon sources and ignoring radon emissions during certain phases of the operation.

54.2. The EPA must regulate radon emissions from uranium recovery facilities, including heap-leach operations, during all phases of the operation. This includes during the physical processing of the ore; placement of the ore on the heap leach pad, or impoundment; during the leaching process; during the periods when the pile is resting; during periods of standby; during the period when the pile is drying out (when it may or may not have an interim soil cover); and prior to the placement of the final radon barrier. There is no legal, regulatory, or technical justification for failing to regulate the radon emissions during all phases of a heap leach operation when radon is being emitted.

55. Proposed Rule, at V.A. Other Issues Generated by Our Review of Subpart W, *Clarification of the Term "Standby"* (page 25405, col. 2, ¶ 3), states (in part):

> This period of time usually takes place when the price of uranium is such

> that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so. Since the impoundment has not entered the closure period, it could continue to accept tailings at any time; therefore, Subpart W requirements continue to apply to the impoundment. Today we are proposing to add a definition to 40 CFR 61.251 to define "standby" as:
>
> > *Standby* means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

55.1. The EPA must take a harder look at what standby means in terms of the length of time that a facility can remain on standby. For example, the Shootaring Canyon Mill has not operated for over 30 years. During that time, the price of uranium has risen and other operations have commenced or returned to active uranium recovery operations. Therefore, there should be a limit on the length of time a facility can remain on standby, for example, 10 years.

55.2. Another issue related to standby is whether the tailings impoundment can actually be used for the disposal of new tailings in the future. Currently, the Shootaring Canyon Mill is on "standby," but it is not licensed to "operate." The tailings impoundment at Shootaring Canyon cannot be used to dispose of new tailings should the mill ever resume active ore processing. This is because the impoundment does not have a synthetic liner, and the Utah DRC will not allow the impoundment to be used for new tailings. The only reason the Shootaring impoundment has not been reclaimed is that thousands of tons of contaminated soil, unprocessed ore, and buildings and equipment must be placed in the impoundment as part of the mill reclamation.[50] The EPA must consider the actual reality of these standby arrangements when defining "standby."

55.3. It is misleading to characterize "standby" as a period of non-operation, when the facility has not surrendered its operating license. Uranium mill operators don't just "surrender" a mill's operating license. First, the mill operator must reclaim the site to the satisfaction of the NRC or NRC Agreement State and the Department of Energy. Eventually, the NRC or NRC Agreement State terminates the license, and the site is transferred to the Department of Energy under a general license. This process can take decades. Therefore, the EPA must more clearly explain the concept of "standby."

56. Proposed Rule, at V.B. Other Issues Generated by Our Review of Subpart W, *Amending the Definition of "Operation" for a Conventional Impoundment* (page 25405, col. 3, ¶ 2), states (in part):

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[50] http://www.deq.utah.gov/businesses/U/uraniumone/docs/2012/03Mar/DRC-2012-001447.pdf

> To prevent future confusion, we are proposing today to amend the definition of ''operation'' in the Subpart W definitions at 40 CFR 61.251 as follows:
>
> > *Operation* means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

56.1. The EPA must either expand the definition of "operation," or eliminate the definition entirely. Missing from the May Proposed Rule FRN and the background documents is a full discussion of the various phases of uranium recovery operations (conventional, ISL, and heap leach), the radon emissions from all site sources during those phases, and how those radon emissions will or will not be regulated under Subpart W or any other EPA regulation.

56.2. The definition of "operation" does not include the period of time when ore is physically processed, placed on a heap leach pad, and when the lixiviant is being sprayed on the ore. The EPA must either include these operational phases in the definition, of "operation," or develop a different concept for the regulation of radon emissions under Subpart W. There is no legal justification for not regulating the radon emissions from all phases of heap leach operation, starting with the physical processing of the ore prior to placement on the heap leach pad.

56.3. The EPA has never explained, with particularity and specificity, what "the day that final closure begins" actually means. The definition, as proposed, remains conveniently vague. It is clear that over time, the EPA, Utah DAQ, NRC, and the uranium industry have had different opinions about this. Also, as Subpart W has been implemented and enforced since 1989, there is no agreement with respect the applicability of Subpart W. One concern has been that some tailings impoundment may have entered a "closure" period, but 1) the license still permits the disposal of 11e.(2) byproduct material in the impoundment, 2) there is no approved closure plan, and 3) there are no reclamation milestones, as required under 40 C.F.R. § 192.32 and 10 C.F.R. Part 40, Appendix A, Criterion 6A. Examples include "existing" tailings impoundments at the Cotter Mill (Colorado) and the White Mesa Mill. Clearly, the EPA definition of "operation" leaves much room for interpretation. The EPA should have fully discussed these regulatory issues. The regulation must identify that actions that must take place for an impoundment to enter the closure period. This must include full and timely compliance with the regulatory requirements in 40 C.F.R. § 192.32 and 10 C.F.R. Part 40, Appendix A, Criterion 6A, BEFORE closure commences.

56.4. In the proposed definition of "operation," the EPA completely ignores the need for continued demonstration of compliance with a radon emission standard and

continued monitoring of both existing and new impoundments during the times when the impoundment is drying out and prior to the placement of the final radon barrier, whether or not the impoundment in considered "operational." Although the annual and monthly radon emission compliance reports for Cell 2 at the White Mesa Mill were available to the EPA and are important to the Subpart W rulemaking, the EPA failed to place these documents on the Subpart W rulemaking docket. Those documents show that continued monitoring and compliance with the 20 pCi/m^2-sec standard are necessary, so that the licensee will know when radon emissions increase during dewatering and be able to take appropriate corrective actions to reduce these emissions, using generally available technologies, such as removable of windblown tailings and placement of additional clean fill.

56.5. The EPA definition of "operation" does not consider the fact that sometimes uranium mills that are considered "closed," have a closure plan, and have reclamation milestones may construct new impoundments or disposal impoundments at the site to receive liquid wastes or other contaminated soils or wastes from other locations (such as uranium mine waste). The EPA does not discuss these situations, or attempt to include these new impoundments under Subpart W regulations. The EPA must include all newly constructed impoundments under Subpart W regulation, even it they are at sites that are considered "closed."

56.6. In sum, the EPA proposed definition of "operation" will create large gaps in the regulatory oversight of radon emissions from uranium recovery operations. There must be no gaps in regulatory limits on, and control of, radon emissions from uranium recovery facilities. The EPA must not use the definition of "operation" to authorize unregulated emissions of radon from these facilities, as is currently contemplated. The Subpart W radon emission limit or limits must apply during all phases of a uranium recovery operation, up to the time of the placement of the final radon barrier.

57. Proposed Rule, at V.C. Other Issues Generated by Our Review of Subpart W, *Weather Events* (page 25406, col. 1, ¶ 2), states:

> Since impoundments at uranium recovery facilities have been and will continue to be required to comply with the requirements of 40 CFR 192.32(a)(1), they are already required to be designed to prevent failure during extreme weather events. As we stated in Section IV B.2., we believe the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. Therefore, we are proposing to include these requirements in the Subpart W requirements without modification.

57.1. Here, the EPA claims that compliance with 40 C.F.R. § 192.32(a)(1) will prevent failure during extreme weather events and that compliance with Section 192.32(a)(1) will provide a warning system in the event of a leak in the liner system. The

EPA does not provide an engineering assessment in support of these claims, so there is no basis for these claims.

57.2. The conclusion that "the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system" has nothing to do with the challenges to the structural integrity of conventional or nonconventional impoundments in an area subject to the intense forces of extreme weather events, that is, hurricanes and tornadoes. The concern here would not be a "leak in a liner system;" the concern would be the dispersal of liquid and solid wastes from the top and sides of an impoundment caused by the extreme forces of wind and/or water during a hurricane or tornado. The requirements of Section 192.32(a)(1) do not address these challenges.

57.3. Section 264, referenced by Section 192.32(a)(1), requires an impoundment design and liner system that will prevent migration of waste out of the impoundment to adjacent surface soils and ground or surface water; prevent overtopping, over filling, wind and wave action. The primary purpose is the prevent migration of material from the impoundment. However, there is no mention of migration due to extreme high-level winds from hurricanes and tornadoes in Section 264. There is no mention of migration due to intense levels of precipitation in short periods of time from hurricanes and other storm events. The Proposed Rule provides no information regarding the actual engineering designs that would protect the exposed area of a solid or liquid impoundment from any extreme weather event. The EPA provides no information regarding the possible engineering designs and liner systems that would provide assurances that no wind and/or precipitation event—no matter how extreme—would be able to disperse liquids or solids from these impoundments. The dispersal of such contaminants, would contaminate not just "adjacent" surface soils and surface and groundwater, but soils, buildings, homes, persons, natural and domesticated flora and fauna, ground water, surface water, and other aspects of the environment over a wide area.

57.4. The EPA has not provided any information regarding whether any containment system that uses generally available technologies will be able to protect a solids or liquids impoundment from the forces of a tornado or a hurricane, which are able to destroy large swaths of habitations and disperse materials over a large area, and provide assurance that all solids or liquids will remain within the containment system. The EPA has not explained how the exposed liners that are above the level of the contained liquids or solids, will be protected from a tornado or hurricane force winds. Additionally, the EPA has provided no information regarding the costs of any generally available technologies, or other technologies, that could be used to provide reasonable assurances that a containment system will not be compromised by an extreme weather event.

57.5. Having a regulation that states that a containment system must be designed to withstand extreme weathers events, does not mean that it is feasible to do so, particularly when using generally available technologies. At this time Commenters are

not aware of any generally available technologies that would prevent the dispersion of liquids and solids that contain radium and radon or the destruction of the exposed liner system or other parts of the containment structure in an extreme weather event such as a tornado or hurricane.

58. Proposed Rule, at VI.A. Summary of Environmental, Cost and Economic Impacts, *What are the air quality impacts?* (page 25406, col. 3, ¶ 2), states:

> We project that the proposed requirements will maintain or improve air quality surrounding the regulated facilities. The GACT standards being proposed today are based on control technologies and management practices that have been used at uranium recovery facilities for the past twenty or more years. These standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings. The requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources.

58.1. There is no basis for the above statements. The only GACT standards that the EPA proposes is the limit on the size of new impoundments to 40 acres (or continuous disposal, which no uranium mill uses or has proposed using) and compliance with 40 C.F.R. 192.32(a)(1) impoundment construction requirements. There are only 2 impoundments that have been constructed according to these GACT standards, Cells 4A and 4B at the White Mesa Mill. These impoundment were constructed within the last 10 years, not within the past twenty or more years. Currently, both of these impoundments are contain primarily liquids. Since the licensee, under the Proposed Rule, will not be required to actually determine and report the radon emissions from these impoundments, the EPA will not have any data to support the EPA's assertion that the operation of Cells 4A and 4B will maintain or improving air quality.

58.2. The fact is, the operation of Cells 4A and 4B is contributing to an increase in the radon emissions and air quality degradation. Cell 4A is receiving tailings slurry and liquid wastes, and Cell 4B is receiving liquid wastes. According to 2013 data provided to the Utah DRC,[51] the Gross Radium Alpha from Cell 4A and Cell 4B are 15,800 pCi/L and 14,600 pCi/L, respectively. Based on the EPA Risk Assessment estimation of 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium in White Mesa solutions impoundments, Cells 4A and 4B emit 110.6 pCi/m^2-sec and 102.2 pCi/m^2-sec, respectively. This is more than 5 time the current radon flux limit for existing impoundments.

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[51] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

58.3. The EPA's claim that "these standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings" has no basis in fact. There is absolutely no regulatory requirement in the Proposed Rule that states or implies that the impoundments must be kept wet or covered with soil. Currently, the exposed tailings at existing impoundments are limited by the presence of liquids or a soil cover over much of the impoundments. Keeping the tailings wet or covered with clean soil helps the licensee meet the radon emission standard. These generally accepted means of controlling radon emissions will not be required under the Proposed Rule, nor will a licensee be required to take any active measures to reduce radon emissions once the tailings impoundment is constructed and the impoundment is in operation. Since there will be no need to keep radon emissions below a specific limit under Subpart W, there is no need to manage the impoundment to keep emissions at the lowest levels.

58.4. There is no basis for the statement that "the requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources." The EPA fails to explain and provide data and information regarding exactly how radon emissions from conventional mills, ISL operations, and heap leach operations will be eliminated or reduced under the proposed Subpart W. The Proposed Rule will have little actual impact on the radon that is emitted from these facilities. The Proposed Rule does not require any monitoring of those emissions to see if emissions are, in fact, eliminated or reduced (reduced from what is not discussed). The Proposed Rule does not require any mitigative measures if radon emissions are not eliminated or reduced.

59. Proposed Rule, at VI.B. Summary of Environmental, Cost and Economic Impacts, *B. What are the cost and economic impacts?* (page 25406, col. 3, to):

59.1. The discussion of the costs and economic impacts of the use of the proposed GACT requirements are misleading and incomplete, because Section 112(h) of the CAA does not authorize the promulgation of a design, equipment, work practice, or operational standard, or combination thereof, unless the Administrator determines that it is not feasible to prescribe or enforce such a limit on the emissions of a hazardous air pollutant. The Administrator has not made such a finding with respect a standard that limits the radon emissions from uranium recovery facilities that are regulated under the Atomic Energy Act and NRC regulations at 10 C.F.R. Part 40. Therefore, any discussion of costs and economic impacts that assume that there will be no specific limits on the emissions of radon from conventional mills, ISL operations, heap leach operations, or any other type of uranium recovery operation is false and misleading.

59.2. Much of the data and information associated with the estimates of costs and economic benefits is based on incomplete and outdated information provided by the EPA in the 2014 EPA BID in support of the Proposed Rule.

59.3. This section (page 25407, col. 1, ¶ 2) discusses the current costs of monitoring for radon at the three "existing" uranium mills and gives an estimate of the

savings to the mill owners if the EPA removes the requirement for radon monitoring and reporting for these impoundments at the White Mesa, Shootaring Canyon, and Sweetwater Mills. The discussion includes an estimate of the cost savings if the radon flux monitoring requirement is removed. The EPA's estimated cost savings is $19,460 for White Mesa. That is based on 2009 estimates and is not based on actual costs. Commenters believe that the EPA underestimates the savings if there is no radon flux monitoring and reporting. First, the White Mesa estimate appears to be based on the monitoring of only one impoundment. As of 2014, the radon flux from Cell 2 and Cell 3 were being monitored. There are other factors that have increased the costs of White Mesa Mill radon monitoring over the past few years: 1) between April 2013 and May 2014, the mill owner has been required to submit monthly compliance reports for Cell 2, because the Cell 2 radon flux for 2012 exceeded the standard; 2) in 2013 the radon flux for Cell 3 taken during the second quarter exceeded the standard, so the mill owner decided to make 2 more quarterly radon flux measurements for one region of the impoundment and average the 3 quarters (even though Method 115 requires 4 quarters for a yearly average); 3) costs to determine why the radon flux for Cell 2 had increased; 4) cost to place additional soil cover on Cell 2 and clean up tailings that had come from Cell 3 and build a barrier; and 5) additional costs associated with the increase in radon emissions when a tailings impoundment is dewatered. Surely, the EPA should give a full accounting of all the wonderful cost savings associated with EPA's removal of the requirement to monitor radon emissions at the "existing" impoundments, EPA's assertion that radon monitoring for new impoundments is not necessary, and EPA's finding that there is no need to control radon emissions from liquid effluents or any other radon emitting sources at conventional mills.

59.4. The EPA should provide a cost savings associated with their disregard of the requirements of Section 112(h) of the CAA and any finding that the Administrator might make that promulgating or maintaining a radon emission standard for conventional mills, ISL operations, or heap leach operations is not feasible. Such a calculation must include the savings on the costs of monitoring any conventional uranium tailings impoundment (existing or new), whether monitoring is done on a weekly, monthly, quarterly, or annual basis; cost of administration and reporting the radon emissions; costs of placing soil on top of a conventional impoundment to reduce the emissions; costs of other corrective actions to reduce emissions to comply with the standard; costs of calculating or measuring emissions from nonconventional or other fluid impoundments; costs of using barium chloride or other method to reduce radon emissions from liquid impoundments; costs of measuring or calculating the radon flux from heap leach piles during all phases of operation; cost for taking corrective actions to reduce radon emissions from heap leach piles; savings by having other regulatory gaps so that radon emissions are not monitored and reported, nor corrective actions taken to assure compliance (for example, when an impoundment is considered non-operational and being dewatered). The EPA must not be shy in giving the public and the uranium industry a full assessment of the many thousands of dollars that uranium mill owners will save because the EPA's disregard of the provisions of the CAA. The EPA must not be shy about the great savings to the uranium industry by not having radon emissions standards, not

knowing what the radon emissions are, and not requiring any corrective actions to assure compliance with such standards.

59.5. In the discussion of the emissions from fluid impoundments, the EPA claims (page 25407, col. 2, ¶ 3) that "as long as approximately one meter of water is maintained in the nonconventional impoundments the effective radon emissions from the ponds are so low that it is difficult to determine if there is any contribution above background radon values." However, recent data regarding the radium content of the White Mesa Mill nonconventional Cell 1 liquid impoundment, conventional Cell 4A (which contains liquid wastes on top of tailings slurry), and conventional Cell 4B (which contains liquid wastes) demonstrate that, even though there may be 1-meter of liquid in these impoundments, the radon values far exceed the background radon values.

59.6. The Proposed Rule states that conventional mill owners will use liquids or soil covers to reduce radon emissions, however the Proposed Rule give no assessment of the economics of the use of those generally available technologies to reduce radon emissions.

59.7. The Proposed Rule fails to examine other costs associated with the essentially unregulated release of radon from uranium recovery operations. These would include economic and health based costs to nearby communities.

60. Proposed Rule, at VI.C. Summary of Environmental, Cost and Economic Impacts, *What are the non-air environmental impacts?* (page 25408, col. 1 to col. 2):

60.1. The EPA has not demonstrated that compliance with the requirements of 40 C.F.R. 192.32(a)(1) and, by reference, 40 C.F.R. 264.221 will protect ground and surface water from contamination from liquid and sold tailings impoundments as a result of extreme weather events (storms, hurricanes, and tornadoes).

60.2. The Proposed Rule does not include any data and information that would support the installation of of nonconventional impoundments without regard to size or number at conventional or ISL uranium recovery operations. The Proposed Rule does not support the assumption that the number and size of these fluid impoundments will not appreciable impact on surface and ground water contamination.

60.3. The Proposed Rule fails to address the assumption that, over the long-term, ground and surface water will be protected by three elements: 1) the existence of a double liner (which will eventually deteriorate), 2) the dewatering of the impoundment (which will be impossible in areas where there is a great amount of precipitation (such as Virginia), and the placement of the final radon barrier that will prevent the infiltration of precipitation during the long-term (also unlikely in areas such as Virginia). The Proposed Rule fails to examine all of the regulatory programs, historical experience, and long-term effectiveness associated with contamination of ground and surface water from lined tailings impoundments at uranium mills.

60.4. The EPA does not provide any data and information about the impacts to ground and surface water from leaks and spills at ISL facilities. There are documents and data available regarding the numerous leaks and spills from these impoundments, which demonstrate that having a double-lined impoundment will not, of itself, be protective of ground and surface water at licensed facilities.

60.5. The Proposed Rule only addresses the double lining of impoundments that contain 11e.(2) byproduct material. The EPA must also address the necessity of using double liners on all liquid impoundments at licensed uranium recovery facilities. The leakage of fluids into ground water has the potential to mobilize uranium that may be in the ground naturally or from previous spills or leakage,

61. Proposed Rule, at VII.B. Statutory and Executive Orders Review, *F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments* (page 25410, col. 2).

61.1. The EPA claims that the proposed action "does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)." That is supported by the assertion that "the action imposes requirements on owners and operators of specified area sources and not tribal governments." The EPA provides no support for the assumption that Executive Order 13175 (EO) does not apply if the proposed action does not impose requirements on a tribal government or governments and, therefore, does not have tribal implications. However, Section 1(a) of the EO defines policies that have tribal implications and require consultation and coordination with Indian Tribal Governments as "regulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes." The introduction to the EO states that it will "ensure that all Executive departments and agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian communities." An example of an Indian community that will be directly impacted by the Proposed Rule is the White Mesa Band of the Ute Mt. Ute Tribe in San Juan County, Utah. The White Mesa land is adjacent to the White Mesa Mill and the community is the closest community to the mill. The community will be directly and adversely impacted by the provisions in the Proposed Rule.

61.2. Earlier this year the EPA sent letters to 46 tribes, including the Ute Mt. Ute Tribe, requesting input on the Proposed Rule, thereby initiating a consultation process. This letter was signed by Jonathan D. Edwards Director, EPA Radiation Protection Division. Since that time the Ute Mt. Ute Tribe has been actively engaged in the consultation process, as envisioned by the EO.

62. Proposed Rule, at VII.B. Statutory and Executive Orders Review,*G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks*;[52] (page 25410, col. 3).

62.1. The EPA concludes that the Proposed Rule is not subject to Executive Order 13045 because it is based solely on technology performance." Commenters do not agree with that conclusion. The EO Policy states that each federal agency (a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." The proposed rules have clear health and safety implications for children, particularly those in the vicinity of conventional uranium mills. The Proposed Rule, though supposedly a radon emission standard, will not include any radon emission limits for conventional uranium mill radon emissions, including emissions from liquid effluents. The failure of the EPA to require numerical limits on these radon emissions, to require monitoring or other methods of determining the radon emission, to require corrective actions to bring the emissions into compliance, and the failure to limit radon emissions from other sources at uranium recovery operations are not "technical" issues, they are health and safety concerns that directly impact children.

63. Proposed Rule, at VII.B. Statutory and Executive Orders Review, *J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations*, (page 25411, col. 1).

63.1. As part of the Proposed Rule, the EPA "has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population." The population in closest proximity to the White Mesa Mill is a minority, low-income community, as contemplated by Executive Order 12898. The Proposed Rule will in no way increase the level of protection for this population and other affected populations in southeast Utah. The Proposed Rule will eliminate the radon emission standard and compliance requirements for the existing tailings impoundments, will not require compliance with any radon emission standard for new impoundments, and ignores the significant radon emissions from the liquid effluents in 5 impoundments. High levels of radon are being emitted from over 140 acres of processing fluids and other effluents at the White Mesa Mill (Cells 1, 3, 4A, 4B, and Roberts Pond). The Proposed Rule ignores the fact that unregulated radon is emitted from stockpiled ore, contaminated soils, and other radon emission sources at the White Mesa Mill. The failure of the Proposed Rule to establish radon emission standards and actually regulate the radon emissions will have a disproportionately high

[52] http://www.gpo.gov/fdsys/pkg/FR-1997-04-23/pdf/97-10695.pdf

and adverse human health or environmental effect on the minority and low income population in the vicinity of the White Mesa Mill.

64. PART 61—Subpart W. National Emission Standards for Radon Emissions From Operating Mill Tailings (page 25411 to page 25412).

Commenters propose the following changes or additions to the Proposed Rule:

64.1. The proposed rule should define "closure." The definition must include the requirement that closure cannot commence until an approved closure plan (reclamation plan) for the impoundment or mill and appropriate enforceable reclamation milestones are incorporated into the facility license.

Currently, there are impoundments that have supposedly entered the "closure" period, yet there is no approved reclamation plan and no reclamation milestones in the license, as required by 40 C.F.R. § 192.32 and 10 C.F.R. Part 40, Appendix A, Criterion 6A.

64.2. The operational phase of an impoundment should end when the final radon barrier is placed on the tailings impoundment.

There must no longer be long periods when radon emissions from tailings impoundments are not monitored or controlled. Recent data on Cell 2 of the White Mesa Mill demonstrates the necessity of continual radon emission monitoring and corrective actions to being tailings impoundments into compliance with a standard. This should apply to existing and new impoundments. If Cell 2 is no longer subject to the Subpart W emission standard, it enters a decades-long period when there are no applicable emission standards and emissions increase due to dewatering. Considering that the White Mesa Mill licensee does not plan on placing the final radon barrier on the 4 conventional tailings impoundments until final mill closure,[53] the closure period will likely last 40 or more years. The EPA cannot allow the unmonitored and uncontrolled release of radon into the community during the decades to come.

64.3. There is no factual and legal basis for the elimination of the radon emission standard for existing impoundments at 40 C.F.R. § 61.252(a), so that section must remain in the rule.

64.4. The radon emission standard at 40 C.F.R. § 61.252(a), or a more restrictive standard, should apply to both existing and new tailings impoundments.

The 1990 CAA Section 112(h) does not authorize the establishment of a design or work practice standard in lieu of an emission standard for conventional mill tailings

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[53] Reclamation Plan, White Mesa Mill, Blanding, Utah. Radioactive MaterialsLicense No. UT1900479. Revision 5.0. September 2011.
http://www.deq.utah.gov/businesses/E/energyfuels/docs/2011/10Oct/recplan5_0.pdf
http://www.deq.utah.gov/businesses/E/energyfuels/plans/ICTM_2010.htm

impoundments. Further, the most effective methods for reducing the radon emissions include monitoring, reporting, and corrective actions to limit the emissions.

64.5. The EPA must apply the 40 C.F.R. § 61.252(a) radon emission standard to liquid effluent impoundments, whether nonconventional impoundments or water covers on conventional impoundments.

Recent data that shows there are significantly high levels of radon emission levels from liquid effluents at the White Mesa Mill that cannot be ignored. The EPA must establish the emission standard, provide for a method to measure or calculate the liquid effluent radon emissions, the require methods to remove radium from these effluents (for example, barium chloride treatment). The goal should be radium content that is as low as reasonably achievable.

64.6. The EPA must limit the size and number of nonconventional impoundments at ISL operations and conventional mills. There should be no more than 40 acres of nonconventional impoundments. Even with a 40-acre limit, at conventional mills, the total acreage of liquid effluents emitting radon will be much greater due to the water cover on conventional impoundments (up to 100% of the impoundment). The EPA can no longer assume that the radon emissions from these impoundments, at least as conventional mills, are negligible.

64.7. Due to the high levels of radon emissions from liquid effluents at a conventional mill, which increases over time, any new tailings impoundments that are constructed must use the continuous disposal method. This should apply to any new impoundment that was approved, but has yet to be constructed. Tailings impoundments with water covers are not longer acceptable.

V. OTHER EPA REGULATIONS

1. 40 C.F.R. Part 61 Subpart A General Requirements.

1.1. The EPA or Utah Div. of Air Quality should be required to provide an opportunity for public comment on any application to construct a tailings impoundment, pursuant to 40 C.F.R. § 61.07.

1.2. If an impoundment is approved for construction, but is not constructed during a certain time frame (e.g., within 5 years), the authorization expires and a new application must be resubmitted.

2. 40 C.F.R. Part 61 Subpart T Rescission

2.1. The EPA has created a thoughtless, unjustified gap in the regulation of radon from “existing” uranium mill impoundments. The application of a radon emission standard and requirements to monitor, report, and take corrective actions for “existing impoundments” supposedly ends when a mill or impoundment in no longer operational

and the closure period commences. At that time, there is supposed to be a closure plan and enforceable reclamation milestones related to the eventual placement of the final radon barrier, pursuant to the requirements in 40 C.F.R. § 192.32 and 10 C.F.R Part 40, Appendix A, Criterion 6A. Therefore, for "existing impoundments," once closure has commenced, there is an indefinite period of time when the regulations allow for the unmonitored, unreported, and uncontrolled emissions of radon from existing impoundments. However, if a licensee requests that milestones be extended, then the licensee must show again demonstrate annually that the impoundment meets the 20 pCi/m^2-sec emission standard.

The "closure" period commences at the very time when the tailings impoundment is being dewatered actively or through natural evaporation, or a combination of both. The drying out period causes the radon emissions to increase. In 2012, the radon-222 emissions from Cell 2 at the White Mesa Mill were still being reported to the EPA and Utah DAQ, even though the impoundment last received tailings in 2008. The White Mesa Mill license still authorized disposal of tailings in Cell 2, up until the July 23, 2014, order issued by the Utah DRC. It was a good thing that the emissions were being monitored and reported. As a result, the license was required to conduct monthly monitoring and reporting and take corrective actions to bring the impoundment back into compliance with the standard. Additional material was placed on the interim cover, windblown tailings from Cell 3 were cleaned up, and a barrier was placed between Cells 2 and 3. If the licensee had not been complying with the Subpart W requirements for Cell 2, no one would have known about the increase in radon emissions and no corrective actions would have been taken. Now, because Cell 2 has now entered the indefinite closure period, there will be no monitoring, reporting, or corrective actions under Subpart W. There will be no monitoring, reporting, or corrective actions or under Subpart T (National Emission Standards for Radon Emissions From the Disposal of Uranium Mill Tailings), because the EPA rescinded Subpart T in 1994. The period of unregulated radon emissions from the tailings in the closure period (before the placement of the final radon barrier) is indefinite. There is no approved reclamation plan and no enforceable reclamation milestones for Cell 2, and the licensee plans to place the final radon barrier at the end of the operational life of the mill, not at the end of the operational life of Cell 2.

This is what the EPA has planned for Cells 3, 4A, 4B, and any other existing or new tailings impoundment. The EPA is deregulating radon emissions, not regulating radon emissions.

2.2. The EPA must do one of 2 things to fill the regulatory gaps: 1) It must apply the 20 pCi/m^2-sec for both new and existing tailings impoundments throughout the operational and closure periods, or 2) apply the 20 pCi/m^2-sec for new and existing tailings impoundments and reinstate the Subpart T radon emission standard (20 pCi/m^2-sec) for tailings impoundments in operation in 1994 or constructed after 1994.

VII. OTHER ISSUES

1. The Sticky-Wicket

1.1. "Existing enforcement issues seem to be the sticky-wicket." This quote is part of the subject line of EPA staff July 10, 2014, e-mails.[54] The EPA did not want to address this "sticky-wicket" in the context of the Rulemaking. Apparently, the EPA believes that Subpart W compliance and enforcement issues are not at all relevant to this Rulemaking. There is no mention of Subpart W compliance in the Proposed Rule. The EPA failed to include relevant Subpart W compliance reports as part of the Rulemaking Docket, specifically recent compliance reports for the White Mesa Mill.

1.2. Enforcement issues include the fact that the EPA and Utah DAQ never enforced the 40 C.F.R. § 61.252(b)(1) requirement for the White Mesa Mill: "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." Since 1989 the EPA and DAQ did not count the liquid impoundments as impoundments "in operation." When the EPA finally acknowledged that liquid impoundments were impoundments "in operation," and that there were more than 2 operational impoundments, the EPA staff informed me that that was all right, because there was really no health and safety concerns. The EPA assumed that there were no health and safety concern, because they assumed, without current data to back up that assumption, that the radon emissions from the liquid effluents (Cells 1, 3, 4A, 4B, and Roberts Pond) are negligible. Based on current data, this is not only untrue, it is egregiously untrue. The radon emissions from impoundments with liquids are greater than 100 pCi/m^2-sec. *See* Section IV. 45.11, above.

1.3. The are enforcement issues related to the implementation of Method 115. *See* Section VII, below.

1.4. The EPA should include a full discussion of the enforcement issues associated with Subpart W since 1989 and make all relevant annual reports and enforcement documents available on the Rulemaking Docket.

2. Method 115, Section 2: Radon-222 Emissions from Uranium Mill Tailings Piles.

2.1. The EPA must take a harder look at Method 115 and how it has been implemented.

2.2. Method 115 should make clear that monthly or quarterly monitoring must include 4 quarters or 12 months of data. Three quarters or 9 months of data cannot be used to demonstrate compliance, as recently happened at the White Mesa Mill.

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[54] EPA staff e-mails. EPA Subpart W Non-Privileged Records, July-Sept. Part 1, pages 337-338. http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part1.pdf

2.3. The licensee should not be permitted to average the radon flux from various regions of an impoundment: water covered areas, water saturated area, dry top surface areas, and sides. The goal is to have the radon emissions as low as reasonable achievable. If allowed average different regions, one region may have a radon flux higher than

20 pCi/m^2-sec, but not take simple corrective actions to reduce the emissions because the licensee is allowed to average the flux from more than one region.

2.4. The licensee should not be permitted to average regions that have a final radon barrier with regions that do not have a final radon barrier.

2.5. Method 115 should not allow a license to average radon flux from one region that was the result of a single monitoring event with the radon flux from another region that was the result of 3 quarterly monitoring events. In this instance, after the licensee realized that one monitoring event on one impoundment region had an unacceptable radon flux, the licensee conducted 2 more quarterly monitoring events for that region, averaged the 3 quarterly events, then averaged the result with the earlier single event for the other region. So, the White Mesa Mill licensee manipulated the monitoring event process to get a desired result.

2.6. The EPA must delete the provision a Section 2.1.3(a), which states: "Water covered area-no measurements required as radon flux is assumed to be zero." Recent data demonstrates that this is not true and that, in fact, the radon flux from water covered areas can far exceed the radon flux standard.

2.7. The EPA must establish a method for determining radon emissions from liquid effluents; for example, calculation based on a site-specific formula that takes into consideration the meteorological conditions and radium content of the effluent. For conventional mills, this must occur at least quarterly. The EPA must also explore methods for measuring radon emissions from liquid effluents.

2.8. The licensee must not be permitted to average the radon flux from water covered areas with those from water saturated and dry areas.

2.9. The EPA must establish a methodology for accurately determining the radon emissions from heap-leach operations.

2.10. Section 2.1.2 indicates that the radon flux from sides must be determined "except where earthen material is used in dam construction." The EPA must clarify that this must be clean earthen material. If, say, uranium mine waste rock or low-grade ore is used to construct a tailings dam, the radon flux from the sides must be measured.

2.11. If after the radon flux is measured and calculated, and the licensee determines that there has been an exceedance of the standard, that exceedance should be reported immediately to the appropriate agency. The license should not wait until the end of March of the next year and commence monthly monitoring months after the

exceedance is discovered. The 2012/1013 delays between the discovery of an exceedance and the commencement of monthly monitoring at the White Mesa Mill was 9 months. There is no justification for this delay.

2.12. The EPA should move the date for submittal of the annual compliance report to the beginning of January of the following year. If a licensee can submit reports on a monthly basis, it can submit annual reports by the first of each year.

2.13. There should be methods to periodically verify the radon measurements; for example, placement of more than one canister at the measurement locations for comparison.

2.14. The EPA should evaluate other methods of determining radon flux on tailings impoundments. Tests should be done by takings measurements using more than one methodology on a tailings impoundment.

2.15. Method 115 does not include a methodology for determining the radon-220 flux. Since there are radon-220 emissions at the White Mesa Mill.

2.16. The EPA must develop methodologies for measuring radon emissions from heap leach operations and any other source of radon at licensed uranium recovery operations.

3. EPA Radionuclide NESHAPS Guidance

3.1. A guidance document is an important element in any federal regulatory program. After the promulgation of the 1989 Radionuclide NESHAPS, the EPA developed the Guidance on Implementing the Radionuclide NESHAPS, July 1991.[55] The Guidance was a reiteration of the regulations, and did not provide any real guidance to the EPA or implementing state staff, the industry, or the public. The history of the implementation of Subparts B and W in Utah is an example of regulatory confusion and failure of the regulatory agencies and mining and milling industry to comply with the regulations in a timely manner. Questions like what, exactly, is an operational impoundment or when, exactly, the closure period commences were ignored.

3.2. The current Guidance is out of date and inadequate. A new Guidance must be developed and be made available for public comment.

Thank you for providing this opportunity to comment,

Sarah Fields
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[55] http://www.epa.gov/rpdweb00/docs/neshaps/nesh_implement_07_91.pdf

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October 29, 2014

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Air and Radiation Docket
EPA Docket Center
Docket ID No. EPA-HQ-OAR-2008-0218
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COMMENTS SUBMITTED VIA EMAIL AND/OR UPLOAD TO REGULATIONS.GOV
EXHIBITS SUBMITTED VIA MAIL

Re: Comments on Docket ID No. EPA-HQ-OAR-2008-0218, Environmental Protection Agency, 40 C.F.R. Part 61, Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

Dear Administrator McCarthy:

The Ute Mountain Ute Tribe ("Tribe") submits the following public comments regarding the above-noted Environmental Protection Agency ("EPA") docket on the EPA's 40 C.F.R. Part 61, Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings, Proposed Rule ("Proposed Rule").

The Tribe has organized this document into two major sections. Section I provides the EPA with a quick overview of the Tribe's background and connection with one of the conventional uranium mills (and the only operational conventional uranium mill) regulated under the current 40 C.F.R. Part 61, Subpart W ("Current Subpart W"), the White Mesa Mill ("WMM"), and then provides a relevant factual history for the WMM facility.[1] Section II contains the Tribe's public comments and is organized into five major sections: (A) the EPA violated its trust responsibility to the Tribe and failed to properly consult with the Tribe in the Proposed Rulemaking process; (B) the Proposed Rule is not compliant with Section 112 of the Clean Air Act; (C) the EPA should issue numerical standards for radionuclide emissions from uranium recovery facilities; (D) the EPA has not demonstrated that the Proposed Rule meets the requirements for GACT under Section 112(d)(5) of the Clean Air Act; and (E) if the EPA moves forward with the Proposed Rule, it must correct several specific and critical deficiencies that threaten to effectively de-regulate existing uranium recovery facilities.

[1]During the initial government-to-government consultation meeting between the EPA and the Tribe, some EPA staff suggested that facility-specific comments were inappropriate in a national rulemaking docket. Because the WMM facility is the only operational conventional uranium mill regulated under the Current Subpart W (and is one of nine existing facilities regulated under the Current Subpart W), because the Proposed Rule specifically relies on inaccurate factual findings regarding the WMM facility, and because the WMM facility is not currently compliant with the Clean Air Act, the Tribe asserts that it is appropriate to bring facility-specific facts and discussion into the national rulemaking.

I. TRIBAL BACKGROUND AND RELEVANT FACTUAL HISTORY OF THE WMM

A. BACKGROUND ON THE TRIBAL WHITE MESA COMMUNITY

The Tribe is a federally-recognized Indian tribe with lands located in southwestern Colorado, northwestern New Mexico, and southeastern Utah. There are two Tribal communities on the Ute Mountain Ute Reservation: Towaoc, in southwestern Colorado, and White Mesa, in southeastern Utah. Ute Mountain Ute Tribal Members ("UMU Tribal Members") have lived on and around White Mesa for centuries and intend to do so forever. The community of White Mesa depends on groundwater resources buried deep in the Navajo aquifer for its municipal (domestic) needs. UMU Tribal Members continue traditional practices, which include hunting and gathering and using the land, plants, wildlife, and water in ways that are integral to their culture.

The White Mesa Tribal community is located approximately three miles south of the WMM facility. The WMM is located on Ute aboriginal lands, and its upgradient location from the Tribal community means that contamination from WMM facility operations generally flows through ground and surface water towards the Tribal community. The Tribe is concerned that contamination of surface resources, surface water resources, and groundwater could make aboriginal and Tribal lands uninhabitable for future generations of Tribal members. For the purposes of this rulemaking, the Tribe is concerned that actions taken by the EPA fail to control UMU Tribal member exposure to Radon-222, other radionuclides, and other hazardous air pollutants ("HAPs") from the WMM facility, and could result in changes that expose the Tribe's (groundwater) drinking water supply to contamination.

B. RELEVANT FACTUAL HISTORY AND OVERVIEW OF THE WMM FACILITY

The WMM was originally licensed in 1980 by the Nuclear Regulatory Commission ("NRC") under the Atomic Energy Act, 42 U.S.C. § 2011 *et seq*. The WMM is the only operational conventional uranium mill regulated under the Current Subpart W, and it is one of only nine facilities that are regulated under the Current Subpart W. *See Technical and Regulatory Support to Develop a Rulemaking to Potentially Modify the NESHAP Subpart W Standard for Radon Emissions from Operating Uranium Mills*, 22 (2014) ("Technical and Regulatory Support") (noting that there are three existing conventional uranium mills regulated by Subpart W and one conventional uranium mill that is licensed, but that has not been built); *id.* at 33-4 (noting that there are six existing operating ISL facilities); *id.* at 21 (noting that there are currently no licensed heap leach facilities).

Under its current, Agreement State-issued radioactive materials license and groundwater permit, the WMM is authorized to dispose of 11(e)(2) byproduct material in six tailings impoundments. Exhibit B. This includes five tailings impoundments that comprise the tailings management system and Roberts Pond, a small "wastewater pond" that is authorized to receive liquid 11(e)(2) byproduct material. Placement of 11(e)(2) byproduct material within each of the tailings impoundments has led to analogous chemistry between the impoundments, and the

contents of each impoundment[2] can be characterized as low pH and high conductivity with elevated concentrations of ammonia, nitrate, arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, thallium, uranium, vanadium, and zinc; and elevated levels of chloride, fluoride, magnesium, potassium, sodium, sulfate, and gross radium alpha radiation. *See* Exhibit C.

1. DESCRIPTIONS OF THE WMM'S TAILINGS IMPOUNDMENTS

a. THE "LEGACY IMPOUNDMENTS"— TAILINGS CELLS 1, 2, AND 3

Three of the five tailings cells that comprise the WMM's tailings management system (Tailings Cells 1, 2, and 3) are "legacy impoundments" that have been in place since construction of the facility in the early 1980s. These tailings impoundments were built before the enactment of the 1989 Subpart W and are "existing impoundments" under the Current Subpart W. All three of these existing impoundments have been and are currently licensed to receive tailings.

- Tailings Cell 1, which was licensed in 1981 as a tailings cell, is currently used as an evaporation pond for disposal of 11(e)(2) byproduct material consisting of process water, storm water (including runoff from the Mill yard that contains source material), and contaminated water from groundwater pumping (used in current groundwater remediation efforts). EPA is proposing to designate Tailings Cell 1 as a "non-conventional impoundment."

- Tailings Cell 2, which was licensed in 1980 as a tailings cell, has been used for disposal of solid 11(e)(2) byproduct material. Although Tailings Cell 2 continues to be licensed to receive 11(e)(2) byproduct material, it is unclear whether the WMM owners have disposed of 11(e)(2) byproduct material in Tailings Cell 2 since 2008. *Denison Mines (USA) Corp. Response to the EPA's Request for Information* 18 (June 1, 2009) ("2009 WMM Response") (stating that tailings were not deposited in Tailings Cell 2 for "several years prior to 2008" but that the cell remained open to receive "Mill site trash and other wastes" until 2008). For at least the past 10 years, the WMM owners have claimed that Tailings Cell 2 is in the beginning stages of final closure and that they are using an "interim cover" to control radon emissions from this cell. *See, e.g.*, 2009 WMM Response at 5, 18. In July of 2014, the Agreement State issued a letter to the WMM stating that Tailings Cell 2 is in closure (and that the WMM owners can cease complying with the "existing impoundment" flux standard and Method 115 monitoring under Subpart W). Exhibit D. The Agreement State has not modified either the radioactive materials license or the groundwater permit (which both still authorize disposal of 11(e)(2) byproduct material in Tailings Cell 2). EPA is proposing to designate Tailings Cell 2 as a "conventional impoundment."

[2]Although sample results are not available, Roberts Pond likely shares the same chemistry as the other impoundments, as it also receives liquid 11(e)(2) byproduct material.

- Tailings Cell 3, which was approved in 1982 as a tailings cell, is used for disposal of solid 11(e)(2) byproduct material. This cell is near capacity, but it is still authorized to accept 11(e)(2) byproduct material and still accepts 11(e)(2) byproduct material. Currently, this cell is the only impoundment in the tailings management system that is authorized to receive certain types of 11(e)(2) byproduct material (such as in-situ leachate waste for direct disposal). *See* Exhibit B (Section 10.5 of the Radioactive Materials License). According to verbal communication between the Tribe and the Agreement State (during government-to-government consultation), there are no plans or timelines for the closure of Tailings Cell 3 (contrary to the factual findings of the EPA in the Proposed Rule). EPA is proposing to designate Tailings Cell 3 as a "conventional impoundment."

The liners in Tailings Cells 1, 2, and 3 were installed in the early 1980s, and they were not industry standard at that time. *See* Exhibit E. None of the liner systems in the legacy impoundments meets the requirements of 40 C.F.R. § 264.221(c). *See* Section II(B)(3), *infra*. Although the WMM owner asserts that these cells meet the requirements of 40 C.F.R. § 264.221(a), it is doubtful that any of the liner systems in the legacy impoundments meets even those less stringent requirements. *See id.* The WMM facility has caused contamination of the groundwater aquifer beneath the facility, and the kinds of constituents present in the groundwater contamination plumes strongly indicate that the liners in Tailings Cells 1, 2, and 3 are leaking and causing groundwater contamination underneath the WMM facility. *See id.*

b. THE POST-1989 AND POST-1990 IMPOUNDMENTS—TAILINGS CELLS 4A AND 4B

Two of the five cells that comprise the WMM's tailings management system (Tailings Cells 4A and 4B) were built or re-lined after the enactment of the Current Subpart W.

- Tailings Cell 4A was licensed for use as a tailings impoundment in 1990. The WMM facility owner briefly used Tailings Cell 4A as an evaporation pond (for vanadium raffinate). 2009 WMM Response at 9. The use of this impoundment as an evaporation pond (or subsequent exposure of the liner) caused seam degradation and damage to the liner in the cell, which caused leakage and contamination of soil under the cell. *Id.*; Exhibit F. The Agreement State required the WMM owners to remove the raffinates, raffinate crystals, and radioactive solids from Tailings Cell 4A, to remove contaminated soils from beneath Tailings Cell 4A, and to retrofit the impoundment with a new liner and leak detection system. 2009 WMM Response at 9; Exhibit F. Tailings Cell 4A is now used as a conventional impoundment.

- Tailings Cell 4B was licensed for use in 2010. This impoundment currently receives process water from WMM activities, and it may receive contaminated water from groundwater pumping.

Tailings Cells 4A and 4B may[3] meet the Current Subpart W's 40-acre phased disposal work practice standard limitation. The actual radon emissions from Tailings Cells 4A and 4B are

[3]Some reports indicate that both Tailings Cells 4A and 4B may be slightly more than 40 acres.

unknown (because the Current Subpart W does not require Method 115 monitoring on these impoundments).

Because Tailings Cells 4A and 4B were constructed or retrofitted to meet the design standards of 40 C.F.R. § 264.221(c), the risk of an uncontrolled or undetected groundwater release from these impoundments is much lower than the risk of such a release from the three legacy impoundments.

c. ROBERTS POND

Roberts Pond is a small "wastewater pond" that is authorized to receive liquid 11(e)(2) byproduct material under the WMM facility's groundwater permit. Exhibit B. As such, there are serious questions as to why the Roberts Pond is not licensed as a tailings impoundment and regarded by regulators and the operator as subject to Subpart W's requirements. Roberts Pond is not currently treated as part of the Tailings Management System at the WMM, and it does not meet the requirements of either 40 C.F.R. § 264.221(a) or 40 C.F.R. § 264.221(c). Exhibit G. There is no requirement to maintain a minimum amount of liquid on Roberts Pond, and because the pond is designed for temporary storage of process water, transfers of liquid 11(e)(2) byproduct material in and out of this pond may be frequent. Exhibit B.

2. SUBPART W VIOLATIONS AT THE WMM

The WMM facility is currently violating (or has recently violated) the Current Subpart W. First, as the EPA has acknowledged, the WMM is currently in violation of the phased disposal work practice standard that limits facilities regulated by Subpart W to having only two tailings impoundments in operation at one time. Exhibit H. Because the WMM has at least four impoundments (Tailings Cells 1, 3, 4A, and 4B) in operation, and because it is still unclear whether Tailings Cell 2 and Roberts Pond are in operation, the WMM does not meet the phased disposal work practice standard.

The WMM facility has also recently violated the "existing impoundment" radon flux standard.

- In June of 2012, Method 115 monitoring for Tailings Cell 2 resulted in the average radon flux of 23.1 pCi/(m^2s). Exhibit I. Due to the lack of enforcement efforts and the WMM owner's unwillingness to implement a recommended two-foot random fill cover addition to Tailings Cell 2, radon emissions exceeded the 20 pCi/(m^2s) flux standard for at least 15 months (and possibly as long as 27 months) until September of 2013. *Id.*
- In June and September of 2013, Method 115 monitoring efforts resulted in the average radon flux of 22.7 pCi/(m^2s) and 28.4 pCi/(m^2s) on Tailings Cell 3. Exhibit J. The WMM owner attempted to demonstrate an averaged quarterly compliance with the 20 pCi/(m^2s) flux standard by conducting Method 115 monitoring in December when the temperature dropped to 32 degrees Fahrenheit and it rained (both of which are known parameters that affect the surface of activated charcoal employed under Method 115 and compromise the accuracy of the radon flux measurements).

3. GROUNDWATER CONTAMINATION

The WMM facility has caused significant contamination of the perched (shallow) aquifer located below the facility. Since 1999, the Agreement State has opened three separate dockets to address co-located contamination of the perched aquifer. These three spatially-related contamination plumes in the perched aquifer contain a mixture of contaminants and decreasing pH trends that the Agreement State has previously identified as "primary" or "smoking gun" indicators of tailings cell leakage. *See* Exhibit K. This means that the Agreement State has firm and compelling evidence that chemicals and radioactive material are leaking from one or more of the legacy impoundments (Tailings Cells 1, 2, and 3) into the perched aquifer.

The groundwater contamination present at the WMM facility raises serious questions about whether the liners in the legacy impoundments meet even the less stringent requirements of 40 C.F.R. § 264.221(a). *See* 40 C.F.R. § 264.221(a) (requiring that: "[t]he liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment"); Exhibit E; Exhibit F.

4. INADEQUATE RECLAMATION PLANS

The approved Reclamation Plan (Reclamation Plan 3.2b) for the WMM facility does not meet the requirements of either 40 C.F.R. § 192.32(a) or 10 C.F.R. Part 40, Appendix A, Criterion 6A. Reclamation Plan 3.2(b), attached as Exhibit L, does not have a Tailings Closure Plan with a schedule for key radon closure milestones and the emplacement of a permanent radon barrier constructed to achieve compliance with the 20 pCi/(m^2s) flux standard, as required under 40 C.F.R. § 192.32(a). Similarly, Reclamation Plan 3.2(b) does not have any deadline for the completion of a final radon barrier or a schedule of interim milestones under 10 C.F.R. Part 40, Appendix A, Criterion 6A. Instead, Reclamation Plan 3.2(b) is designed to allow the WMM owner to wait until *facility* closure (which may be decades in the future) to undertake all the work necessary to place the permanent radon barrier (and the other components of the final cap) on the tailings impoundments. Importantly, Reclamation Plan 3.2(b) does not contain the design of the permanent radon barrier that will reduce radon emissions under 20 pCi/(m^2s) (which means that, although the Agreement State issued the July 2014 letter (Exhibit D) stating that Tailings Cell 2 is closed for Subpart W purposes, the current Reclamation Plan allows the WMM facility to keep Tailings Cell 2 without a permanent radon barrier until final closure and reclamation of the entire WMM facility).

Since at least 2007, the Agreement State has been working with the WMM owner on new versions of the facility Reclamation Plan. The newer, unapproved versions of the plan contain more detail on some of the milestones to place the permanent radon barrier. *See* Exhibit M at 55 (review of interrogatories from the Agreement State consultant, noting that the timelines for dewatering the tailings impoundments are not sufficiently defined). However, even the newer versions of the plan still allow the WMM owner to wait until facility closure to place the permanent radon barrier. *See* Exhibit N. The newer, unapproved versions of the plan may require the WMM owners to begin designing the permanent radon barrier and final cap for the tailings impoundment, but the newer versions of the plan still allow the WMM facility to keep

Tailings Cell 2 without a permanent radon barrier until final closure and reclamation of the entire WMM facility.

II. COMMENTS

A. THE EPA VIOLATED ITS TRUST RESPONSIBILITY TO THE TRIBE AND FAILED TO PROPERLY CONSULT WITH THE TRIBE IN THE PROPOSED RULEMAKING PROCESS

The EPA, like all agencies of the United States government, has a trust responsibility to Indian Tribes. *See, e.g., EPA Policy for the Administration of Environmental Programs on Indian Reservations*, 3 (1984) ("1984 Policy") (recognizing that this trust responsibility derives from the historical relationship between the federal government and Indian Tribes as expressed in certain treaties and Federal Indian law). In carrying out that trust responsibility, the EPA plays an important role in protecting the health of Tribal members and communities and in protecting the Indian Trust Assets and the environment on Indian reservations. *See id.*; *EPA Policy on Consultation and Coordination with Indian Tribes*, 3 (2011) ("Consultation Policy"). The EPA's trust responsibility is not limited to the EPA's work to protect human health and the environment by regulating Tribal or on-reservation activities. Instead, the EPA has consistently acknowledged that its trust responsibility applies whenever the EPA's actions in carrying out its responsibilities may affect reservations and in situations where state and local governments and other federal agencies are involved in resolving issues of environmental concern. 1984 Policy at 3; Consultation Policy at 1. The EPA has acknowledged that it has a role to protect tribal communities that potentially experience disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards. *EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples*, 5 (2014). The EPA has also acknowledged that this trust responsibility applies to rulemaking activities. Consultation Policy at 5 (acknowledging that activities involving regulations or rules are normally appropriate for consultation).

In the Subpart W rule revision process, the EPA has failed to properly exercise its trust responsibility to the Tribe. The Tribe has engaged the EPA (at both the Region 8 level and at the National EPA office level) for many years about the Tribe's concerns with the operation and regulation of the WMM facility. The Tribe has exhaustively documented its concerns to the EPA. In particular, the Tribe has exhaustively documented its concern that the WMM has been allowed to operate in violation of the Subpart W phased disposal work practice standard, that the legacy impoundments at the WMM may be contaminating the groundwater underneath the facility, and that the management of the legacy impoundments has resulted (and may continue to result) in Radon-222 emissions above 20 $pCi/(m^2s)$.

Despite the Tribe's significant effort to engage the EPA during the Subpart W rule revision process, and despite the fact that the Tribe's White Mesa community is located less than three miles from the only operational conventional uranium mill regulated under Subpart W, the EPA made no effort to seek Tribal input during the rulemaking. The EPA did not inform the Tribe at any point during the rulemaking process of how the EPA was approaching the rule revision, which parts of the rule the EPA was considering revising, or how the EPA was treating

the disproportionate impact that the WMM places on the White Mesa community. The EPA refused to consult with the Tribe regarding the rulemaking (despite a clear Tribal request for government-to-government consultation before the Proposed Rule was released for public comment).

The Proposed Rule, published in May of 2014, fails to address important Tribal concerns about the WMM. The Proposed Rule contains wildly inaccurate information regarding the current status and operations at the WMM facility (but did not contain any information submitted to the EPA by the Tribe), and the EPA used the inaccurate information to make important and harmful decisions in the rulemaking. The EPA also purported to exercise significant agency discretion to make determinations that may effectively de-regulate facilities like the WMM even though the EPA also had the discretion to set stricter regulations to ensure the protection of human health and the environment near facilities regulated under Subpart W. Although the EPA acknowledged that the disproportionately high Native American populations at certain facilities (including the WMM) existed, the EPA refused to address environmental justice issues associated with the rulemaking. Finally, the Proposed Rule does not acknowledge the close proximity of the WMM to the Tribe's White Mesa Community or any of the documented environmental impacts from the WMM on surrounding lands and resources used by UMU Tribal members. The EPA failed to analyze the impact that the Proposed Rule would have to the UMU Tribal Members and to the environment and Indian Trust Assets in White Mesa.

The Tribe understands that the EPA has statutory restrictions and rulemaking processes that constrain the manner in which the EPA undertakes a rulemaking like the revision to Subpart W. However, those statutory restrictions and rulemaking processes do not obviate the need for the EPA to properly exercise its trust responsibility to protect human health and the environment in White Mesa or for the EPA to consult with the Tribe about the Subpart W rule in a manner that allows the Tribe to give meaningful input into the EPA's rulemaking process. It is a violation of the EPA's trust responsibility and the EPA's duty to consult with the Tribes to, as the EPA has done to the Tribe in this rulemaking, refuse to meaningfully consult or answer questions about the rulemaking after repeated consultation requests, and to force the Tribe to give input during a public comment process.

The Tribe notes here that, if the EPA had properly consulted with the Tribe during the rulemaking process, the Tribe would have identified several key issues in these comments (such as the absurdity of using the current, weight-based threshold to distinguish between major and area sources of radionuclides, the need to undertake a source category listing effort that included all HAPs (including radionuclides other than Radon-222 and non-radionuclide HAPs) at uranium recovery facilities, and the need to set numerical radon flux limits and develop better enforcement mechanisms) early in the process.

B. THE PROPOSED RULE IS NOT COMPLIANT WITH SECTION 112 OF THE CLEAN AIR ACT

The EPA's proposed rulemaking to revise the Current Subpart W under Section 112(q)[4] and establish GACT standards for uranium recovery facilities under Section 112(d)(5) raises serious questions and concerns about the EPA's interpretation and exercise of its statutory authority under these provisions in light of the plain language of the statutes and the EPA's prior regulatory determinations regarding listing of source categories and establishing GACT standards for other area sources. The EPA has not complied with the requirements of Section 112 and has not taken the requisite preliminary actions and evaluations to support establishing revised standards for uranium recovery facilities. The EPA's current proposal is flawed and premature, and the EPA must undertake significant work under Section 112 and completely redo its Subpart W revision work in a manner that is compliant with the Clean Air Act.

1. THE EPA HAS NOT ADEQUATELY EXPLAINED ITS DETERMINATION THAT IT IS "APPROPRIATE" TO REVISE SUBPART W

In the Proposed Rule, the EPA explains that it "is conducting this review of Subpart W under CAA section 112(q)(1) to determine what revisions, if any, are appropriate." *Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings*, 79 Fed. Reg. 25,388, 25,390 (May 2, 2014). Section 112(q) addresses NESHAP standards, such as the Current Subpart W, that were in effect before the date of enactment of the Clean Air Act Amendments, and states that "[e]ach such standard shall be reviewed and, **if appropriate, revised, to comply with the requirements of subsection (d) of this section**…." (emphasis added). However, the EPA has not adequately explained in the Proposed Rule why EPA finds it "appropriate" to revise the pre-1990 Subpart W, what legal or interpretative standard EPA is using to inform its interpretation of what is or is not "appropriate" within the meaning and context of Section 112(q), and against what standard or baseline EPA is measuring the appropriateness of its revisions.

2. THE EPA HAS NOT ADEQUATELY EXPLAINED HOW THE PROPOSED RULE COMPLIES WITH SECTION 112(d) WITHOUT FIRST LISTING URANIUM RECOVERY FACILITIES AS A SOURCE CATEGORY OR SUBCATEGORY UNDER SECTION 112(c)

In the Proposed Rule, the EPA has not adequately explained how its proposed revisions to Subpart W specifically satisfy Section 112(q) and "comply with the requirements of subsection (d)" of Section 112. The plain language of Section 112(d)(1) authorizes the EPA to establish standards "for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section." The EPA has not explained how this language authorizes it to establish standards for sources, such as uranium recovery facilities, for which the EPA has not listed a source category or subcategory under Section 112(c).

[4]In these comments, all references to 40 U.S.C. § 7412 and the relevant sub-sections of this statute will be displayed as "Section 112" or with the appropriate sub-section marker (e.g., "Section 112(d)(5)).

a. THE EPA HAS NOT ESTABLISHED A SOURCE CATEGORY FOR URANIUM RECOVERY FACILITIES AND MUST DO SO PRIOR TO REVISING THE CURRENT SUBPART W

The EPA has not established a source category for uranium recovery facilities or any other sources of radionuclides under Section 112(c). Although the Proposed Rule suggests that the adoption of the Current Subpart W in 1989 established uranium recovery facilities as a source category, the EPA made an administrative decision in 1992 not to establish a source category for sources of radionuclides when it published its *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990*, explaining that it was "inappropriate" to list such sources until EPA decided how to differentiate between major and area sources of radionuclides on some basis other than weight-based thresholds. 57 Fed. Reg. 31,576, 31,585 (July 16, 1992). The EPA determined that it could not differentiate between major and area sources of radionuclides on the basis of weight-based thresholds because such sources "cannot be differentiated based on the 9.07/22.7 Mg/yr (10/25 tpy) threshold in Section 112(a) or any existing lesser quantity emission rates." *Id.*

In its current proposal to establish GACT standards for unlisted uranium recovery facilities, the EPA states that uranium recovery facilities are area sources based on the statutory weight-based thresholds of 10 tons per year (single radionuclide)/25 tons per year (all radionuclides/HAPs) ("10/25 tpy Threshold"). The EPA does not address its prior determination not to list a source category for sources of radionuclides and offers no explanation of how it reconciles its prior listing determination and its unresolved differentiation of major and area sources of radionuclides with its current proposal to establish GACT standards for uranium recovery facilities as area sources under Section 112(d)(5). By relying on the statutory 10/25 tpy Threshold for differentiating uranium recovery facilities as area rather than major sources and proposing a GACT NESHAP, the EPA is ignoring its prior regulatory determination in adopting the *Initial List of Categories of Sources under Section 112(c)(1)* and is taking regulatory action contrary to the plain language of Section 112(d)(5). The fact that there are no sources of radionuclides that would be major under the statutory 10/25 tpy Threshold does not relieve the EPA from its obligation to establish a source category in accordance with Section 112(c) before proposing new emission standards for such sources under Section 112.

The EPA has not pointed to any language in Section 112 that supports an interpretation that the Current Subpart W (promulgated under Section 112 prior to its amendment by the Clean Air Act Amendments of 1990) somehow establishes a source category for such sources as contemplated by Section 112(c) or relieves the EPA from its obligation to establish a source category for such sources under Section 112(c) if it chooses to impose a revised radon NESHAP on those sources under the authority of Section 112(d)(5). Accordingly, the EPA must undertake the work to list uranium recovery facilities as a source category or subcategory prior to undertaking revisions to the pre-1990, Current Subpart W.

b. TO PROPERLY ESTABLISH URANIUM RECOVERY FACILITIES AS A SOURCE CATEGORY, THE EPA MUST FIRST DEVELOP CRITERIA TO DIFFERENTIATE BETWEEN MAJOR AND AREA SOURCES OF RADIONUCLIDES AND DETERMINE ALL HAPS PRESENT AT URANIUM RECOVERY FACILITIES

In Section II(B)(2)(a), *supra*, the Tribe has concluded that, in the absence of identifying a provision in the Clean Air Act that allows the EPA to revise the Current Subpart W without first listing uranium recovery facilities as a source category, the EPA must undertake that source category listing as a prerequisite to revising the Current Subpart W. In this Section, the Tribe will detail why it is so important that the EPA undertake that source category work.

i. The EPA Must Set Forth a Reasonable Distinction Between Major and Area Sources of Radionuclides to Properly Set Forth a Source Category for Uranium Recovery Facilities

The EPA has authority under Section 112(a)(1) to use different criteria than the 10/25 tpy Threshold to differentiate between major and area sources of radionuclides. *See* Technical and Regulatory Support at 62. The EPA is capable of differentiating between major and area sources of radionuclides on some basis other than weight-based thresholds, but it has chosen not to act. Radionuclides have long been regulated on the basis of dosage in units of curies (Ci) under many other regulatory programs. For example, even prior to 1990, in its proposed and final rules establishing "Reportable Quantity Adjustment – Radionuclides" under CERCLA, the EPA determined that CERCLA's statutory reportable quantity ("RQ") of one pound was not appropriate for radionuclides "because releases of much less than one pound of radionuclides may present a substantial threat to public health or welfare or the environment." *Reportable Quantity Adjustment—Radionuclides*, 52 Fed. Reg. 8,172 (March 16, 1987); *Reportable Quantity Adjustment – Radionuclides*, 54 Fed. Reg. 22,524 (May 24, 1989). Instead, the EPA defined the RQs for over 700 radionuclides in units of the Curie (Ci). *Id.*

In the Proposed Rule, because the EPA has never acted to differentiate major and area sources of radionuclides, but has nonetheless moved ahead to revise a pre-1990 NESHAP using a post-1990, technology-based Clean Air Act construct, the EPA has effectively proposed to make a determination that maximum achievable control technology (MACT) should not be imposed under Section 112 on sources of radionuclides (including uranium recovery facilities) unless they emit 10 tons of radionuclides per year or 25 tons per year of a combination of radionuclides and other HAPs. That conclusion is absurd. Ten tons of radionuclides exceed the amount of radioactive material released over a short period of time in a nuclear reactor disaster[5], and no facility emitting that many radionuclides on an annual basis could ever exist without killing humans and destroying the environment.

Instead of forging ahead with a Proposed Rule that continues to allow an absurd delineation between major and area sources of radionuclides, the EPA should have taken the opportunity to create a real and reasonable division between major and area sources of

[5]For example, in the 1986 Chernobyl accident, between 6 and 8 tons of radioactive material was released. IAEA 2011. *Radioactive particles in the Environment: Sources, Particle Characterization and Analytical Techniques.* Page 7; Kindap, Tayfun et al. 2008. *Potential Threats from a Likely Nuclear Power Plant Accident: A Climatological Trajectory Analysis and Tracer Study.* Water, Air, & Soil Pollution**.** Page 1.

radionuclides as a precursor to (or as a part of) the process to establish uranium recovery facilities as a source category. The EPA has recognized this deficiency since at least 1992 and cannot avoid the necessity of setting forth different criteria if it uses Section 112(d) to revise a pre-1990 standard. The Tribe strongly believes that any reasonable analysis of how major and area sources of radionuclides should be differentiated would conclude that uranium recovery facilities processing and disposing the magnitude of nuclear source and by-product materials handled at the WMM in open–air facilities constitute major sources of radionuclide emissions.

ii. The EPA Must Consider All Radionuclides and All Other HAPs Emitted at Uranium Recovery Facilities to Support a Source Category Listing

When the EPA undertakes the proper source category listing work for uranium recovery facilities, the EPA will need to consider all radionuclides and all other HAPs emitted at uranium recovery facilities—from impoundments and all other sources—to support a source category listing for uranium recovery facilities. In the Proposed Rule, the EPA states that it has no data or information that shows any HAPs other than Radon-222 being emitted from the impoundments at uranium recovery facilities. 79 Fed. Reg. at 25,390. However, there is no indication that the EPA requested information from the regulated uranium recovery facilities on radionuclides (other than Radon-222) and HAPs that may be emitted by such facilities, whether from impoundments or other sources at such facilities.

During the government-to-government consultation process, the Tribe provided the EPA initial information demonstrating the presence of radionuclides (other than Radon-222) and non-radionuclide HAPs at the WMM. Exhibit A (Question 7 Supplement). The Tribe also provided the EPA initial information on sources of radionuclides (other than the impoundments) at the WMM that are not regulated under the Current Subpart W. *Id.* The Tribe tried to undertake additional investigation on this issue and was surprised to find that the National Emissions Inventory data for HAPs at the WMM is woefully inadequate and does not represent HAPs that the Tribe had already identified as being present at the facility. *See* Exhibit O. Accordingly, the EPA must undertake a much more thorough review (and undertake an appropriate investigation) to acquire the necessary data on *all* radionuclides and HAPs from uranium recovery facilities before establishing a category of area sources and developing standards.

3. THE EPA HAS NOT ADEQUATELY EXPLAINED HOW THE EPA DERIVES AUTHORITY UNDER SECTION 112(d)(5) TO ESTABLISH GACT STANDARDS FOR URANIUM RECOVERY FACILITIES WITHOUT FIRST LISTING URANIUM RECOVERY FACILITIES AS AN AREA SOURCE CATEGORY OR SUBCATEGORY UNDER SECTION 112(c)

The EPA has not adequately explained how it derives authority under section 112(d)(5) to establish GACT standards for uranium recovery facilities. Section 112(d)(5) states:

> **With respect only to categories and subcategories of area sources listed pursuant to subsection (c) of this section**, the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f) of this section, elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants. (Emphasis added.)

The plain statutory language seems to preclude the EPA from promulgating GACT standards for area sources for which no category or subcategory has been listed under Section 112(c). That is exactly how the EPA reads Section 112(d)(5) in promulgating GACT standards for other area sources. The EPA has taken the position that its authority under "section 112(d)(5) applies only to those categories and subcategories of area sources listed pursuant to section 112(c)" and has described this statutory limitation as a "critical aspect" and a "condition precedent" for issuing GACT standards for area sources. *National Emission Standards for Hazardous Air Pollutants for Area Sources*, 72 Fed. Reg. 38,864, 38,880 (July 16, 2007).

The EPA's own interpretation of Section 112(d)(5) requires EPA to first list area sources under Section 112(c) before it can consider promulgating GACT standards for such sources. If source category listing under Section 112(c) is a condition precedent to promulgation of GACT standards for area sources under Section 112(d)(5), the EPA's proposed rulemaking to establish such standards is premature and out of order. The EPA offers no explanation or justification in the Proposed Rule for its divergence from the language of the statute and its prior interpretations of its authority under Section 112(d)(5).

The only conclusion that can be drawn from the EPA's prior actions and interpretations of Sections 112(c) and 112(d)(5) is that the EPA has no authority to promulgate GACT standards under Section 112(d)(5) for "uranium recovery facilities" at this time.

4. THE EPA HAS NOT DEMONSTRATED THAT THE PROPOSED RULE WILL REDUCE EMISSIONS OF HAZARDOUS AIR POLLUTANTS

The EPA has not demonstrated that the Proposed Rule meets Section 112(d)(5)'s requirement that standards promulgated by the EPA "provide for the use of generally available technologies and management practices by such sources **to reduce emissions of hazardous air pollutants**." (Emphasis added). The EPA has not explained or shown how its proposed GACT standards would satisfy the statutory requirement of reducing emissions of hazardous air pollutants at uranium recovery facilities. The EPA has not explained what interpretative

standard EPA is using or would propose to use to inform its interpretation that a proposed GACT is reducing emissions of hazardous air pollutants, and the EPA has not offered any standard or baseline level against which it would measure a reduction.

C. THE EPA SHOULD ISSUE NUMERICAL STANDARDS FOR RADIONUCLIDE EMISSIONS FROM URANIUM RECOVERY FACILITIES

The EPA should establish a numerical standard for radon emissions. Section 112(d)(2)(D) allows the EPA to establish a "design, equipment, work practice, or operational standard" under Section 112(h)(1) if it is "not feasible… to prescribe or enforce an emission standard." When the EPA decides to issue work practice standards, Section 112(h)(4) requires that "any standard… shall be promulgated in terms of an emission standard whenever it is feasible to promulgate and enforce a standard in such terms." The hazardous air pollutant program under Section 112 is aimed at requiring numerical emission standards wherever possible. With respect to uranium recovery facilities, it is feasible to establish and enforce numerical emission standards (as evidenced by the current existence of numerical radon flux standards for "existing impoundments"). Therefore, the EPA should require uranium recovery facilities to monitor their emissions and meet numerical emission standards.

Legislative history shows Congress strongly favored numerical emission standards. Congress provided the EPA with the authority to issue work practice standards instead of numerical emission standards only where numerical standards are not feasible to establish or enforce. Sections 112(h)(1), 112(h)(4). Otherwise, Congress intended that the requirement for numerical emission standards remain unchanged. *See* Environmental and Natural Resources Policy Division of the Congressional Research Service, *A Legislative History of the Clean Air Act Amendments of 1990* (1993)("Legislative History") at 8,522. As explained in Senate Report 101-228:

> Generally, the requirements of section 112 of the Clean Air Act, both current law and as amended by the bill, are implemented by the promulgation of numerical emissions standards… However, in some cases regulation in this form would not be effective or appropriate for significant source categories. For instance, emissions of asbestos fibers from construction or demolition sites cannot be controlled or even measured by focusing on a point source of emissions. To assure that adequate control is, nevertheless, achieved, it is in some cases possible to prescribe the use of specific equipment or procedures in the design of a facility or conduct of an activity.

Legislative History at 8,522. *See also Adamo Wrecking Co. v. United States,* 434 U.S. 275, 283 (1978). Additionally, the EPA cannot replace a numerical emission standard with a work practice standard simply because there is a lack of data available. *See Sierra Club v. EPA*, 479 F.3d 875, 884 (D.C. Cir. 2007). Radionuclide and other HAP emissions at uranium recovery facilities can be measured and should be controlled by numerical standards.

Even if the EPA chooses to regulate uranium recovery facilities using GACT standards, EPA can and should issue a numerical emission standard as GACT for uranium recovery facilities. When regulating other area sources using GACT, the EPA has established numerical

emission standards as GACT on several occasions. *See, e.g.*, *National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*, 74 Fed. Reg. 63,236, 63,238 (Dec. 2, 2009); *National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources*, 73 Fed. Reg. 226, 230 (Jan. 2, 2008). When regulating uranium recovery facilities, the EPA has used a numerical emission standard (the 20 pCi/(m^2s) radon flux standard) for pre-1989 impoundments, and continuing to use a numerical emission standard for operating uranium mill impoundments continues to be feasible.

Even if the EPA chooses to issue work practice standards for uranium recovery facilities, it should ensure that the work practice standards achieve the same or greater level of emissions reduction as a numerical emission standard would. Legislative history indicates that Congress intended the degree of protection achieved by work practice standards to be the same as the degree of protection achieved by numerical emission standards. Legislative History at 8,522-23. The work practice standards that the EPA is now proposing to adopt as GACT have resulted in emissions that were higher than what the numerical emission standard allowed. The EPA should not establish a work practice standard that allows higher emission levels than a numerical standard would permit.

D. THE EPA HAS NOT DEMONSTRATED THAT THE PROPOSED RULE MEETS THE REQUIREMENTS FOR GACT UNDER SECTION 112(d)(5)

In Section II(B), *supra*, the Tribe has urged the EPA to undertake fundamental changes to its approach to the revision of Subpart W and to undertake important work to properly list uranium recovery facilities as a category under Section 112(c) (and in doing so, to develop a new criteria under Section 112(a)(1) for determining a reasonable delineation between major and area sources of radionuclides and to include all HAPs present at uranium recovery facilities). In this Section, the Tribe asserts that, even if the EPA is unwilling to undertake the source category listing work, the EPA still must undertake additional analysis and must identify different generally available control technologies for Subpart W.

Under Section 112(d)(5), when the EPA determines what constitutes GACT for a particular area source category, it generally pursues three lines of inquiry: an assessment of technologies and work practice standards that are generally available to facilities in the area source category; an assessment of standards for major sources in the same industrial sector or technologies used in area and major sources in related source categories; and an assessment of the cost and economic impacts of the technologies and work practice standards. *See, e.g.*, 79 Fed. Reg. at 25,390. In this Proposed Rulemaking, the EPA's GACT development is deficient because the EPA failed to properly assess existing technologies and work practice standards at uranium recovery facilities, because the EPA did not assess standards for major sources in the same industrial sector or for area or major sources in related source categories, and because the EPA did not properly conduct or weight its considerations of costs for implementing GACT under Subpart W.

1. THE EPA FAILED TO PROPERLY (OR ACTUALLY) ASSESS TECHNOLOGIES AND WORK PRACTICE STANDARDS THAT ARE GENERALLY AVAILABLE TO URANIUM MILLS

When the EPA determines GACT under Section 112(d)(5), it assesses the technologies and work practice standards that are generally available to facilities in the area source category. 79 Fed. Reg. at 25,390. When assessing these technologies and work practice standards, it is important that EPA actually investigate whether those technologies and work practice standards are actually controlling or reducing HAP emissions, as required by Section 112(d)(5). In the documents supporting the proposed rulemaking, the EPA has not sufficiently demonstrated that it actually assessed whether the technologies and work practice standards used at facilities regulated by the Current Subpart W are actually controlling or reducing HAP emissions. Instead, the EPA appears to have cobbled together site-specific information that is either wildly inaccurate or out-of-date and unrepresentative of current conditions at these facilities, assumed that those facilities are properly controlling radon emissions through current technologies and work practices, and then assumed that certain individual control technologies or work practices can be used independently to continue to reduce radon emissions from uranium recovery facilities.

a. THE SITE-SPECIFIC INFORMATION IN THE PROPOSED RULE AND ASSOCIATED DOCUMENTS IS WILDLY INACCURATE OR OUT-OF-DATE AND UNREPRESENTATIVE OF CURRENT CONDITIONS AT FACILITIES REGULATED BY SUBPART W

The first deficiency in the EPA's assessment of technologies and work practice standards is that the information collected by the EPA on existing conditions at facilities regulated by Subpart W is either wildly inaccurate or out of date and unrepresentative of current conditions at the specific sites. For example in the Technical and Regulatory Support document, the EPA provided a table of the annual radon flux testing results from Tailings Cells 2 and 3 at the WMM between 1997 to 2005 and used that table to support the assertion that "these data consistently demonstrate that the radon flux from the White Mesa Mill's tailings cells are below the criteria." Technical and Regulatory Support at 26. Because this data stopped in 2005, it did not show that both of these tailings cells have approached or violated the numerical flux limit imposed by the current "existing impoundment" standard in recent years (especially as the WMM has begun dewatering activities on those impoundments). *See* Section II(B)(2), *supra*; Exhibits I, J. This section of the Technical and Regulatory Support document (and the rest of the documents supporting the Proposed Rule) also conveniently failed to address the fact that the WMM is currently violating the phased disposal work practice standard by having as many as six tailings impoundments in operation (when the work practice standard limit is two), *see* Exhibit H, and the fact that the WMM currently has open groundwater enforcement dockets with the State of Utah because of several, co-extensive plumes of groundwater contamination that strongly indicate leakage from the tailings cells into the shallow groundwater aquifer, *see* Exhibit K. This section of the Technical and Regulatory Support document also conveniently failed to mention that the table of radon emissions from Tailings Cells 2 and 3 at the WMM did not include emissions data from the four other tailings impoundments (Tailings Cells 1, 4A, 4B, and Roberts Pond) at the WMM facility.

The EPA's inclusion of wildly inaccurate or incomplete information about the WMM, and the EPA's subsequent use of that information to indicate that the technologies and work practices used at the WMM are good technologies to adopt to control radon emissions, completely undermine the GACT analysis underlying the Proposed Rule.

b. THE EPA DID NOT ACTUALLY ASSESS WHETHER TECHNOLOGIES AND WORK PRACTICE STANDARDS ARE EFFECTIVELY CONTROLLING OR REDUCING RADON EMISSIONS

The second—and perhaps most important—deficiency in the EPA's assessment of technologies and work practice standards is that the EPA did not actually assess whether most of the technologies and work practices under the Current Subpart W are working to control radon emissions. For example, in its development of GACT, the EPA did not actually assess whether the phased disposal work practice standard is working to control emissions at the only conventional uranium mill currently utilizing this work practice (the WMM). If the EPA had assessed whether the phased disposal work practice standard is working, it would have found the following:

- EPA cannot determine whether the 40-acre limitation on tailings impoundments is working to control radon emissions from the WMM because the current phased disposal work practice standard does not require the WMM to monitor the emissions from the impoundments subject to the 40-acre limitation (and there is no emissions data available to determine whether the phased disposal work practice limitations are working).
- EPA cannot determine whether the phased disposal work practice standard's limitation of having only two impoundments in operation at any time is working to control radon emissions because this limitation has never been enforced at the WMM, and the WMM has never been in compliance with this limitation.

Similarly, the EPA did not actually review or verify that the use of a 1 meter water cover was actually controlling radon emissions from non-conventional impoundments (especially from impoundments like Tailings Cell 1 at the WMM that have a large surface area and a high radium content), that continuous disposal was actually working at any existing facility, or that the liner requirements of 40 C.F.R. § 264.221 were actually working at facilities regulated under Subpart W to prevent groundwater contamination.

Finally, the EPA did not review or even consider the use of a numerical flux standard and a monitoring requirement to control radon emissions at a regulated facility. Technical and Regulatory Support page 65 (addressing the issue of continued monitoring by simply concluding that other work practice standards were sufficient to limit radon emissions). The EPA's failure to even consider this approach to controlling radon emissions is disturbing, especially since this is the only regulatory mechanism that has been effective to detect exceedances and to control radon emissions from the large, pre-1989 conventional impoundments at the WMM.

c. THE EPA DID NOT ASSESS WHETHER EXISTING TECHNOLOGIES AND WORK PRACTICE STANDARDS COULD BE USED INDEPENDENTLY OF EACH OTHER

The third deficiency in the EPA's assessment of technologies and work practice standards is that the EPA did not assess whether the existing technologies and work practice standards could be used independently of each other. Under the Current Subpart W, all tailings impoundments are subject to either the "existing impoundment" flux standard and measurement requirements or to a phased or continuous disposal work practice standard. In the Proposed Rule, the EPA has developed a GACT that removes non-conventional impoundments from the phased disposal and continuous disposal work practice standards (which are designed to control radon emissions through limiting the source of radon) and instead places those impoundments under a new 1 meter water cover work practice standard. However, the EPA has not sufficiently documented or explained which existing facility has demonstrated that the 1 meter water cover can control that facility's radon emissions without the use of additional work practice standards (such as additional limits on the area and total number of impoundments). The EPA also failed to address how the new work practice standard—which allows for unlimited size and number of operational non-conventional impoundments—will affect radon emissions at facility closure and reclamation (when the liquid in the non-conventional impoundments will be removed, and when the solid tailings in the non-conventional impoundments will be exposed—potentially creating significant radon emissions from the facility during the reclamation and closure process).

This deficiency is a critical deficiency under Section 112(d)(5) because the EPA has not sufficiently demonstrated that the removal of the "existing impoundment" standard and the removal of area and operational cell limitations from non-conventional impoundments will reduce HAP emissions at uranium recovery facilities. The Tribe asserts here that, because the EPA is removing a current work practice standard that limits the total number of operational impoundments, and because the EPA is removing the area limitation for non-conventional impoundments, the Proposed Rule will allow uranium recovery facilities to actually increase overall facility radon emissions.

2. THE EPA DID NOT ASSESS MACT USED AT MAJOR SOURCES OR TECHNOLOGIES AVAILABLE FOR RELATED SOURCE CATEGORIES

When the EPA determines GACT under 112(d)(5), it may also look beyond the particular area source category when setting GACT standards and evaluate technologies and work practices used for major sources in the same industrial sector and for area and major sources in related source categories. 79 Fed. Reg. at 25,390. The EPA did not look at the MACT standards used for major sources in the same industrial sector because the EPA has not sufficiently delineated between area and major sources in this industrial sector and has not defined this source category. In addition, because the EPA has failed to consider MACT standards for this industrial sector and because there are a limited number of facilities regulated by Subpart W, the EPA should have looked at technologies and work practices used for area and major sources in other, related source categories.

In the Proposed Rule, the EPA acknowledged that, in determining GACT, the EPA considers standards applicable to major sources in the same industrial sector. 79 Fed. Reg. at

25,390. The EPA seems to assert that it was not necessary for the EPA to look at standards applicable to major sources in the uranium recovery facility category because there are no major sources in the source category. *Id.* The EPA's reasoning here is flawed. The EPA has the discretion and the responsibility to set a more reasonable criteria for differentiating between major and area sources of uranium recovery facilities, and—as explained in Section II(B)(3), *supra*—the EPA does not have discretion to use GACT in the absence of a Section 112(c) source category listing. The EPA's failure to undertake the appropriate work to delineate between major and area sources or to set an appropriate source category for uranium recovery facilities under Section 112(c) does not excuse the EPA from its responsibility to consider the standards applicable to major sources (which, if this source category were listed, would be the MACT standards applicable to uranium recovery facilities).

In the Proposed Rule, the EPA acknowledged that in appropriate circumstances, the EPA may also consider technologies and work practices used for area and major sources in other, related source categories. 79 Fed. Reg. at 25,390. The Tribe believes that the Subpart W revision did constitute appropriate circumstances to consider related source categories for at least two reasons. First, there are a limited number of sources in the Subpart W "category." *See* Section I(B), *supra*. Second, and more importantly, some of the sources regulated under Subpart W are currently out of compliance with Subpart W. For example, the WMM currently is out of compliance with the phased disposal work practice standards, and the WMM has recently violated the "existing impoundment" standards. It is inappropriate for the EPA to use out-of-compliance facilities like the WMM (that are not currently controlling radon or other HAP emissions) to develop GACT.

For those reasons, the current development of GACT is flawed, and the EPA should have looked at control technologies and work practices in other, related industries to develop GACT for uranium recovery facilities.

3. THE EPA'S COST AND ECONOMIC ANALYSIS IS FATALLY FLAWED

When the EPA determines GACT under Section 112(d)(5), the EPA considers the costs and economic impacts of available control technologies and management practices on the regulated area source category. 79 Fed. Reg. at 25,390. The EPA's cost and economic analysis in the Proposed Rule is fatally flawed because the EPA improperly weighted the cost and economic analysis, because the EPA failed to include all available technologies and work practices in its analysis, and because the EPA failed to properly evaluate the cost of compliance for existing facilities.

a. THE EPA'S COST AND ECONOMIC ANALYSIS IS IMPROPERLY WEIGHTED

When Congress created the provisions of Section 112 to distinguish between major and area sources of HAPs, it envisioned the EPA defining area sources as small facilities (such as automobiles, dry cleaners, small combustion units, wood stoves, services stations, print shops, and metal plating operations). Legislative History at 8,471, 8,491, 3,177. The cost and economic impact considerations that the EPA undertakes under a GACT analysis are permitted because Congress thought it was important for these smaller, area sources to be able to comply

with the GACT standards. In accordance with this, the EPA has emphasized that the use of GACT (and taking into account costs and economic impacts) is appropriate when the area source is already well-controlled for HAP emissions, *see* 74 Fed. Reg. at 63,242, but has applied stricter (and even MACT standards) in other GACT rulemakings, *see National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines*, 74 Fed. Reg. 9,698, 9,709-10 (March 5, 2009) (determining that the cost of implementing MACT technologies to reduce HAP emissions from area sources was "reasonable and justified").

The facts present in the Proposed Rule for conventional uranium mills do not match Congressional intent in considering cost and economic impacts to small businesses. None of the businesses that currently own conventional mills are classified as "small businesses" under the Regulatory Flexibility Act.[6] Conventional uranium mills are not small facilities, and the emissions from conventional uranium mills can be significant. In addition, some uranium recovery facilities (such as the WMM) are not well-controlled for HAP emissions and have been allowed to operate in violation of the Current Subpart W for many years. Accordingly, even if the EPA used GACT to develop revisions to Subpart W, the EPA should not have given cost considerations substantial weight when setting GACT standards for uranium recovery facilities.

b. THE EPA DID NOT EVALUATE THE COST AND ECONOMIC IMPACT OF ALL CONTROL TECHNOLOGIES

When the EPA determines GACT under Section 112(d)(5), it is supposed to consider a variety of available control technologies and management practices (which may include technologies and practices available to area and major sources within the source category and available to area and major sources in the same industrial sector). The EPA is permitted to consider costs and economic impacts *in determining* which technologies and practices are appropriate to adopt as GACT in a particular source category.

In the Proposed Rule, the EPA did not conduct a cost and economic impacts study to help determine which technologies and practices are appropriate to adopt as GACT for uranium recovery facilities. Instead, the EPA did an incomplete evaluation of the available technologies in only this particular "category" (uranium recovery facilities), chose which technologies and practices it wanted to continue, add, or modify, and *then* conducted an economic impacts study on how the implementation of the already-chosen technologies and standards would impact the owners of uranium recovery facilities. This resulted in an incomplete consideration of certain technologies, such as the use of the numerical flux standard and the Method 115 Radon Flux Monitoring (where EPA evaluated the cost of *eliminating* the monitoring requirement, but did not analyze the cost of *adding* the numerical flux standard limit and the Method 115 Radon Flux Monitoring to ensure that the other work practice standards effectively control radon emissions[7]). Technical and Regulatory Support at 91-3. The EPA should have identified a broader category

[6]The Proposed Rule and the Technical and Regulatory Support document disagree on whether the WMM facility owner is a small business under the Regulatory Flexibility Act.

[7]The Tribe notes here that the cost of Method 115 radon flux monitoring at the WMM was only $19,460. The cost of extending Method 115 radon flux monitoring to all conventional impoundments would likely be a relatively low-cost way to ensure that there is a way to determine: (1) whether any single conventional impoundment has a radon flux exceeding 20 pCi/(m^2s); and (2) the overall radon emissions from a single uranium recovery facility.

of possible technologies and work practice standards available for use at uranium recovery facilities, conducted the cost and economic impact analysis for all of the technologies, and then developed the GACT based on an informed review of the effectiveness of the technologies in reducing radon emissions and the cost-effectiveness of the technologies and standards.

c. THE EPA'S COST AND ECONOMIC IMPACT ANALYSIS FAILED TO CAPTURE THE COST OF COMPLIANCE FOR EXISTING FACILITIES

In the Proposed Rule, the EPA's cost and economic impact analysis focused on how the revisions to Subpart W contained in the proposed rule would impact uranium recovery facilities. 79 Fed. Reg. at 25,406. However, the EPA's approach to this analysis, especially regarding the cost of compliance for conventional uranium mills, failed to capture the cost of compliance for existing facilities.

The EPA's economic impact analysis for conventional uranium mills used the Piñon Ridge Mill (a mill that has been licensed but that has not been built) as the base economic cost for conventional mills. Technical and Regulatory Support at 76. This means that the EPA's calculation of the cost of implementing the identified GACT technologies and work practices was calculated based on the construction of a new facility, and not on the costs and economic impacts that would be imposed on an existing facility. Thus, while the EPA's cost and economic impact analysis is useful for determining how the proposed GACT would impact the construction of a new conventional uranium mill, it does not address how the proposed GACT will impact existing facilities (other than to calculate the cost reduction associated with the elimination of Method 115 monitoring).

Especially because there are very few facilities regulated under Subpart W, and especially since some of these facilities—like the WMM—are currently allowed to operate without paying the cost of compliance with the Current Subpart W, the EPA should have conducted additional cost and economic impact analysis[8] regarding the cost and economic impact of implementing the proposed GACT at existing facilities. It is imperative that, in such an economic analysis, the EPA acknowledge that certain facilities (such as the WMM) are out of compliance with the Current Subpart W and that the EPA conduct a comparative analysis between the cost of compliance with the Current Subpart W (which might, for example, include the cost of closing or re-lining tailings impoundments to meet current work practice standards) and the cost of compliance with the Proposed Rule (which might, for example, include the cost of closing or re-lining tailings impoundments to meet the proposed work practice standards)[9].

[8]The Tribe notes here that the environmental analysis should also have taken into consideration the fact that the WMM is out of compliance with the Current Subpart W.

[9]The Tribe notes here that only comparing the current cost of operating an out-of-compliance facility to the cost of compliance with the proposed GACT will not give the EPA an acceptable or accurate picture of the real compliance costs of the GACT measures.

E. IF THE EPA MOVES FORWARD WITH THE PROPOSED RULE, IT MUST CORRECT SEVERAL SPECIFIC AND CRITICAL DEFICIENCIES THAT THREATEN TO EFFECTIVELY DE-REGULATE EXISTING URANIUM RECOVERY FACILITIES

In Section II(B), *supra*, the Tribe has urged the EPA to undertake fundamental changes to its approach to the revision of Subpart W and to undertake important work to properly list uranium recovery facilities as a category under Section 112(c) (and in doing so, to develop a new criteria under Section 112(a)(1) for determining a reasonable delineation between major and area sources of radionuclides and to include all HAPs present at uranium recovery facilities). In Section II(D), *supra*, the Tribe has commented that, even if the EPA is unwilling to undertake the source category listing work, the EPA must undertake additional analysis and must identify different GACT for Subpart W. In this Section, the Tribe identifies specific and critical deficiencies in the Proposed Rule that the EPA must address to ensure that radon emissions are controlled at the WMM.

1. PRE-1989 "EXISTING IMPOUNDMENTS" AND THE PROPOSED REMOVAL OF EMISSION LIMITS AND MONITORING REQUIREMENTS

The first specific and critical deficiency in the Proposed Rule is the EPA's removal of the standard that applies to pre-1989 "existing impoundments" (which currently sets a numerical radon flux standard of 20 pCi/(m^2s) and requires regular monitoring of the impoundments). In the Proposed Rule, the EPA determined that the "existing impoundment" standard was no longer necessary because there are no more pre-1989 "existing impoundments" that cannot meet one of the work practice standards. However, the WMM facility still has at least one (and possibly two) pre-1989 conventional impoundments that: (a) cannot meet a work practice standard; (b) will not enter final closure in 2014 (or in the near future); and (c) have recently exceeded the 20 pCi/(m^2s) radon flux standard limit.

In the Proposed Rule and the Technical and Regulatory Support document, the EPA has acknowledged that Tailings Cell 3 at the WMM is an existing operating conventional impoundment that cannot meet the existing work practice standards (for either phased or continuous disposal) because it exceeds 40 acres. 79 Fed. Reg. at 25,395. However, the EPA states that it has information that Tailings Cell 3 will be closed in 2014. *Id.* That information is inaccurate. The WMM is still authorized to dispose of uranium byproduct material in Tailings Cell 3, and in fact, Tailings Cell 3 is currently the only tailings impoundment at the WMM that is licensed to receive certain kinds of uranium byproduct material (such as in-situ leachate waste). There are no plans to move Tailings Cell 3 into final closure in 2014 or in the near future.

In the Technical and Regulatory Support document, the EPA appears to acknowledge that Tailings Cell 2 at the WMM cannot meet the existing work practice standards (for either phased or continuous disposal) because it exceeds 40 acres. Technical and Regulatory Support at 27 (recognizing that Tailings Cell 2 has 67 acres of surface area). In both the Proposed Rule and the Technical and Regulatory Support document, the EPA appears to assume that Tailings Cell 2 is in final closure (and is not in operation). Technical and Regulatory Support at 53. However, the WMM is still authorized (in both the current radioactive materials license and in the groundwater

permit issued by the Agreement State) to dispose of 11(e)(2) byproduct material in Tailings Cell 2. Section I(B)(1), *supra*. Although the Agreement State may have attempted to move Tailings Cell 2 into final closure under Subpart W in its July 2014 Letter, the Agreement State has not ensured that the WMM has an approved reclamation plan that meets the requirements of 10 C.F.R. Part 40, Appendix A, Criterion 6A (or the tailings closure plan requirements set forth in 40 C.F.R. § 192.32(a)). *See* section II(E)(5), *infra*. This means that, although the Agreement State has very recently issued a letter relieving the WMM of monitoring responsibilities and compliance with Subpart W, it is not clear that Tailings Cell 2 should have been (or should be) moved out of Subpart W's monitoring and flux standard controls at this time. *See id.*

Both Tailings Cells 2 and 3 at the WMM have recently exceeded the 20 pCi/(m^2s) radon flux standard imposed under the "existing impoundment" standard. *See* Section II(B)(3), *supra*. These recent events demonstrate that the WMM owner's use of "interim covers" on Tailings Cells 2 and 3 is insufficient to control radon emissions from these large, pre-1989 impoundments. These recent violations or measurements in exceedance of the 20 pCi/(m^2s) flux standard also provide compelling illustrations for why it is premature for the EPA to remove the flux standards and monitoring requirements that apply to pre-1989 tailings impoundments under the current Subpart W.

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- Do not eliminate the "existing impoundment" standard contained in 40 C.F.R. § 61.252(a) of the Current Subpart W. Continue to require an annual average radon flux measurement of no more than 20 pCi/(m^2s) of radon-222 and continue to determine compliance through the use of Method 115 monitoring.
- Develop enforcement provisions for the "existing impoundment" standard in 40 C.F.R. § 61.252(a) of the Current Subpart W, including strict timelines for addressing violations of the 20 pCi/(m^2s) radon flux standard and standard response measures for violations of the "existing impoundment" flux standard.

2. NON-CONVENTIONAL IMPOUNDMENTS AND THE PROPOSED USE OF A 1 METER WATER COVER AS THE SOLE WORK PRACTICE STANDARD TO CONTROL RADON EMISSIONS

The second specific and critical deficiency in the Proposed Rule is the EPA's proposal to remove the current work practice standards from non-conventional impoundments (which either control the radon source by limiting the size and number of operational impoundments or limit the acreage of uncovered tailings) and to place a new work practice standard (requiring a minimum 1 meter liquid cover) on those impoundments. This 1 meter liquid cover work practice standard will not control radon emissions to 20 pCi/(m^2s) in at least one (and possibly two) existing non-conventional impoundments at the WMM.

The EPA's basis for proposing the use of only the 1 meter water cover is the EPA's finding that the practice of keeping 1 meter of liquid on existing non-conventional

impoundments "has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero." 79 Fed. Reg. at 25,398. However, the EPA's own technical analysis does not support the EPA's finding and instead supports a finding that the radon flux above some non-conventional impoundments can be significant (exceeding 20 pCi/(m^2s)), especially in cases where the radium concentrations in the impoundments are high and during the transfer of radium-laden water between tailings impoundments or during enhanced evaporation sprays. *See* Exhibit A (Question Supplement 22). The calculated radon emissions from non-conventional impoundments at the WMM demonstrate that the radon flux above those impoundments has not been, and cannot be, controlled through the imposition of a 1 meter liquid cover.

Tailings Cell 1 at the WMM is a 55-acre tailings impoundment that currently is licensed to receive process water, laboratory waste, stormwater laden with source and by-product material, and pumped (contaminated) groundwater. *Id.* This cell has received 11(e)(2) byproduct material for more than 30 years and is filled to a significant depth with solid or suspended 11(e)(2) byproduct material and raffinate crystals. *Id.* This tailings impoundment has a high radium concentration, and according to the Tribe's preliminary calculations, which account for advection due to wind turbulence, yields an annual average radon flux of 114.8 pCi/(m^2s). *Id.* Without wind turbulence, the Tribe's initial calculations determined a conservative radon flux calculation of 327 pCi/(m^2s). *Id.* The Tribe believes that additional work assessing the radon flux from this cell (taking into account wind turbulence, spraying activities, and the presence of radium in submerged solid tailings at the bottom of the cell) will likely yield even higher annual radon flux numbers. *Id.*

Roberts Pond at the WMM is a "wastewater pond" that is used to store and transfer process water, spill/overflow water, and other wastewater fluids at the WMM facility. This "wastewater pond" is used to temporarily store liquid 11(e)(2) byproduct material, and the applicable groundwater permit requires regular removal of excess wastewater from Roberts Pond into other tailings impoundments. The Tribe believes that additional work assessing the radon flux from Roberts Pond and from the transfers of liquid from Roberts Pond into other tailings impoundments will likely yield significant radon flux numbers.

This site-specific analysis at the WMM demonstrates that the placement of 1 meter liquid cover (especially if that liquid is radium-laden process water from conventional milling activities) will not sufficiently control radon emissions from non-conventional impoundments to near zero, and it may allow some non-conventional impoundments to exist with average annual radon flux numbers that grossly exceed the 20 pCi/(m^2s) numerical flux standard. This means that, if the EPA removes other work practice standards (such as the phased disposal work practice standard that currently limits the WMM to having two impoundments in operation) and allows uranium recovery facilities to have an unlimited number of non-conventional impoundments with no limits on the size or area of the non-conventional impoundments, the Proposed Rule will actually allow a marked increase in radon emissions from uranium recovery facilities (and not the reduction in emissions required under Section 112(d)(5), *see* Section II(B)(4), *supra*).

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- For non-conventional impoundments, set forth a numerical standard of no more than 20 pCi/(m^2s) of radon-222.
- Develop a method for calculating emissions from each non-conventional impoundment using site-specific and impoundment-specific data (including, but not limited to, the radium content of the tailings impoundment, wind speed, transfer of liquids between cells, spraying activities, and the presence of solid tailings in the non-conventional impoundments).
- Require uranium recovery facilities to calculate emissions from each non-conventional impoundment on at least an annual basis.
- Develop enforcement provisions for the non-conventional impoundment standard, including strict timelines for addressing violations of the non-conventional impoundment standard and standard response measures for violations of the flux standard.
- Place a limit on both the area of each non-conventional impoundment and the total number of non-conventional impoundments in operation at one time.

3. TRANSITION BETWEEN CONVENTIONAL AND NON-CONVENTIONAL IMPOUNDMENTS AND DEMONSTRATING COMPLIANCE WITH WORK PRACTICE STANDARDS

The third specific and critical deficiency in the Proposed Rule is that it does not sufficiently address whether (or under what circumstances) a uranium recovery facility owner may transition an impoundment between "conventional" and "non-conventional" status or how each uranium recovery facility will demonstrate compliance with the work practice standards on conventional and non-conventional impoundments. Because the WMM has already transitioned its tailings impoundments between evaporation ponds (non-conventional impoundments) and solid tailings cells (conventional impoundments) in the past, and because the WMM is currently in violation of the phased disposal work practice standard, it is important that the final Subpart W rule address both these issues.

a. TRANSITIONING IMPOUNDMENTS BETWEEN CONVENTIONAL AND NON-CONVENTIONAL STATUS (OR BETWEEN NON-CONVENTIONAL AND CONVENTIONAL STATUS)

The Proposed Rule does not address whether a uranium recovery facility owner can transition an impoundment between conventional and non-conventional status (or between non-conventional and conventional status). However, the Proposed Rule acknowledges that the WMM has a practice of operating tailings impoundments as evaporation ponds before transitioning those impoundments to hold solid uranium byproduct material (and the Proposed Rule may be interpreted to allow such a transition). 79 Fed. Reg. at 25,394 (recognizing that Cell 4A is "currently operating as a conventional impoundment and Cell 4B is being used as an evaporation pond"). In addition, the definition of non-conventional impoundment in the Proposed Rule could be interpreted to allow uranium recovery facility owners to transition a

conventional impoundment into a non-conventional impoundment by placing a 1 meter water cover on the conventional impoundment.

The EPA should not allow uranium recovery facilities to transition an impoundment between conventional and non-conventional status (or between non-conventional and conventional status). First, conventional and non-conventional impoundments may now have different design requirements. Because the EPA has removed the work practice standards that would require closure of non-conventional impoundments before the entire facility is closed and reclaimed, the active life for the design of non-conventional impoundments will now need to be the entire life of the uranium recovery facility. *See* 40 C.F.R. § 264.221(c). In addition, because the EPA has delineated between conventional and non-conventional impoundments by looking at whether the impoundments are left in place (or removed) at facility closure, it may become difficult to transition impoundments between conventional and non-conventional status without modifying the NRC or Agreement State-approved reclamation plan that addresses what happens to the impoundments at facility closure.

Second, past experience transitioning an impoundment between non-conventional and conventional status resulted in the breach of a tailings impoundment liner and in soil contamination beneath the liner. The WMM has already transitioned a tailings impoundment (Tailings Cell 4A) from a non-conventional to conventional status. However, the WMM's use of Tailings Cell 4A as a non-conventional impoundment (and subsequent exposure of the Tailings Cell 4A liner to sunlight) damaged the liner in Tailings Cell 4A and ultimately led to the re-lining of Tailings Cell 4A before it could be used as a conventional impoundment. Section I(B)(1)(b), *supra*. While the re-lining of Tailings Cell 4A ultimately ensured that it had an adequate liner and leak detection system installed before Tailings Cell 4A could go into operation as a conventional impoundment, the problems with the transition of the cell from an evaporation pond to a solid tailings disposal cell highlight issues that could arise in the future if the EPA allows uranium recovery facilities to transition tailings impoundments from non-conventional to conventional status.

Third, the EPA cannot not allow uranium recovery facilities to transition tailings impoundments from conventional to non-conventional status without creating an increased risk to groundwater, human health, and the environment. Because there is no limit to the number of non-conventional impoundments allowed at each uranium recovery facility or on the acreage of each non-conventional impoundment, the Proposed Rule could allow uranium recovery facility owners to cover conventional impoundments with liquid to avoid the cost of complying with the work practice standards that apply to conventional impoundments (which would increase the overall emissions from one uranium recovery facility, the likelihood of groundwater contamination from the impoundment, and the risk to human health and the environment).

b. PROCESS FOR TRANSITIONING IMPOUNDMENTS BETWEEN NON-CONVENTIONAL AND CONVENTIONAL STATUS

The Proposed Rule also does not address how a uranium recovery facility owner can transition an impoundment between non-conventional and conventional status or what approval processes will be required for such a transition. At the July 10, 2014 government-to-government

consultation meeting, EPA staff stated that this transition process would be controlled during the construction and/or modification approval process required by 40 C.F.R. §§ 61.07-.09. *See also* 79 Fed. Reg. at 25,399. However, without additional language in the text of the Subpart W regulations requiring uranium recovery facilities to seek modification approval from the EPA to transition an impoundment between non-conventional and conventional status, it is difficult to determine whether the EPA would require a 40 C.F.R. § 61 approval for such a transition. *See* 40 C.F.R. § 61.15 (defining "modification" as a change that results in an *increase* in the emissions of a hazardous air pollutant).

c. COMPLIANCE WITH BIFURCATED WORK PRACTICE STANDARDS FOR CONVENTIONAL AND NON-CONVENTIONAL IMPOUNDMENTS

The Proposed Rule does not address how a uranium recovery facility will demonstrate compliance with the work practices standards for both conventional and non-conventional impoundments. There are no recordkeeping or compliance demonstration provisions that cover how a uranium recovery facility demonstrates compliance with the work practice standards for conventional impoundments, and there are no recordkeeping or compliance provisions that cover how the EPA will determine how many total impoundments (conventional and non-conventional) there are at each uranium recovery facility. Without such requirements, it will be very difficult for the EPA to enforce the work practice standards at uranium recovery facilities. Because the EPA acknowledged the WMM's continuing violation of the Current Subpart W work practice standards only after the Tribe sought answers from state and federal regulatory agencies[10], and because the EPA and the State of Utah agencies have all refused to take any enforcement action against the WMM owner for this violation, the Tribe believes that it is necessary to have clear recordkeeping and compliance demonstration provisions for the new, more complicated set of bifurcated work practice standards for conventional and non-conventional impoundments.

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- Add a provision to the Proposed Rule clarifying that uranium recovery facilities may not transition an impoundment between conventional and non-conventional (or between non-conventional and conventional) status[11].

[10]The Tribe notes here that the EPA did not identify any issues with Roberts Pond during the rulemaking process, but that the EPA acknowledged in the July 10, 2014 government-to-government consultation that Roberts Pond meets the definition of a non-conventional impoundment under the Proposed Rule.

[11]If the EPA does allow uranium recovery facilities to transition impoundments from non-conventional to conventional status, it must conduct additional analysis on what risks that transition period presents (especially given the history of re-lining with Tailings Cell 4A at the WMM) and must set forth a specific process for approving the transition (which may include, but is not limited to, specifying that transitioning an impoundment between non-conventional and conventional status under Subpart W is a "modification" that triggers approval under 40 C.F.R. § 61.07). The EPA will also need to develop additional recordkeeping and compliance demonstration provisions so the EPA can appropriately monitor ongoing compliance with work practice standards for both conventional and non-conventional impoundments. The Tribe reiterates here that the EPA cannot allow uranium recovery facilities to transition impoundments from conventional to non-conventional status.

- Add both a recordkeeping requirement and a compliance demonstration provision that will help the EPA determine compliance with conventional impoundment work practice standards (which should include, but is not limited to, an annual statement of which work practice standard is being used for Subpart W compliance and an annual inventory and inspection of either the number of conventional impoundments (phased disposal) or the acreage of uncovered tailings (continuous disposal)).
- Add both a recordkeeping requirement and a compliance demonstration provision that will help the EPA determine compliance with both the conventional and non-conventional work practice standards (which should include, but is not limited to, an annual inventory and inspection of all impoundments).

4. INSUFFICIENT CROSS-REFERENCES TO IMPOUNDMENT DESIGN REQUIREMENTS

The fourth specific and critical deficiency in the Proposed Rule is that the EPA's cross-citations to the tailings impoundment design requirements of 40 C.F.R. § 192.32(a)(1) may not, as currently drafted, require all uranium recovery facilities to conform to important design standards (such as the double liner and leak detection system requirements discussed in the Proposed Rule).

In the Proposed Rule, the EPA recognizes that the use of water to control radon emissions from tailings impoundments can result in the pollution of groundwater and surface water, and the EPA reaffirms its commitment that "EPA cannot allow a situation where the reduction of radon emissions comes at the expense of increased pollution of the ground or surface water." 79 Fed. Reg. at 25,393. The EPA then proposes to ensure the protection of groundwater and surface water by requiring that all impoundments (conventional and non-conventional) meet the robust liner requirements contained in 40 C.F.R. § 264.221(c) and other requirements contained in 40 C.F.R. § 264.221. 79 Fed. Reg. at 25,393, 25,408. The Tribe agrees with the EPA that all tailings impoundments (conventional and non-conventional) should meet the liner requirements contained in 40 C.F.R. § 264.221(c) and other requirements contained in 40 C.F.R. § 264.221 to protect water resources.

The problem with the Proposed Rule is that the EPA's use of cross-referencing to impose the liner requirements does not actually impose the requirement that all tailings impoundments meet the liner requirements contained in 40 C.F.R. § 264.221(c). The Proposed Rule cross-references 40 C.F.R. § 192.32(a)(1), which contains an internal cross reference to 40 C.F.R. § 264.221. Importantly, 40 C.F.R. § 264.221 contains *several* sets of design requirements for surface impoundments, including the design requirements set forth in 40 C.F.R. § 264.221(a) (which apply much less robust requirements to surface impoundments constructed before 1990[12]) and provisions for exemption or using alternative design or operating practices, *see* 40 C.F.R. §§ 264.221(b), (d). This means that the current cross-reference to 40 C.F.R. § 192.32(a)(1) will not

[12]The 40 C.F.R. § 264.221(a) design requirements also contain an exemption for "existing portions" of the pre-1990 surface impoundments, which the EPA has already removed in its Subpart W cross-reference. The Tribe notes here that confusion over the "existing portions" exemption, along with the confusion over which portion of 40 C.F.R. § 264.221 will apply to tailings impoundments under Subpart W, supports the Tribe's suggestion that the EPA develop tailings impoundment design requirements under Subpart W instead of using cross-referencing.

actually require uranium recovery facilities with tailings impoundments constructed prior to 1990 to meet the stricter liner requirements of 40 C.F.R. § 264.221(c).

This cross referencing problem will make a significant difference in whether the Proposed Rule actually protects groundwater resources at the WMM facility. At the WMM, the three (pre-1990) legacy tailings impoundments cannot meet the requirements of 40 C.F.R. § 264.221(c) because those impoundments do not have double-liner systems (or leak detection systems placed between the liners). The WMM owner claims that these three impoundments comply with Subpart W because the impoundments were constructed before 1990 and because the impoundments meet the less stringent requirements of 40 C.F.R. § 264.221(a)[13]. 2009 WMM Response at 15. This means that, if the EPA does not specifically cross-reference the liner requirements of 40 C.F.R. § 264.221(c), it is unlikely that the State of Utah (as an Agreement State or as a state with delegated Clean Air Act authority) will require the WMM to re-line the pre-1990 impoundments to meet the more robust requirements of 40 C.F.R. § 264.221(c).[14]

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- Revise the cross-citation in the Proposed Rule to clarify that all tailings impoundments (conventional and non-conventional) must meet the liner requirements of 40 C.F.R. § 264.221(c), as well as other relevant portions of 40 C.F.R. § 264.221 (such as subsections g, h).[15]
- Develop provisions to ensure compliance with the requirement to meet the relevant portions of 40 C.F.R. § 264.221 (including 40 C.F.R. § 264.221(c)), including strict timelines for inspecting all tailings impoundments for compliance with the liner requirement provisions.
- (If there are no limits imposed on the life of non-conventional impoundments), develop additional, periodic inspection provisions to ensure that non-conventional impoundments can meet the requirements in 40 C.F.R. § 264.221(c) that require the liner to prevent the migration of hazardous constituents into the liner during the active life and the post-closure care period.

[13]The Tribe does not agree that the liners in Tailings Cells 1, 2, and 3 meet the requirements of 40 C.F.R. § 264.221(a). *See* Section I(B)(3), *supra*; Exhibit K (containing information that these liners are not designed to prevent—and have not prevented—the migration of waste into the adjacent subsurface soil or groundwater).

[14]The Tribe notes here that, during the July 10th, 2014 government-to-government consultation between the Tribe and the EPA regarding the Subpart W rulemaking, the EPA told the Ute Mountain Ute Tribal Council almost 20 times that the revised rule would require the WMM to close Tailings Cells 1, 2, and 3. The EPA also told the Tribal Council that several other concerns about the application of the Proposed Rule to Tailings Cells 1, 2, and 3 at White Mesa were irrelevant or could be ignored because the liner requirements in 40 C.F.R. § 264.221(c) would require the WMM to close or re-line those tailings impoundments.

[15]The Tribe notes here that, in this Section, it is requesting that the EPA specifically cross-reference 40 C.F.R. § 264.221(c) (or to develop liner requirements into the text of Subpart W). The Tribe is *not* requesting that the EPA remove the cross reference to 40 C.F.R. § 192.32(a). *See* Section II(E)(5), *infra* for further discussion of the cross-reference to 40 C.F.R. § 192.32(a).

5. CLOSURE AND END OF SUBPART W JURISDICTION

The fifth specific and critical deficiency in the Proposed Rule is that the lack of a clear definition of "closure" (and the end of Subpart W jurisdiction) under the rule, along with the EPA's "clarification" removing the internal cross reference to 40 C.F.R. § 192.32(a), may result in the creation of a regulatory void for reducing radon emissions at uranium recovery facilities. Under the Current Subpart W, the EPA is responsible for enforcing 40 C.F.R. § 61.252(c), which requires that all mill owners or operators comply with the provisions of 40 C.F.R. § 192.32(a). Importantly, one of the provisions in 40 C.F.R. § 192.32(a)—40 C.F.R. § 192.32(a)(3)(i)—is a significant provision that sets forth requirements for transitioning impoundments out of Subpart W jurisdiction and constructing a permanent radon barrier "as expeditiously as practicable considering technological feasibility" and in accordance with a written tailings closure plan that contains milestones for the placement of the final radon barrier. In the Proposed Rule, the EPA has decided to narrow its jurisdiction to enforce 40 C.F.R. § 192.32(a) to the impoundment design and construction requirements in 40 C.F.R. § 192.32(a)(1) and to leave all other enforcement of important provisions contained in 40 C.F.R. § 192.32(a) to the NRC or Agreement State. 79 Fed. Reg. at 25,406.

The EPA has not sufficiently analyzed or explained its decision to drastically reduce the EPA's role in regulating a radionuclide under the Clean Air Act. The Tribe is concerned that the EPA has abdicated the agency's regulatory role in ensuring that radon emissions are controlled as tailings impoundments move out of operational status under Subpart W and as permanent radon barriers are put in place. *See* Legislative History at 1,276 (where Representative Wyden observed that "even when pursuing apparently the same standard of protecting the public health, EPA has tended to set better, more protective standards and has had better enforcement efforts and mechanisms than NRC," and then cautioned the EPA "to not abdicate the agency's regulatory role here lightly."). The Tribe finds the EPA's proposed abdication in enforcing 40 C.F.R. § 192.32(a)'s closure requirements particularly problematic in light of the circumstances present at the WMM, where the Agreement State has not ensured that the closure requirements contained in 40 C.F.R. § 192.32(a) are in place when a tailings impoundment is put into final closure under Subpart W, and the Agreement State's failure to do so poses a significant risk that there will be a radon flux exceeding the 20 pCi/(m^2s) numerical flux standard limit during the closure period.

Tailings Cell 2 at the WMM is one of the pre-1989 "existing impoundments" that has been in operation for more than 30 years. Tailings Cell 2 has been nearly full for more than 10 years, although the Agreement State has authorized (and currently authorizes) the WMM to place 11(e)(2) byproduct material in Tailings Cell 2. *See* Section I(B)(1)(a), *supra*. In 2012, when Method 115 monitoring on Tailings Cell 2 showed that Tailings Cell 2 violated the 20 pCi/(m^2s) numerical flux standard, the WMM owner blamed the violation of Subpart W on the Agreement State (saying that the dewatering of the cell was to blame for the increased radon flux standard). *See* Exhibit I. The WMM owner did not heed the advice of its own consultants to place two feet of random fill cover on Tailings Cell 2 (which might have controlled emissions during the dewatering process) and instead placed less cover on some areas of Tailings Cell 2 that had very high radon flux readings. *Id.* The WMM did not demonstrate compliance with the 20 pCi/(m^2s) numerical limit until September of 2013.

On July 23, 2014, the Agreement State sent a letter to the WMM facility owner that clarified that Tailings Cell 2 is not in operation and that Tailings Cell 2 is in closure for Subpart W purposes. However, the Agreement State had not first ensured that the reclamation plan for the WMM contained a tailings closure plan meeting either the requirements of 40 C.F.R. § 192.32(a) or 10 C.F.R. Part 40, Appendix A, Criterion 6A. The currently-approved reclamation plan does not contain important interim milestones, such as windblown tailings retrieval from Tailings Cell 2, or a plan or timeline for interim stabilization (including dewatering). *See* Section I(B)(4), *supra*; Exhibit L. The currently-approved reclamation plan has no final design for a permanent radon barrier that will reduce radon emissions under 20 pCi/(m^2s) for Tailings Cell 2 (or for any tailings impoundment at the WMM facility). *See* Section I(B)(4), *supra*; Exhibit L. The currently-approved reclamation plan has no timeline for the design or placement of the final radon barrier and requires the placement of the final radon barrier on all tailings impoundments only upon closure and reclamation of the facility. *See* Section I(B)(4), *supra*; Exhibit L. This means that Tailings Cell 2 will likely remain open with only an "interim cover" for many years or decades until final closure of the entire WMM facility. Based on the past behavior of both the Agreement State and the WMM facility owners, the Tribe anticipates that the radon flux from Tailings Cell 2 will continue to exceed 20 pCi/(m^2s) unless the EPA uses its better enforcement efforts and mechanisms, along with the Agreement State, to require the WMM facility owner to construct a permanent radon barrier as required under 40 C.F.R. § 192.32(a).

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(C) of these Comments, the EPA revise the Proposed Rule as follows:

- Do not eliminate the requirement in Subpart W that all uranium recovery facilities comply with 40 C.F.R. § 192.32(a).[16]
- Develop additional language for the 40 C.F.R. § 192.32(a) compliance requirement that sets forth a pre-closure process where the EPA can verify that a tailings closure plan meeting the requirements of 40 C.F.R. § 192.32(a) is in place. Redefine "closure" under Subpart W to occur after that pre-closure verification process.
- Conduct additional analysis within Subpart W and Subpart T to address instances like Tailings Cell 2 at the WMM where the Agreement State is unwilling to ensure (or incapable of ensuring) compliance with both 40 C.F.R. § 192.32(a) and 10 C.F.R. Part 40, Appendix A, Criterion 6A.

SUMMARY AND CONCLUSION

As described in detail in these comments, the EPA must completely redo its rulemaking process because of the following deficiencies in the Proposed Rule:

[16] *See* Section II(E)(4), *supra* for a discussion regarding the need to specifically cross-reference the applicable sections of 40 C.F.R. § 264.221 to ensure that the double-liner requirements of 40 C.F.R. § 264.221(c) (and not the less restrictive double-liner requirements of 40 C.F.R. § 264.221(a)) are required on all tailings impoundments regulated under Subpart W. Here, the Tribe is requesting that the EPA retain authority to enforce the closure provisions of 40 C.F.R. § 192.32(a).

- Section 112 requires the EPA to list uranium recovery facilities as a source category or subcategory prior to establishing revised standards under Section 112(d). To properly list uranium recovery facilities as a source category or subcategory under Section 112(c), the EPA must first set forth a reasonable distinction between major and area sources of radionuclides, and the EPA must consider all radionuclides and all other HAPs emitted at uranium recovery facilities.
- The EPA has no authority to promulgate GACT standards under Section 112(d)(5) for "uranium recovery facilities" because the EPA has not listed "uranium recovery facilities" as an area source category under Section 112(c).
- The EPA has not demonstrated that the proposed rule will reduce emissions of HAPs at uranium recovery facilities (as required under Section 112(d)(5)).
- The EPA has not issued a numerical standard for radionuclide emissions from uranium recovery facilities.
- The Proposed Rule does not meet the requirements for GACT under Section 112(d)(5) because the EPA failed to properly address existing technologies and work practice standards at uranium recovery facilities, because the EPA did not assess standards for major sources in the same industrial sector or for area and major sources in related source categories, and because the EPA did not properly conduct or weight its consideration of costs for implementing GACT under Subpart W.

Alternatively, if the EPA moves forward with the Proposed Rule, it still must correct several specific and critical deficiencies in the Proposed Rule that threaten to effectively de-regulate existing uranium recovery facilities. Section II(E) provides information and specific requests for those revisions to the Proposed Rule.

The Tribe appreciates your time and attention to these comments. If you have any questions, please do not hesitate to contact Special Counsel H. Michael Keller at (801) 237-0287, Associate General Counsel Celene Hawkins at (970) 564-5642, or Environmental Programs Director Scott Clow at (970) 564-5432.

Sincerely

/s/ Celene Hawkins
Celene Hawkins
Associate General Counsel
Ute Mountain Ute Tribe

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Attachments: Exhibits A-O Submitted VIA MAIL

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Part III

Environmental Protection Agency

40 CFR Part 61
Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

[EPA–HQ–OAR–2008–0218; FRL–9816–2]

RIN 2060–AP26

Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to revise certain portions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for radon emissions from operating uranium mill tailings. The proposed revisions are based on EPA's determination as to what constitutes generally available control technology or management practices (GACT) for this area source category. We are also proposing to add new definitions to this rule, revise existing definitions and clarify that the rule applies to uranium recovery facilities that extract uranium through the in-situ leach method and the heap leach method.

DATES: Comments must be received on or before July 31, 2014.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2008–0218, by one of the following methods:

- *www.regulations.gov*: Follow the on-line instructions for submitting comments.
- *Email: a-and-r-docket@epa.gov*.
- *Fax:* 202–566–9744.
- *Mail:* Air and Radiation Docket, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave. NW., Washington, DC 20460.
- *Hand Delivery:* EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2008–0218. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. The *www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to EPA without going through *www.regulations.gov* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*.

Docket: All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Office of Air and Radiation Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1792.

FOR FURTHER INFORMATION CONTACT: Reid J. Rosnick, Office of Radiation and Indoor Air, Radiation Protection Division, Mailcode 6608J, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: 202–343–9290; fax number: 202–343–2304; email address: *rosnick.reid@epa.gov.*

SUPPLEMENTARY INFORMATION:

Outline. The information in this preamble is organized as follows:

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A. Does this action apply to me?
B. What should I consider as I prepare my comments to EPA?
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B. What criteria did EPA use in developing the proposed GACT standards for these area sources?
C. What source category is affected by the proposed standards?
D. What are the production operations, emission sources, and available controls?
E. What are the existing requirements under Subpart W?
F. How did we gather information for this proposed rule?
G. How does this action relate to other EPA standards?
H. Why did we conduct an updated risk assessment?
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F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments
G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks
H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use
I. National Technology Transfer Advancement Act
J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by the proposed standards include:

Category	NAICS code [1]	Examples of regulated entities
Industry:		
Uranium Ores Mining and/or Beneficiating	212291	Area source facilities that extract or concentrate uranium from any ore processed primarily for its source material content.
Leaching of Uranium, Radium or Vanadium Ores	212291	Area source facilities that extract or concentrate uranium from any ore processed primarily for its source material content.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed action. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA regional representative as listed in 40 CFR 61.04 of subpart A (General Provisions).

B. What should I consider as I prepare my comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through *www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

Make sure to submit your comments by the comment period deadline identified.

C. Acronyms and Abbreviations

We use many acronyms and abbreviations in this document. These include:

AEA—Atomic Energy Act
ALARA—As low as reasonably achievable
BID—Background information document
CAA—Clean Air Act
CAAA—Clean Air Act Amendments of 1990
CCAT—Colorado Citizens Against Toxic Waste
CFR—Code of Federal Regulations
Ci—Curie, a unit of radioactivity equal to the amount of a radioactive isotope that decays at the rate of 3.7×10^{10} disintegrations per second.
DOE—U.S. Department of Energy
EIA—economic impact analysis
EO—Executive Order
EPA—U.S. Environmental Protection Agency
FR—Federal Register
GACT—Generally Available Control Technology
gpm—Gallons Per Minute
HAP—Hazardous Air Pollutant
ICRP—International Commission on Radiological Protection
ISL—In-situ leach uranium recovery, also known as in-situ recovery (ISR)
LCF—Latent Cancer Fatality—Death resulting from cancer that became active after a latent period following exposure to radiation
NAAQS—National Ambient Air Quality Standards
NCRP—National Council on Radiation Protection and Measurements
mrem—millirem, 1×10^{-3} rem
MACT—Maximum Achievable Control Technology
NESHAP—National Emission Standard for Hazardous Air Pollutants
NRC—U.S. Nuclear Regulatory Commission
OMB—Office of Management and Budget
pCi—picocurie, 1×10^{-12} curie
Ra-226—Radium-226
Rn-222—Radon-222
Radon flux—A term applied to the amount of radon crossing a unit area per unit time, as in picocuries per square centimeter per second ($pCi/m^2/sec$).
RCRA—Resource Conservation and Recovery Act
Subpart W—National Emission Standards for Radon Emissions from Operating Mill Tailings at 40 CFR 61.250–61.256
TEDE—Total Effective Dose Equivalent
UMTRCA—Uranium Mill Tailings Radiation Control Act of 1978
U.S.C.—United States Code

D. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this proposed action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/.* The TTN provides information and technology exchange in various areas of air pollution control.

E. When would a public hearing occur?

If anyone contacts EPA requesting to speak at a public hearing concerning this proposed rule by July 1, 2014, we will hold a public hearing. If you are interested in attending the public hearing, contact Mr. Anthony Nesky at (202) 343–9597 to verify that a hearing will be held and if you wish to speak. If a public hearing is held, we will announce the date, time and venue on our Web site at *http://www.epa.gov/radiation.*

II. Background Information for Proposed Area Source Standards

A. What is the statutory authority for the proposed standards?

Section 112(q)(1) of the Clean Air Act (CAA) requires that National Emission Standards for Hazardous Air Pollutants (NESHAP) ''in effect before the date of enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990] . . . shall be reviewed and, if appropriate, revised, to comply with the requirements of subsection (d) of . . . section [112].'' EPA promulgated 40 CFR part 61, Subpart W, ''National Emission Standards for Radon Emissions From Operating Mill Tailings,'' (''Subpart W'') on December 15, 1989.[1] EPA is conducting this review of Subpart W under CAA section 112(q)(1) to determine what revisions, if any, are appropriate.

Section 112(d) of the CAA requires EPA to establish emission standards for major and area source categories that are listed for regulation under CAA section 112(c). A major source is any stationary source that emits or has the potential to emit 10 tons per year (tpy) or more of any single hazardous air pollutant (HAP) or 25 tpy or more of any combination of HAP. An area source is a stationary source of HAP that is not a major source. For the purposes of Subpart W, the HAP at issue is radon-222 (hereafter referred to as ''radon''). We presently have no data or information that shows any other HAPs being emitted from these impoundments. Calculations of radon emissions from operating uranium recovery facilities have shown that facilities regulated under Subpart W are area sources (EPA–HQ–OAR–2008–0218–0001, 0002).

Section 112(q)(1) does not dictate how EPA must conduct its review of those NESHAPs issued prior to 1990. Rather, it provides that the Agency must review, and if appropriate, revise the standards to comply with the requirements of section 112(d). Determining what revisions, if any, are appropriate for these NESHAPs is best assessed through a case-by-case consideration of each NESHAP. As explained below, in this case, we have reviewed Subpart W and are revising the standards consistent with section 112(d)(5), which provides EPA authority to issue standards for area sources.

Under CAA section 112(d)(5), the Administrator may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.'' Under section 112(d)(5), the Administrator has the discretion to use generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT) under section 112(d)(2) and (d)(3), which is required for major sources. Pursuant to section 112(d)(5), we are proposing revisions to Subpart W to reflect GACT.

B. What criteria did EPA use in developing the proposed GACT standards for these area sources?

Additional information on generally available control technologies or management practices (GACT) is found in the Senate report on the legislation (Senate Report Number 101–228, December 20, 1989), which describes GACT as:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that may include small businesses.

Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources[2] in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

C. What source category is affected by the proposed standards?

As defined by EPA pursuant to the CAA, the source category for Subpart W is ''facilities licensed [by the U.S. Nuclear Regulatory Commission (NRC)] to manage uranium byproduct material during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings.'' 40 CFR 61.250. Subpart W defines ''uranium byproduct material or tailings'' as ''the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.''[3] 40 CFR 61.251(g). For clarity, in this proposed rule we refer to this source category by the term ''uranium recovery facilities'' and we are proposing to add this phrase to the definitions section of the rule. Use of this term encompasses the existing universe of facilities whose HAP emissions are currently regulated under Subpart W. Uranium recovery facilities process uranium ore to extract uranium. The HAP emissions from any type of uranium recovery facility that manages uranium byproduct material or tailings is subject to regulation under Subpart W. This currently includes three types of uranium recovery facilities: (1) Conventional uranium mills; (2) in-situ leach recovery facilities; and (3) heap leach facilities. Subpart W requirements specifically apply to the affected sources at the uranium recovery facilities that are used to manage or contain the uranium byproduct material or tailings. Common names for these structures may include, but are not limited to, impoundments, tailings impoundments, evaporation or holding ponds, and heap leach piles. However, the name itself is not important for determining whether Subpart W requirements apply to that structure; rather, applicability is based

[1] On April 26, 2007, Colorado Citizens Against Toxic Waste and Rocky Mountain Clean Air Action filed a lawsuit against EPA (EPA–HQ–OAR–2008–0218–0013) for EPA's alleged failure to review and, if appropriate, revise NESHAP Subpart W under CAA section 112(q)(1). A settlement agreement was entered into between the parties in November 2009(EPA–HQ–OAR–2008–0218–0019).

[2] None of the sources in this source category are major sources.

[3] Pursuant to the Atomic Energy Act of 1954, as amended, the Nuclear Regulatory Commission defines ''source material'' as ''(1) Uranium or thorium or any combination of uranium or thorium in any chemical or physical form; or (2) Ores that contain, by weight, one-twentieth of one percent (0.05 percent), or more, of uranium or thorium, or any combination of uranium or thorium.'' (10 CFR 20.1003) For a uranium recovery facility licensed by the Nuclear Regulatory Commission under 10 CFR Part 40, ''byproduct material'' means the ''tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes.'' (10 CFR 20.1003 and 40.4)

on the use of these structures to manage or contain uranium byproduct material.

D. What are the production operations, emission sources, and available controls?

As noted above, uranium recovery and processing currently occurs by one of three methods: (1) Conventional milling; (2) in-situ leach (ISL); and (3) heap leach. Below we present a brief explanation of the various uranium recovery methods and the usual structures that contain uranium byproduct materials.

(1) Conventional Mills

Conventional milling is one of the two primary recovery methods that are currently used to extract uranium from uranium-bearing ore. Conventional mills are typically located in areas of low population density. Only one conventional mill in the United States is currently operating; all others are in standby, in decommissioning (closure) or have been decommissioned.

A conventional uranium mill is a chemical plant that extracts uranium using the following process:

(A) Trucks deliver uranium ore to the mill, where it is crushed before the uranium is extracted through a leaching process. In most cases, sulfuric acid is the leaching agent, but alkaline solutions can also be used to leach the uranium from the ore. The process generally extracts 90 to 95 percent of the uranium from the ore.

(B) The mill then concentrates the extracted uranium to produce a uranium oxide material which is called ''yellowcake'' because of its yellowish color.[4]

(C) Finally, the yellowcake is transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

(D) The extraction process in (A) and (B) above produces both solid and liquid wastes (i.e., uranium byproduct material, or ''tailings'') which are transported from the extraction location to an on-site tailings impoundment or a pond for temporary storage.

Uranium byproduct material/tailings are typically created in slurry form during the crushing, leaching and concentration processes and are then deposited in an impoundment or ''mill tailings pile'' which must be carefully monitored and controlled. This is because the mill tailings contain heavy metal ore constituents, including radium. The radium decays to produce radon, which may then be released to the environment. Because radon is a radioactive gas which may be inhaled into the respiratory tract, EPA has determined that exposure to radon and its daughter products contributes to an increased risk of lung cancer.[5]

The holding or evaporation ponds at this type of facility hold liquids containing byproduct material from which HAP emissions are also regulated under Subpart W. These ponds are discussed in more detail in the next section.

(2) In-Situ Leach/Recovery

In-situ leach or recovery sites (ISL/ISR, in this document we will use ISL) represent the majority of the uranium recovery operations that currently exist. The research and development projects and associated pilot projects of the 1980s demonstrated ISL as a viable uranium recovery technique where site conditions (e.g., geology) are amenable to its use. Economically, this technology produces a better return on the investment dollar (EPA–HQ–OAR–2008–0218–0087); therefore, the cost to produce uranium is more favorable to investors. Due to this, the trend in uranium production has been toward the ISL process.

In-situ leaching is defined as the underground leaching or recovery of uranium from the host rock (typically sandstone) by chemicals, followed by recovery of uranium at the surface. Leaching, or more correctly the re-mobilization of uranium into solution, is accomplished through the underground injection of a lixiviant (described below) into the host rock (i.e., ore body) through wells that are connected to the ore formation. A lixiviant is a chemical solution used to extract (or leach) uranium from underground ore bodies.

The injection of a lixiviant essentially reverses the geochemical reactions that resulted in the formation of the uranium deposit. The lixiviant assures that the dissolved uranium, as well as other metals, remains in the solution while it is collected from the ore zone by recovery wells, which pump the solution to the surface. At the surface, the uranium is recovered in an ion-exchange column and further processed into yellowcake. The yellowcake is packaged and transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

Two types of lixiviant solutions can be used, loosely defined as ''acid'' or ''alkaline'' systems. In the U.S., the geology and geochemistry of the majority of the uranium ore bodies favors the use of alkaline lixiviants such as bicarbonate-carbonate lixiviant and oxygen. Other factors in the choice of the lixiviant are the uranium recovery efficiencies, operating costs, and the ability to achieve satisfactory ground-water restoration.

After processing, lixiviant is recharged (more carbonate/bicarbonate or dissolved carbon dioxide is added to the solution) and pumped back down into the formation for reuse in extracting more uranium. However, a small amount of this liquid is held back from reinjection to maintain a proper hydraulic gradient[6] within the wellfield. The amount of liquid held back is a function of the characteristics of the formation properties (e.g., permeability, hydraulic conductivity, transmissivity). This excess liquid is sent to an impoundment (often called an evaporation pond or holding pond) on site or injected into a deep well for disposal. These impoundments, since they contain uranium byproduct material, are subject to the requirements of Subpart W.[7] With respect to the lixiviant reinjected into the wellfield, there is a possibility of the lixiviant spreading beyond the zone of the uranium deposit (excursion), and this produces a threat of ground-water contamination. The operator of the ISL facility remediates any excursion by pumping large amounts of water in or out of the formation (at various wells) to contain the excursion, and this water (often containing byproduct material either before or after injection into or withdrawal from the formation) is often stored in the evaporation or holding ponds.[8] Although the excursion control operation itself is not regulated under Subpart W, the ponds that contain byproduct material are regulated under that subpart, since they are a potential source of radon emissions. After the ore body has been depleted, restoration of the formation (attempting to return the formation back to its original geochemical and geophysical

[4] The term ''yellowcake'' is still commonly used to refer to this material, although in addition to yellow the uranium oxide material can also be black or grey in color.

[5] *http://www.epa.gov/radon/risk_assessment.html.*

[6] The hydraulic gradient determines which direction water in the formation will flow, which in this case limits the amount of water that migrates away from the ore zone.

[7] As described later in this preamble, the design requirements for these impoundments are derived from the RCRA requirements for impoundments.

[8] By controlling the hydraulic gradient of the formation the operator controls the direction of flow of water, containing the water within specified limits of the formation.

properties) is accomplished by flushing the host rock with water and sometimes additional chemicals. Since small amounts of uranium are still contained in the returning water, the restoration fluids are also considered byproduct material, and are usually sent to evaporation ponds for disposition.

(3) Heap Leaching

In addition to conventional uranium milling and ISL, some facilities may use an extraction method known as heap leaching. In some instances uranium ore is of such low grade, or the geology of the ore body is such that it is not cost-effective to remove the uranium via conventional milling or through ISL.[9] In this case a heap leaching method may be utilized.

No such facilities currently operate to recover uranium in the U.S. However, there are plans for at least one facility to open in the U.S. within the next few years.

Heap leach operations involve the following process:

A. Small pieces of ore are placed in a large pile, or ''heap,'' on an impervious geosynthetic liner with perforated pipes under the heap. For the purposes of Subpart W the impervious pad will meet the requirements for design and construction of impoundments found at 40 CFR 192.32(a).

B. An acidic solution is then sprayed [10] over the ore to dissolve the uranium it contains.

C. The uranium-rich solution drains into the perforated pipes, where it is collected and transferred to an ion-exchange system.

D. The heap is ''rested,'' meaning that there is a temporary cessation of application of acidic solution to allow for oxidation of the ore before leaching begins again.

E. The ion-exchange system extracts the uranium from solution where it is later processed into a yellowcake.[11]

F. Once the uranium has been extracted, the remaining solution still contains small amounts of uranium byproduct material (the extraction process is not 100% effective), and this solution is either piped to the heap leach pile to be reused or piped to an evaporation or holding pond. In the evaporation pond it is subject to the Subpart W requirements.

G. The yellowcake is transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

H. Finally, there is a final drain down of the heap solutions, as well as a possible rinsing of the heap. These solutions will contain byproduct material and will be piped to evaporation or holding ponds, where they become subject to the Subpart W requirements. The heap leach pile will be closed in place according to the requirements of 40 CFR 192.32.

Today we are proposing to regulate the HAP emissions from heap leach uranium extraction under Subpart W, in addition to conventional impoundments and evaporation ponds, which are already regulated under this Subpart. Our rationale (explained in greater detail in Section IV.D.4.) is that from the moment uranium extraction takes place in the heap, uranium byproduct material is left behind. Therefore the byproduct material must be managed with the same design as a conventional impoundment, with a liner and leak detection system prescribed at 40 CFR 192.32(a), and an effective method of limiting radon emissions while the heap leach pile is being used to extract uranium.

As described above, there may also be holding or evaporation ponds at this type of facility. In many cases these ponds hold liquids containing byproduct material. The byproduct material is contained in the liquids used to leach uranium from the ore in the heap leach pile as well as draining the heap leach pile in preparation for closure. The HAP emissions from these fluids are currently regulated under Subpart W.

E. What are the existing requirements under Subpart W?

Subpart W was promulgated on December 15, 1989 (54 FR 51654). At the time of promulgation the predominant form of uranium recovery was through the use of conventional mills. There are two separate standards required in Subpart W. The first standard is for ''existing'' impoundments, e.g., those in existence and licensed by the NRC (or it's Agreement States) on or prior to December 15, 1989. Owners or operators of existing tailings impoundments must ensure that emissions from those impoundments do not exceed a radon (Rn-222) flux standard of 20 picocuries per meter squared per second (pCi/m^2/sec). As stated at the time of promulgation: ''This rule will have the practical effect of requiring the mill owners to keep their piles wet or covered.''[12] Keeping the piles (impoundments) wet or covered with soil would reduce radon emissions to a level that would meet the standard. This is still considered an effective method to reduce radon emissions at all uranium tailings impoundments.

The method for monitoring for compliance with the radon flux standard was prescribed as Method 115, found at 40 CFR part 61, Appendix B. The owners or operators of existing impoundments must report to EPA the results of the compliance testing for any calendar year by no later than March 31 of the following year.

There is currently one existing operating mill with impoundments that pre-date December 15, 1989, and two mills that are currently in standby mode.

The second standard applies to ''new'' impoundments designed and/or constructed after December 15, 1989. The requirements applicable to new impoundments are work practice standards that regulate either the size and number of impoundments, or the amount of tailings that may remain uncovered at any time. 40 CFR 61.252(b) states that no new tailings impoundment can be built after December 15, 1989, unless it is designed, constructed and operated to meet one of the following two work practices:

1. Phased disposal in lined impoundments that are no more than 40 acres in area, and meet the requirements of 40 CFR 192.32(a) as determined by the NRC. The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time.

2. Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.

The basis of the work practice standards is to (1) limit the size of the impoundment, which limits the radon source; or (2) utilize the continuous disposal system, which prohibits large accumulations of uncovered tailings, limiting the amount of radon released.

The work practice standards described above were promulgated after EPA considered a number of factors that influence the emissions of Rn-222 from tailings impoundments, including the climate and the size of the impoundment. For example, for a given concentration of Ra-226 in the tailings, and a given grain size of the tailings, the moisture content of the tailings will control the radon emission rate; the higher the moisture content the lower the emission rate. In the arid and semi-arid areas of the country where most impoundments are located or proposed, the annual evaporation rate is quite high. As a result, the exposed tailings

[9] The ore grade is so low that it is not practical to invest large sums of capital to extract the uranium. Heap leach is a much more passive and relatively inexpensive system.

[10] Other technology includes drip systems, sometimes used at gold extraction heaps, and flooding of the heap leach pile.

[11] It is our understanding that either ion-exchange or solvent extraction techniques can be used to recover uranium at heap leach facilities. The decision to use one type or the other depends largely on the quality of the ore at a particular site.

[12] See 54 FR 51689.

(absent controls like sprinkling) dry rapidly. In previous assessments, we explicitly took the fact of rapid drying into account by using a Rn-222 flux rate of 1 pCi/m²/s per pCi/g Ra-226 to estimate the Rn-222 source term from the dry areas of the impoundments. (**Note:** The estimated source terms from the ponded (areas completely covered by liquid) and saturated areas of the impoundments are considered to be zero, reflecting the complete attenuation of the Rn-222).

Another factor we considered was the area of the impoundment, which has a direct linear relationship with the Rn-222 source term, more so than the depth or volume of the impoundment. Again, assuming the same Ra-226 concentration and grain sizes in the tailings, a 100-acre dry impoundment will emit 10 times the radon of a 10-acre dry impoundment. This linear relationship between size and Rn-222 source term is one of the main reasons that Subpart W imposed size restrictions on all future impoundments (40 acres per impoundment if phased disposal is chosen and 10 acres total uncovered if continuous disposal is chosen).

Subpart W also mandates that all tailings impoundments at uranium recovery facilities comply with the requirements at 40 CFR 192.32(a). EPA explained the reason for adding this requirement in the preamble as follows:

''EPA recognizes that in the case of a tailings pile which is not synthetically or clay lined (the clay lining can be the result of natural conditions at the site) water placed on the tailings in an amount necessary to reduce radon levels, can result in ground water contamination. In addition, in certain situations the water can run off and contaminate surface water. EPA cannot allow a situation where the reduction of radon emissions comes at the expense of increased pollution of the ground or surface water. Therefore, all piles will be required to meet the requirements of 40 CFR 192.32(a) which protects water supplies from contamination. Under the current rules, existing piles are exempt from these provisions, this rule will end that exemption.''

54 FR 51654, 51680 (December 15, 1989). Therefore, all impoundments are required to meet the requirements at 40 CFR 192.32(a).

Section 192.32(a) includes a cross-reference to the surface impoundment design and construction requirements of hazardous waste surface impoundments regulated under the Resource Conservation and Recovery Act (RCRA), found at 40 CFR 264.221. Those requirements state that the impoundment shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life of the impoundment. Briefly, 40 CFR 264.221(c) requires that the liner system must include:

1. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into the liner during the active life of the unit.

2. A composite bottom liner consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life of the unit. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least three feet of compacted soil material with a hydraulic conductivity of no more than 1 x 10^{-7} cm/sec.

3. A leachate collection and removal system between the liners, which acts as a leak detection system. This system must be capable of detecting, collecting and removing hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to the waste or liquids in the impoundment.

There are other requirements for the design and operation of the impoundment, and these include construction specifications, slope requirements, sump and liquid removal requirements.[13]

F. How did we gather information for this proposed rule?

This section describes the information we used as the basis for making the determination to revise Subpart W. We collected this information using various methods. We performed literature searches, where appropriate, of the engineering methods used by existing uranium recovery facilities in the United States as well as the rest of the world. We used this information to determine whether the technology used to contain uranium byproduct material had advanced since the time of the original promulgation of Subpart W. We reviewed and compiled a list of existing and proposed uranium recovery facilities and the containment technologies being used, as well as those proposed to be used. We compared and contrasted those technologies with the engineering requirements of hazardous waste surface impoundments regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA), which are used as the design basis for existing uranium byproduct material impoundments.

We collected information on existing uranium mills and in-situ leach facilities by issuing information collection requests authorized under section 114(a) of the CAA to seven uranium recovery facilities. At the time, this represented 100% of existing facilities. Since then, Cotter Corp. has closed its Cañon City facility. These requests required uranium recovery companies to provide detailed information about the uranium mill and/or in-situ leaching facility, as well as the number, sizes and types of affected sources (tailings impoundments, evaporation ponds and collection ponds) that now or in the past held uranium byproduct material. We requested information on the history of operation since 1975, ownership changes, whether the operation was in standby mode and whether plans existed for new facilities or reactivated operations were expected.[14] We also reviewed the regulatory history of Subpart W and the radon measurement methods used to determine compliance with the existing standards. Below is a synopsis of the information we collected and our analyses.

1. Pre-1989 Conventional Mill Impoundments

We have been able to identify three facilities, either operating or on standby,[15] that have been in operation since before the promulgation of Subpart W in 1989. These existing facilities must ensure that emissions from their operational, pre-1989 impoundments[16] not exceed a radon (Rn-222) flux standard of 20 pCi/m²/sec. The method for monitoring for compliance with the radon flux standard was prescribed as Method 115, found at 40 CFR part 61, Appendix B. These facilities must also meet the requirements in 40 CFR 61.252(c), which cross-references the requirements of 40 CFR 192.32(a)

The White Mesa Conventional Mill in Blanding, Utah, has one pre-1989 impoundment (known by the company as Cell 3) that is currently in operation and near capacity but is still authorized and continues to receive tailings. The

[13] For detailed information on the design and operating requirements, refer to 40 CFR Part 264 Subpart K—Surface Impoundments.

[14] Section 114(a) letters and responses can be found at *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html.*

[15] ''Standby'' is when a facility impoundment is licensed for the continued placement of tailings/byproduct material but is currently not receiving tailings/byproduct material. See Section V.A. for a discussion of this definition that we are proposing to add to Subpart W.

[16] In this preamble when we use the generic term ''impoundment,'' we are using the term as described by industry.

company is now pumping any residual free solution out of the cell and contouring the sands. It will then be determined whether any more solids need to be added to the cell to fill it to the specified final elevation. It is expected to close in the near future (EPA–HQ–OAR–2008–0218–0069). The mill also uses an impoundment constructed before 1989 as an evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

The Sweetwater conventional mill is located 42 miles northwest of Rawlins, Wyoming. The mill operated for a short time in the 1980s and is currently in standby status. Annual radon values collected by the facility indicate that there is little measurable radon flux from the mill tailings that are currently in the lined impoundment. This monitoring program remains active at the facility. According to company records, of the 37 acres of tailings, approximately 28.3 acres of tailings are covered with soil; the remainder of the tailings are continuously covered with water. The dry tailings have an earthen cover that is maintained as needed. During each monitoring event one hundred radon flux measurements are taken on the tailings continuously covered by soil, as required by Method 115 for compliance with Subpart W. The mean radon flux for the exposed tailings over the past 21 years was 3.5 pCi/m ^{2}/sec. The radon flux for the entire tailings impoundment was calculated to be 6.01 pCi/m ^{2}/sec. The calculated radon flux from the entire tailings impoundment surface is thus approximately 30% of the 20.0 pCi/m ^{2}/sec standard (EPA–HQ–OAR–2008–0218–0087).

The Shootaring Canyon project is a conventional mill located about 3 miles north of Ticaboo, Utah, in Garfield County. The approximately 1,900-acre site includes an ore pad, a small milling building, and a tailings impoundment system that is partially constructed. The mill operated for a very short period of time. Shootaring Canyon did pre-date the standard, but the mill was shut down prior to the promulgation of the standard. The impoundment is in a standby status and has an active license administered by the Utah Department of Environmental Quality, Division of Radiation Control. The future plans for this uranium recovery operation are unknown. Current activities at this remote site consist of intermittent environmental monitoring by consultants to the parent company (EPA–HQ–OAR–2008–0218–0087).

The Shootaring Canyon mill operated for approximately 30 days. Tailings were deposited in a portion of the upper impoundment. A lower impoundment was conceptually designed but has not been built. Milling operations in 1982 produced 25,000 cubic yards of tailings, deposited in a 2,508 m ^{2} (0.62 acres) area. The tailings are dry except for moisture associated with occasional precipitation events; consequently, there are no beaches.[17] The tailings have a soil cover that is maintained by the operating company. Radon sampling for the 2010 year took place in April. Again, one hundred radon flux measurements were collected. The average radon flux from this sampling event was 11.9 pCi/m ^{2}-sec.

A fourth mill is Cotter Corporation in Cañon City, Colorado. The mill no longer exists, and the pre-1989 impoundments are in closure.

2. 1989–Present Conventional Mill Impoundments

There currently is only one operating conventional mill with an impoundment that was constructed after December 15, 1989. The White Mesa conventional mill in Utah has two impoundments (Cell 4A and Cell 4B: Cell 4A is currently operating as a conventional impoundment and Cell 4B is being used as an evaporation pond) designed and constructed after 1989. The facility uses the phased disposal work practice.

There are several conventional mills in the planning and/or permitting stage and conventional impoundments at these mills will be required to utilize one of the current work practice standards.

3. In-Situ Leach Facilities

After 1989 the price of uranium began to fall, and the uranium mining and milling industry essentially collapsed, with very few operations remaining in business. However, several years ago the price of uranium began to rise so that it became profitable once more for companies to consider uranium recovery. ISL has become the preferred choice for uranium extraction where suitable geologic conditions exist.

Currently there are five ISL facilities in operation: (1) The Alta Mesa project in Brooks County, Texas; (2) the Crow Butte Operation in Dawes County, Nebraska; (3) the Hobson/La Palangana Operation in South Texas; (4) the Willow Creek (formerly Christensen Ranch/Irigaray Ranch) Operation in Wyoming; and (5) the Smith Ranch-Highland Operation in Converse County, Wyoming.[18] These facilities use or have used evaporation ponds to hold back liquids containing uranium byproduct material from reinjection to maintain a proper hydraulic gradient within the wellfield.[19] These ponds are subject to the Subpart W requirements and range in size from less than an acre to up to 40 acres. Based on the information provided to us the ponds meet the requirements of 40 CFR 61.252(c).

There are approximately 11 additional ISL facilities in various stages of licensing or on standby. It is anticipated that there could be approximately another 20–30 license applications over the next 5–10 years.[20]

4. Heap Leach Facilities

As stated earlier, there are currently no operating heap leach facilities in the United States. We are aware of two or three potential future operations. The project most advanced in the application process is the Sheep Mountain facility in Wyoming. Energy Fuels has announced its intent to submit a license application to the NRC in March 2014. One or two other as yet to be determined operations may be located in Lander County, Nevada and/or a site in New Mexico.[21]

5. Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989

In performing our analysis we considered the information we received from all the existing conventional impoundments. We also looked at the compliance history of the existing conventional impoundments. After this review we considered two specific questions: (1) Are any of the conventional impoundments using any novel methods to reduce radon emissions? (2) Is there now any reason to believe that any of the existing conventional impoundments could not comply with the management practices for new conventional impoundments, in which case would we need to continue to make the distinction between conventional impoundments constructed before or after December 15, 1989? We arrived at the following

[17] The term ''beaches'' refers to portions of the tailings impoundment where the tailings are wet but not saturated or covered with liquids.

[18] Source: U.S. Energy Information Administration, *http://www.eia.gov/uranium/production/quarterly/html/qupd_tbl4.html.*

[19] The Alta Mesa operation uses deep well injection rather than evaporation ponds.

[20] Source: *http://www.nrc.gov/materials/uranium-recovery/license-apps/ur-projects-list-public.pdf.*

[21] *http://www.nrc.gov/materials/uranium-recovery/license-apps/ur-projects-list-public.pdf.*

conclusions: First, we are not aware of any conventional impoundment that uses any new or different technologies to reduce radon emissions. Conventional impoundment operators continue to use the standard method of reducing radon emissions by limiting the size of the impoundment and covering tailings with soil or keeping tailings wet. These are very effective methods for limiting the amount of radon released to the environment.

Second, we believe that only one existing operating conventional impoundment designed and in operation before December 15, 1989, could not meet the work practice standards. This impoundment is Cell 3 at the White Mesa mill, which is expected to close in 2014 (Personal communication between EPA staff and Utah Department of Environmental Quality staff, May 16, 2013, EPA–HQ–2008–0218–0081). We were very clear in our 1989 rulemaking that all conventional mill impoundments must meet the requirements of 40 CFR 192.32(a), which, in addition to requiring ground-water monitoring, also required the use of liner systems to ensure there would be no leakage from the impoundment into the ground water. We did this by removing the exemption for existing piles from the 40 CFR 192.32(a) requirements (54 FR 51680). However, we did not require those existing impoundments to meet either the phased disposal or continuous disposal work practice standards, which limit the exposed area and/or number of conventional impoundments, thereby limiting the potential for radon emissions. This is because at the time of promulgation of the rule, conventional impoundments existed that were larger in area than the maximum work practice standard of 40 acres used for the phased disposal work practice, or 10 acres for the continuous disposal requirement. This area limitation was important in reducing the amount of exposed tailings that were available to emit radon. However, we recognized that by instituting a radon flux standard we would require owners and operators to limit radon emissions from these preexisting impoundments (usually by placing water or soil on exposed portions of the impoundments). The presumption was that conventional impoundments constructed before this date could otherwise be left in a dry and uncovered state, which would allow for unfettered release of radon. The flux standard was promulgated to have the practical effect of requiring owners and operators of these old impoundments to keep their tailings either wet or covered with soil, thereby reducing the amount of radon that could be emitted (54 FR 51680).

We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a). We also have information that the new conventional impoundments operating at the White Mesa mill will utilize the phased work practice standard of limiting conventional impoundments to no more than two, each 40 acres or less in area. We also have information that Cell 3 at the White Mesa facility will be closed in 2014, and the phased disposal work method will be used for the remaining cells. (Personal communication between EPA staff and staff of Utah Department of Environmental Quality, May 16, 2013 (EPA–HQ–2008–0218–0081). As a result, we find there would be no conventional impoundment designed or constructed before December 15, 1989 that could not meet a work practice standard. Since the conventional impoundments in existence prior to December 15, 1989 appear to meet the work practice standards, we are proposing to eliminate the distinction of whether the conventional impoundment was constructed before or after December 15, 1989. We are also proposing that all conventional impoundments (including those in existence prior to December 15, 1989) must meet the requirements of one of the two work practice standards, and that the flux standard of 20 pCi/m^2/sec will no longer be required for the impoundments in existence prior to December 15, 1989.

G. How does this action relate to other EPA standards?

Under the CAA, EPA promulgated Subpart W, which includes standards and other requirements for controlling radon emissions from operating mill tailings at uranium recovery facilities. Under our authority in the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), we have also issued standards that are more broadly applicable to uranium and thorium byproduct materials at active and inactive uranium recovery facilities. NRC (or Agreement States [22]) and DOE implement and enforce these standards at these uranium recovery facilities as directed by UMTRCA. These standards, located in 40 CFR part 192, address the radiological and non-radiological hazards of uranium and thorium byproduct materials in ground water and soil, in addition to air. For the non-radiological hazards, UMTRCA directed us to promulgate standards consistent with those used by EPA to regulate non-radiological hazardous materials under RCRA. Therefore, our part 192 standards incorporate the ground-water protection requirements applied to hazardous waste management units under RCRA and specify the placement of uranium or thorium byproduct materials in impoundments constructed in accordance with RCRA requirements. Radon emissions from non-operational impoundments (i.e., those with final covers) are limited in 40 CFR part 192 to the emissions levels of 20 pCi/m^2/sec. We are currently preparing a regulatory proposal to update provisions of 40 CFR part 192, with emphasis on ground-water protection for ISL facilities. As explained in previous sections, Subpart W currently contains reference to some of the part 192 standards.

H. Why did we conduct an updated risk assessment?

While not required by or conducted as part of our GACT analysis, one of the tasks we performed for our own purposes was to update the risk analysis we performed when we promulgated Subpart W in 1989. We performed a comparison between the 1989 risk assessment and current risk assessment approaches, focusing on the adequacy and the appropriateness of the original assessments. We did this for informational purposes only and not for or as part of our GACT analysis. Instead, we prepared this updated risk assessment because we wanted to demonstrate that even using updated risk analysis procedures (i.e. using procedures updated from those used in the 1980s), the existing radon flux standard appears to be protective of the public health and the environment. We did this by using the information we collected to perform new risk assessments for existing facilities, as well as two idealized ''generic'' sites, one located in the eastern half of the United States and one located in the southwest United States. (These two model sites do not exist. They are idealized using representative features

[22] An Agreement State is a State that has entered into an agreement with the Nuclear Regulatory Commission under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021)and has authority to regulate byproduct materials (as defined in section 11e.(2)of the Atomic Energy Act)and the disposal of low-level radioactive waste under such agreement.

of mills in differing climate and geography). This information has been collected into one document [23] that has been placed in the docket (EPA–HQ–OAR–2008–0218–0087) for this proposed rulemaking.

As part of this work, we evaluated various computer models that could be used to calculate the doses and risks due to the operation of conventional and ISL uranium recovery facilities, and selected CAP88 V 3.0 for use in this analysis. CAP88 V 3.0 was developed in 1988 from the AIRDOS, RADRISK, and DARTAB computer programs, which had been developed for the EPA at the Oak Ridge National Laboratory (ORNL).

CAP88 V 3.0, which stands for ''Clean Air Act Assessment Package-1988 version 3.0,'' is used to demonstrate compliance with the NESHAP requirements applicable to radionuclides. CAP88 V 3.0 calculates the doses and risk to a designated receptor as well as to the surrounding population. Exposure pathways evaluated by CAP88 V 3.0 are: inhalation, air immersion, ingestion of vegetables, meat, and milk, and ground surface exposure. CAP88 V 3.0 uses a modified Gaussian plume equation to estimate the average dispersion of radionuclides released from up to six emitting sources. The sources may be either elevated stacks, such as a smokestack, or uniform area sources, such as the surface of a uranium byproduct material impoundment. Plume rise can be calculated assuming either a momentum or buoyant-driven plume.

At several sites analyzed in this evaluation only site-wide releases of radon were available to us. This assessment was limited by the level of detail provided by owners and operators of uranium recovery facilities. In instances where more specific site data were available, site-wide radon releases were used as a bounding estimate. Assessments are done for a circular grid of distances and directions for a radius of up to 80 kilometers (50 miles) around the facility. The Gaussian plume model produces results that agree with experimental data as well as any comparable model, is fairly easy to work with, and is consistent with the random nature of turbulence. A description of CAP88 V 3.0 and the computer models upon which it is based is provided in the CAP88 V 3.0 Users Manual.[24]

The uranium recovery facilities that we analyzed included three existing conventional mills (Cotter, White Mesa and Sweetwater), five operating ISL operations (the Alta Mesa project in Brooks County, Texas; the Crow Butte Operation in Dawes County, Nebraska; the Hobson/La Palangana Operation in South Texas; the Willow Creek (formerly Christensen Ranch/Irigaray Ranch) Operation in Wyoming; and the Smith Ranch-Highland Operation in Converse County, Wyoming), and two generic sites assumed for the location of conventional mills (we chose conventional mills because we believe they have the potential for greater radon emissions). One generic site was modeled in the southwest United States (Western Generic) while the other was assumed to be located in the eastern United States (Eastern Generic).[25] An Eastern generic site was selected for the second generic site to accommodate the recognition that a number of uranium recovery facilities are expected to apply for construction licenses in the future, and to determine potential risks in geographic areas of the U.S. that customarily have not hosted uranium recovery facilities. For this assessment the conventional mills we were most interested in were the White Mesa mill and the Sweetwater mill. (The Shootaring Canyon mill was not analyzed, because the impoundment is very small and is soil covered, and the Cotter facility is now in closure). These conventional mills are either in operation or standby and are subject to the flux standard of 20 pCi/m^2/sec. The risk analyses performed for these two mills showed that the maximum lifetime cancer risks from radon emissions from the White Mesa impoundments were 1.1×10^{-4} while the maximum lifetime cancer risks from radon associated with the impoundments at the Sweetwater mill were 2.4×10^{-5}. As we indicated in our original 1989 risk assessment, in protecting public health, EPA strives to provide the maximum feasible protection by limiting lifetime cancer risk from radon exposure to approximately 1 in 10,000 (i.e., 10^{-4}).[26] The analyses also estimated that the total cancer risk to the populations surrounding all ten modeled uranium sites (i.e., total cancer fatalities) is between 0.0015 and 0.0026 fatal cancers per year, or approximately 1 case every 385 to 667 years for the 4 million persons living within 80 km of the uranium recovery facilities. Similarly, the total cancer incidence for all ten modeled sites is between 0.0021 and 0.0036 cancers per year, or approximately 1 case every 278 to 476 years. The analyses are described in more detail in the background document generated for this proposal.[27] As stated above, we performed this risk assessment for informational purposes only. The risk assessment was not required or considered during our analysis for proposing GACT standards for uranium recovery facilities (e.g., conventional impoundments, non-conventional impoundments or heap leach piles).

III. Summary of the Proposed Requirements

We are proposing to revise Subpart W to include requirements we have identified that are generally available for controlling radon emissions in a cost-effective manner, and are not currently included in Subpart W. Specifically, we are proposing to require that non-conventional impoundments and heap leach piles must maintain minimum liquid levels to control their radon emissions from these affected sources.

Additionally, we are revising Subpart W to propose GACT standards for the affected sources at conventional uranium mills, ISL facilities and heap leach facilities. Given the evolution of uranium recovery facilities over the last 20 years, we believe it is appropriate to revise Subpart W to tailor the requirements of the rule to the different types of facilities in existence at this time. We are therefore proposing to revise Subpart W to add appropriate definitions, standards and other requirements that are applicable to HAP emissions at these uranium recovery facilities.

Our experience with ensuring that uranium recovery facilities are in compliance with Subpart W also leads us to propose three more changes. First, we are proposing to remove certain monitoring requirements that we believe are no longer necessary for demonstrating compliance with the proposed GACT standards. Second, we are proposing to revise certain definitions so that owners and operators clearly understand when Subpart W applies to their facility. Third, we are proposing to clarify what specific liner

[23] Technical and Regulatory Support to Develop a Rulemaking to Potentially Modify the NESHAP Subpart W Standard for Radon Emissions from Operating Uranium Mills (40 CFR 61.250).

[24] *http://www.epa.gov/radiation/assessment/CAP88 V 3.0/index.html.*

[25] There is a potential in the future for uranium recovery in areas like south-central Virginia.

[26] See 54 FR 51656

[27] All risks are presented as LCF risks. If it is desired to estimate the morbidity risk, simply multiply the LCF risk by 1.39. For a more detailed analysis of cancer mortality and morbidity, please see the Background Information Document, Docket number EPA–HQ–OAR–0218–0087.

requirements must be met under Subpart W.[28]

Taken altogether, the proposed revisions to Subpart W are appropriate for updating, clarifying and strengthening the management of radon emissions from the uranium byproduct material generated at uranium recovery facilities.

A. What are the affected sources?

Today we are proposing to revise Subpart W to include requirements for affected sources at three types of operating uranium recovery facilities: (1) Conventional uranium mills; (2) ISL facilities; and (3) heap leach facilities. The affected sources at these uranium recovery facilities include conventional impoundments, non-conventional impoundments where tailings are contained in ponds and covered by liquids (examples of these affected sources are evaporation or holding ponds that may exist at conventional mills, ISL facilities and heap leach facilities), and heap leach piles. The proposed GACT standards and the rationale for these proposed standards are discussed below and in Section IV. We request comment on all aspects of these proposed requirements.

B. What are the proposed requirements?

1. Conventional Impoundments

In the 1989 promulgation of Subpart W we created two work practice standards, phased disposal and continuous disposal, for uranium tailings impoundments designed and constructed after December 15, 1989. The work practice standards, which limit the exposed area and/or number of conventional impoundments at a uranium recovery facility, require that these impoundments be no larger than 40 acres (for phased disposal) or 10 uncovered acres (for continuous disposal). We also limited the number of conventional impoundments operating at any one time to two. We took this approach because we recognized that the radon emissions from very large conventional impoundments could impose unacceptable health effects if the piles were left dry and uncovered. The 1989 promulgation also included the requirements in 40 CFR 192.32(a), which include design and construction requirements for the impoundments as well as requirements for prevention and mitigation of ground-water contamination.

As discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed. We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a)(1). The existing cell 3 at the White Mesa mill will undergo closure in 2014 and will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard. Therefore, there is no reason not to subject these older impoundments to the work practice standards required for impoundments designed or constructed after December 15, 1989. By incorporating these impoundments under the work practices provision of Subpart W, it is no longer necessary to require radon flux monitoring, and we are proposing to eliminate that requirement.

The proposed elimination of the monitoring requirement in 40 CFR 61.253 applies only to those facilities currently subject to the radon flux standard in 40 CFR 61.252(a), which applies to only the three conventional impoundments in existence prior to the original promulgation of Subpart W on December 15, 1989. While we are proposing to eliminate the radon monitoring requirement for these three impoundments under Subpart W, this action does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements of their operating license issued by the NRC or its Agreement States. These requirements are found at 10 CFR Part 40, Appendix A, Criterion 8 and 8A. Additionally, NRC, through its Regulatory Guide 4.14, may also recommend incorporation of radionuclide air monitoring at operating facility boundaries.

Further, when the impoundments formally close they are subject to the radon monitoring requirements of 40 CFR 192.32(a)(3), also under the NRC licensing requirements.

From a cost standpoint, by not requiring radon monitoring we expect that for all three sites the total annual average cost savings would be $29,200, with a range from about $21,000 to $37,000. More details on economic costs can be found in Section IV.B of this preamble.

For the proposed rule we also evaluated the requirements of 40 CFR 192.32(a) as they pertain to the Subpart W standards. The requirements of 40 CFR 192.32(a) are included in the NRC's regulations and are reviewed for compliance by NRC during the licensing process for a uranium recovery facility. We determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for design and operation of surface impoundments at 40 CFR 264.221, are the only requirements necessary for EPA to incorporate for Subpart W, as they are effective methods of containing tailings and protecting ground water while also limiting radon emissions. This liner requirement, described earlier in this preamble, remains in use for the permitting of hazardous waste land disposal units under RCRA. The requirements at 40 CFR 192.32(a)(1) contain safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. We are therefore proposing to retain the two work practice standards and the requirements of 40 CFR 192.32(a)(1) as GACT for conventional impoundments because these methods for limiting radon emissions while also protecting ground water have proven effective for these types of impoundments.

2. Non-Conventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids

Today we are proposing a GACT standard specifically for non-conventional impoundments where uranium byproduct materials are contained in ponds and covered by liquids. Common names for these structures may include, but are not limited to, impoundments and evaporation or holding ponds. These affected sources may be found at any of the three types of uranium recovery facilities.

These units meet the existing applicability criteria in 40 CFR 61.250 to classify them for regulation under Subpart W. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct material, either in solid form or dissolved in solution, and therefore their emissions are regulated under Subpart W. As defined at 40 CFR 61.251(g), uranium byproduct material or tailings means the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.

[28] Under its CAA authority, EPA requires facilities subject to Subpart W to build impoundments in a manner that complies with the requirements found in 40 CFR 192. As a matter of convenience, EPA cross-references the part 192 requirements in Subpart W instead of copying them directly into Subpart W. This cross-referencing convention is often used in rulemakings.

Therefore, emissions for the ponds at uranium recovery facilities that contain either uranium byproduct material in solid form or radionuclides dissolved in liquids are regulated under Subpart W. Today we are again stating that determination and proposing a GACT standard specifically for these impoundments.

Evaporation or holding ponds, while sometimes smaller in area than conventional impoundments, perform a basic task. They hold uranium byproduct material until it can be disposed. Our survey of existing ponds shows that they contain liquids, and, as such, this general practice has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero. Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions. We have found that as long as approximately one meter of liquid is maintained in the pond, the effective radon emissions from the pond are so low that it is difficult to determine whether there is any contribution above background radon values. EPA has stated in the *Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Background Information Document* (August, 1986):

''Recent technical assessments of radon emission rates from tailings indicate that radon emissions from tailings covered with less than one meter of water, or merely saturated with water, are about 2% of emissions from dry tailings. Tailings covered with more than one meter of water are estimated to have a zero emissions rate. The Agency believes this calculated difference between 0% and 2% is negligible. The Agency used an emission rate of zero for all tailings covered with water or saturated with water in estimating radon emissions.''

Therefore, we are proposing as GACT that these impoundments meet the design and construction requirements of 40 CFR 192.32(a)(1), with no size/area restriction, and that during the active life of the pond at least one meter of liquid be maintained in the pond.

We are also proposing that no monitoring be required for this type of impoundment. We have received information and collected data that show there is no acceptable radon flux test method for a pond holding a large amount of liquid. (Method 115 does not work because a solid surface is needed to place the large area activated carbon canisters used in the Method). Further, even if there was an acceptable method, we recognize that radon emissions from the pond would be expected to be very low because the liquid acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for most of the radon produced by the solids or from solution to migrate to the water surface and cross the water/air interface before decaying(EPA–HQ–OAR–2008–0218–0087). It therefore appears that monitoring at these ponds is not necessary for demonstrating compliance with the proposed standards. We do, however, ask for comment and supporting information on three issues: (1) Whether these impoundments need to be monitored with regard to their radon emissions, and why; (2) whether these impoundments need to be monitored to ensure at least one meter of liquid is maintained in the pond at all times, and (3) if these impoundments do need monitoring, what methods could a facility use (for example, what types of radon collection devices, or methods to measure liquid levels) at evaporation or holding ponds.

3. Heap Leach Piles

The final impoundment category for which we are proposing GACT standards is heap leach piles. We are proposing to require that heap leach piles meet the phased disposal work practice standard set out in Section III B. 1. of this preamble (which limits an owner/operator to no more than two operating heap leach piles of no more than 40 acres each at any time) and the design and construction requirements at 40 CFR 192.32(a)(1) as GACT. We are also requiring heap leach piles to maintain minimum moisture content of 30% so that the byproduct material in the heap leach pile does not dry out, which would increase radon emissions from the heap leach pile.

As noted earlier in the preamble, there are currently no operating uranium heap leach facilities in the United States. We are aware that the one currently proposed heap leach facility will use the design and operating requirements at 40 CFR 192.32(a)(1) for the design of its heap. Since this requirement will be used at the only example we have for a heap leach pile, it (design and operating requirements at 40 CFR 192.32(a)(1)), along with the phased disposal work practice standard (limiting the number and size of heap leach piles), will be the standards that we propose as GACT for heap leach piles. The premise is that the operator of a heap would not want to lose any of the uranium-bearing solution; thus, it is cost effective to maintain a good liner system so that there will be no leakage and ground water will be protected. Also, use of the phased disposal work practice standard will limit the amount of exposed uranium byproduct material that would be available to emit radon. If we assume that uranium ore (found in the heap leach pile) and the resultant leftover byproduct material after processing emit radon at the same rate as uranium byproduct material in a conventional impoundment (a conservative estimate), we can also assume that the radon emissions will be nearly the same as two 40 acre conventional impoundments.

We recognize that owners and operators of conventional impoundments also limit the amount of radon emitted by keeping the tailings in the impoundments covered, either with soil or liquids. At the same time, however, we recognize that keeping the uranium byproduct material in the heap in a saturated or near-saturated state (in order to reduce radon emissions) is not a practical solution as it would be at a conventional tailings impoundment. In the definitions at 40 CFR 61.251(c) we have defined ''dewatered'' tailings as those where the water content of the tailings does not exceed 30% by weight. We are proposing today to require operating heaps to maintain moisture content of greater than 30% so that the byproduct material in the heap is not allowed to become dewatered which would allow more radon emissions. We are specifically asking for comment on the amount of liquid that should be required in the heap, and whether the 30% figure is a realistic objective. We are also asking for comments on precisely where in the heap leach pile this requirement must be met. The heap leach pile may not be evenly saturated during the uranium extraction process. The sprayer/drip system commonly used on the top of heap leach piles usually results in a semi-saturated moisture condition at the top of the pile, since flow of the lixiviant is not uniformly spread across the top of the pile. As downward flow continues, the internal areas of the pile become saturated. We are requesting information and comment on where specifically in the pile the 30% moisture content should apply.

C. What are the monitoring requirements?

As the rule currently exists, only mills with existing conventional impoundments in operation on or prior to December 15, 1989, are currently required to monitor to ensure compliance with the radon flux standard. The reason for this is because at the time of promulgation of the 1989 rule, EPA stated that no flux monitoring would be required for new impoundments because the proposed

work practice standards would be effective in reducing radon emissions from operating impoundments by limiting the amount of tailings exposed (54 FR 51681). Since we have now determined that existing older conventional impoundments can meet one of the two work practice standards, we are proposing to eliminate the radon flux monitoring requirement.

In reviewing Subpart W we looked into whether we should extend radon monitoring to all affected sources constructed and operated after 1989 so that the monitoring requirement would apply to all conventional impoundments, non-conventional impoundments and heap leach piles containing uranium byproduct materials. We also reviewed how this requirement would apply to facilities where Method 115 is not applicable, such as at impoundments totally covered by liquids. We concluded that the original work practice standards (now proposed as GACT) continue to be an effective practice for the limiting of radon emissions from conventional impoundments and from heap leach piles. We also concluded that by maintaining an effective water cover on non-conventional impoundments the radon emissions from those impoundments are so low as to be difficult to differentiate from background radon levels at uranium recovery facilities. Therefore, we are proposing today that it is not necessary to require radon monitoring for any affected sources regulated under Subpart W. We seek comment on our conclusion that radon monitoring is not necessary for any of these sources as well as on any available cost-effective options for monitoring radon at non-conventional impoundments totally covered by liquids.

D. What are the notification, recordkeeping and reporting requirements?

New and existing affected sources are required to comply with the existing requirements of the General Provisions (40 CFR part 61, subpart A). The General Provisions include specific requirements for notifications, recordkeeping and reporting, including provisions for notification of construction and/or modification and startup as required by 40 CFR 61.07, 61.08 and 61.09.

Today we are also proposing that all affected sources will be required to maintain certain records pertaining to the design, construction and operation of the impoundments, both including conventional impoundments, and nonconventional impoundments, and heap leach piles. We are proposing that these records be retained at the facility and contain information demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1), including but not limited to, all tests performed that prove the liner is compatible with the material(s) being placed on the liner. For nonconventional impoundments we are proposing that this requirement would also include records showing compliance with the continuous one meter of liquid in the impoundment; [29] for heap leach piles, we are proposing that this requirement would include records showing that the 30% moisture content of the pile is continuously maintained. Documents showing that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1) are already required as part of the pre-construction application submitted under 40 CFR 61.07, so these records should already be available. Records showing compliance with the one meter liquid cover requirement for nonconventional impoundments and records showing compliance with the 30% moisture level required in heap leach piles can be created and stored during the daily inspections of the tailings and waste retention systems required by the NRC (and Agreement States) under the inspection requirements of 10 CFR 40, Appendix A, Criterion 8A.

Because we are proposing new record-keeping requirements for uranium recovery facilities, we are required by the Paperwork Reduction Act (PRA) to prepare an estimate of the burden of such record-keeping on the regulated entity, in both cost and hours necessary to comply with the requirements. We have submitted the Information Collection Request (ICR) containing this burden estimate and other supporting documentation to the Office of Management and Budget (OMB). See Section VII.B for more discussion of the PRA and ICR.

We believe the record-keeping requirements proposed today will not create a significant burden for operators of uranium recovery facilities. As described earlier, we are proposing to require retention of three types of records: (1) Records demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1) (e.g. the design and liner testing information); (2) records showing that one meter of water is maintained to cover the byproduct material stored in nonconventional impoundments; and (3) records showing that heap leach piles maintain a moisture content of at least 30%.

Documents demonstrating that the affected sources comply with section 192.32(a)(1) requirements are necessary for the facility to obtain regulatory approval from NRC (or an NRC Agreement State) and EPA to construct and operate the affected sources (this includes any revisions during the period of operations). Therefore, these records will exist independent of Subpart W requirements and will not need to be continually updated as a result of this record-keeping requirement in Subpart W; however, we are proposing to include this record-keeping requirement in Subpart W to require that the records be maintained at the facility during its operational lifetime (in some cases the records might be stored at a location away from the facility, such as corporate offices). This might necessitate creating copies of the original records and providing a location for storing them at the facility.

Keeping a record to provide confirmation that water to a depth of one meter is maintained above the byproduct material stored in nonconventional impoundments should also be relatively straightforward. This would involve placement of a measuring device or devices in or at the edge of the impoundment to allow observation of the water level relative to the level of byproduct material in the impoundment. Such devices need not be highly technical and might consist of, for example, measuring sticks with easily-observable markings placed at various locations, or marking the sides of the impoundment to illustrate different water depths. As noted earlier, NRC and Agreement State licenses require operators to inspect the facility on a daily basis. Limited effort should be necessary to make observations of water depth and record the information in inspection log books that are already kept on site and available to inspectors.

Similarly, daily inspections would provide a mechanism for recording moisture content of heap leach piles. However, because no heap leach facilities are currently operating, there is more uncertainty about exactly how the operator will determine that the heap has maintained a 30% moisture content. As discussed in more detail in Section IV.E.4 of this preamble, soil moisture probes are readily available and could be used for this purpose. Such probes could be either left in the heap leach pile, placed at locations that provide a

[29] The one meter liquid requirement pertains to having one meter of liquid cover any and all solid byproduct material. We do not anticipate a large quantity of solid byproduct material in these nonconventional impoundments (EPA–HQ–OAR–2008–0218–0088).

representative estimate for the heap as a whole, or facility personnel could use handheld probes to collect readings. The facility might also employ mass-balance estimates to provide a further check on the data collected.

We estimate the burden in hours and cost for uranium recovery facilities to comply with the proposed recordkeeping requirements are as follows:

TABLE 1—BURDEN HOURS AND COSTS FOR PROPOSED RECORDKEEPING REQUIREMENTS

[Annual figures except where noted]

Activity	Hours	Costs
Maintaining Records for the section 192.32(a)(1) requirements	*20	*$1,360
Verifying the one meter liquid requirement for nonconventional impoundments	288	12,958
Verifying the 30% moisture content at heap leach piles using multiple soil probes	2,068	86,548

* These figures represent a one-time cost to the facility.

Burden levels for heap leach piles are most uncertain because they depend on the chosen method of measurement (e.g., purchasing and maintaining multiple probes or a smaller number of handheld units) as well as the personnel training involved (e.g., a person using a handheld unit will likely need more training than someone who is simply recording readings from already-placed probes). We request comment on our estimates of burden, as well as suggestions of methods that could readily and efficiently be used to collect the required information. More discussion of the ICR and opportunities for comment may be found in Section VII.B.

E. When must I comply with these proposed standards?

All existing affected sources subject to this proposed rule would be required to comply with the rule requirements upon the date of publication of the final rule in the **Federal Register**. To our knowledge, there is no existing operating uranium recovery facility that would be required to modify its affected sources to meet the requirements of the final rule; however, we request any information regarding affected sources that would not meet these requirements. New sources would be required to comply with these rule requirements upon the date of publication of the final rule in the **Federal Register** or upon startup of the facility, whichever is later.

IV. Rationale for This Proposed Rule

A. How did we determine GACT?

As provided in CAA section 112(d)(5), we are proposing standards representing GACT for this area source category. In developing the proposed GACT standards, we evaluated the control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities.

As noted in Section II.F., for this proposal we solicited information on the available controls and management practices for this area source category using written facility surveys (surveys authorized by section 114(a) of the CAA), reviews of published literature, and reviews of existing facilities (EPA–HQ–OAR–0218–0066). We also held discussions with trade association and industry representatives and other stakeholders at various public meetings.[30] Our determination of GACT is based on this information. We also considered costs and economic impacts in determining GACT (See Section VI.).

We identified two general management practices that reduce radon emissions from affected sources. These general management practices are currently being used at all existing uranium recovery facilities. First, limiting the area of exposed tailings in conventional impoundments limits the amount of radon that can be emitted. The work practice standards currently included in Subpart W require owners and operators of affected sources to implement this management practice by either limiting the number and area of existing, operating impoundments or covering dewatered tailings to allow for no more than 10 acres of exposed tailings. This is an existing requirement of Subpart W and of the NRC licensing requirements; hence, owners and operators of uranium recovery facilities are already incurring the costs associated with limiting the area of conventional impoundments (and as proposed, heap leach piles) to 40 acres or less (as well as no more than two conventional impoundments in operation at any one time), or limiting the area of exposed tailings to no more than 10 acres.

Second, covering uranium byproduct materials with liquids is a general management practice that is an effective method for limiting radon emissions. This general management practice is often used at nonconventional impoundments, which, as stated earlier, are also known as evaporation or holding ponds. These nonconventional impoundments also contain byproduct material, and thus their HAP emissions are regulated under Subpart W. They are also regulated under the NRC operating license. While they hold mostly liquids, they are still designed and constructed in the manner of conventional impoundments, meaning they meet the requirements of section 192.32(a)(1). While this management practice of covering uranium byproduct materials in impoundments with liquids is not currently required under Subpart W, facilities using this practice have generally shown its effectiveness in reducing emissions in both conventional impoundments (that make use of phased disposal) and nonconventional impoundments (i.e. holding or evaporation ponds). We are therefore proposing to require the use of liquids in nonconventional impoundments as a way to limit radon emissions.

Therefore, after review of the available information and from the evidence we have examined, we have determined that a combination of the management practices listed above will be effective in limiting radon emissions from this source category, and will do so in a cost effective manner. We also believe that since heap leach piles are in many ways similar to the design of conventional impoundments, the same combination of work practices (limitation to no more than two operating heap leach piles, each one no more than 40 acres) will limit radon emissions in heap leach piles. We discuss our reasons supporting these conclusions in more detail in Section IV.B.

[30] See *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html* for a list of presentations made at public meetings held by EPA and at various conferences open to the public.

B. Proposed GACT Standards for Operating Mill Tailings

1. Requirements at 40 CFR 192.32(a)(1)

As an initial matter, we determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for the design and construction of liners at 40 CFR 264.221, continue to be an effective method of containment of tailings for all types of affected sources (EPA–HQ–OAR–2008–0218–0015). The liner requirements, described earlier in this document, remain in use for the permitting of hazardous waste land disposal units under RCRA. Because of the requirement for nearly impermeable boundaries between the tailings and the subsurface, and the requirement for leak detection between the liners, we have determined that the requirements contain enough safeguards to allow for the placement of tailings and also provide an early warning system in the event of a leak in the liner system (EPA–HQ–OAR–2008–0218–0015). For this reason we are proposing to require as GACT that conventional impoundments, non-conventional impoundments and heap leach piles all comply with the liner requirements in 40 CFR 192.32(a)(1). Previously, Subpart W contained this requirement but included a more general reference to 40 CFR 192.32(a); we are proposing to replace that general reference with a more specific reference to 40 CFR 192.32(a)(1) to narrow the requirements under this proposed rule to only the design and construction requirements for the liner of the impoundment contained in 40 CFR 192.32(a)(1).

The estimated average cost of the liner requirement for each type of impoundment at uranium recovery facilities is listed in the table below (EPA–HQ–OAR–2008–0218–0087):

TABLE 2—ESTIMATED LINER COSTS

Table 2—Proposed GACT standards costs per pound of U_3O_8

	Unit cost ($/lb U_3O_8)		
	Conventional	ISL	Heap Leach
GACT—Double Liners for Nonconventional Impoundments	$1.04	$3.07	$0.22
GACT—Maintaining 1 Meter of Water in Nonconventional Impoundments	0.013	0.010	0.0010
GACT—Liners for Heap Leach Piles	.....	.....	2.01
GACT—Maintaining Heap Leach Piles at 30% Moisture	.....	.....	0.0043
GACTs—Total for All Four	1.05	3.08	2.24

Table 2 presents a summary of the unit cost (per pound of U_3O_8) for implementing each GACT at each of the three types of uranium recovery facilities. In addition to presenting the GACT costs individually, Table 2 presents the total unit cost to implement all relevant GACTs at each type of facility.

Based on the Table 2, implementing all four GACTs would result in unit cost (per pound of U_3O_8) increases of about 2%, 6%, and 5% at conventional mills, ISL, and heap leach type uranium recovery facilities, respectively.

In making these cost estimates, we have assumed the following: (1) A conventional impoundment is no larger than 40 acres in size, which is the maximum size allowed for the phased disposal option; (2) a nonconventional impoundment is no larger than 80 acres in size (the largest size we have seen); and (3) a heap leach pile is no larger than 40 acres in size (again, the maximum size allowed under the phased disposal work practice standard, although as with conventional impoundments the owner or operator is limited to two of these affected sources to be in operation at any time).

We do not have precise data for the costs associated with the liner requirements at conventional impoundments using the continuous disposal work practice standard because currently none exist, but a reasonable maximum approximation would be the costs for the 80 acre nonconventional impoundment, since it is the largest we have seen. We believe that no additional costs would be incurred for building a conventional impoundment that will use the continuous disposal option above what we estimated for building a nonconventional impoundment but we ask for comment on whether this assumption is reasonable. We also ask for data on the costs of building a conventional impoundment using continuous disposal, and how those costs would differ from the estimates provided above, or whether the costs we have listed for building a conventional impoundment using phased disposal are a reasonable approximation of the costs for building a conventional impoundment using continuous disposal.

These liner systems are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC and NRC Agreement States through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC or NRC Agreement State license.

The liner systems we are proposing that heap leach piles must use are the same as those used for conventional and nonconventional impoundments. We estimate that the average costs associated with the construction of a 40 acre liner that complies with 40 CFR 192.32(a)(1)is approximately $15.3 million. When compared to the baseline capital costs associated with the facility (estimated at $356 million)(EPA–HQ–OAR–2008–0218–0087), the costs for constructing this type of liner system per facility is about 4% of the total baseline capital costs of a heap leach pile facility (EPA–HQ–OAR–2008–0218–0087).[31]

[31] For our purposes, baseline conditions are defined as a reference point that reflects the world without the proposed regulation. It is the starting point for conducting an economic analysis of the potential benefits and costs of a proposed regulation. The defined baseline influences first the level of emissions expected without regulatory intervention. It thereby also influences the projected level of emissions reduction that may be achieved as a consequence of the proposed regulation. Baselines have no standard definition besides the fact that they simply provide a reference scenario against which changes in economic and environmental conditions (in this case radon emissions) can be measured. In some instances, baselines have been established based on the assumption that economic, environmental and/or other conditions will continue on the present path or trend, purely as time dependant extensions of presently observed patterns. In other instances, baselines are derived from elaborate modeling

Continued

2. Conventional Impoundments

In the 1989 promulgation of Subpart W we required new conventional impoundments to comply with one of two work practice standards, phased disposal or continuous disposal. These work practice standards contain specific limits on the exposed area and/or number of operating conventional impoundments to limit radon emissions because we recognized that radon emissions from very large impoundments could impose unacceptable health effects if the piles were left dry and uncovered. We are proposing as the GACT standard that *all* conventional impoundments—both existing impoundments and new impoundments—comply with one of the two work practice standards, phased disposal or continuous disposal, because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments (reference EPA 520–1–86–009, August 1986). We are proposing that existing impoundments also comply with one of the two work practice standards because, as discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed.

We are also not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. Operators continue to use the general management practices discussed above for reducing radon emissions from their conventional impoundments, i.e., limiting the size and/or number of the impoundments, and covering the tailings with soil or keeping the tailings wet. These management practices form the basis of the work practice standards for conventional impoundments and continue to be very effective methods for limiting the amount of radon released to the environment.

These work practice standards are a cost-effective method for reducing radon emissions from conventional impoundments. In addition, the liner requirements for conventional impoundments are also required by the NRC in their licensing requirements at 10 CFR part 40. Therefore, we are proposing that GACT for conventional impoundments will be the same work practice standards as were previously included in Subpart W.

3. Non-Conventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids

Today we are proposing a GACT standard specifically for use by any operating uranium recovery facility that has one or more non-conventional impoundments at its facility (i.e., those impoundments where tailings are contained in ponds and covered by liquids). Common names for these structures may include, but are not limited to, impoundments, evaporation ponds and holding ponds. These ponds contain uranium byproduct material and the HAP emissions are regulated by Subpart W.

Industry has argued in preambles to responses to the CAA section 114(a) letters [32] and elsewhere that Subpart W does not, and was never meant to, include these types of evaporation or holding ponds under the Subpart W requirements. Industry has asserted that the original Subpart W did not specifically reference evaporation or holding ponds but was regulating only conventional mill tailings impoundments. They argue that the ponds are temporary because they hold very little solid material but instead hold mostly liquids containing dissolved radionuclides (which emit very little radon), and at the end of the facility's life they are drained, and any solid materials, along with the liner system, are disposed in a properly licensed conventional impoundment.

EPA has consistently maintained that these non-conventional impoundments meet the existing applicability criteria for regulation under Subpart W. As defined at 40 CFR 61.251(g), uranium byproduct material or tailings means the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct materials, either in solid form or dissolved in solution, and therefore their HAP emissions are regulated under Subpart W. Today we reiterate that position and are proposing a GACT standard more specifically tailored for these types of impoundments.

We are proposing that these non-conventional impoundments (the evaporation or holding ponds) must maintain a liquid level in the impoundment of no less than one meter at all times during the operation of the impoundment. Maintaining this liquid level will ensure that radon-222 emissions from the uranium byproduct material in the pond are minimized. We are also proposing that there is no maximum area requirement for the size of these ponds since the chance of radon emissions is small. Our basis for this determination is that radon emissions from the pond will be expected to be very low since the liquid in the ponds acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for approximately 98% of the radon produced by the solids or from the solution to migrate to the water surface and cross the water/air interface before decaying.

By requiring a minimum of one meter of water in all nonconventional impoundments that contain uranium byproduct material, the release of radon from these impoundments would be greatly reduced. Nielson and Rogers (1986) present the following equation for calculating the radon attenuation:

$$A = e^{\left(-\left[\frac{\lambda}{D}\right]^{0.5} d\right)}$$

Where:

A = Radon attenuation factor (unit less)
λ = Radon-222 decay constant (sec^{-1})
= 2.1×10^{-6} sec^{-1}
D = Radon diffusion coefficient (cm^2/sec)
= 0.003 cm^2/sec in water
d = Depth of water (cm)
= 100 cm

The above equation indicates that the attenuation of radon emanation by water (i.e., the amount by which a water cover will decrease the amount of radon emitted from the impoundment) depends on how quickly radon-222 decays, how quickly radon-222 can move through water (the diffusion coefficient), and the thickness of the layer of water.[33] Solving the above equation shows that one meter of water has a radon attenuation factor of about 0.07. That is, emissions can be expected to be reduced by about 93% compared to no water cover.

The benefit incurred by this requirement is that significantly less radon will be released to the atmosphere. The amount varies from facility to facility based on the size of the nonconventional impoundment, but

projections. Because in all cases their purpose is to project a view of the world without the proposed regulatory intervention, baselines are sometimes termed ''do nothing'' or ''business as usual'' scenarios.

[32] *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html.*

[33] For a detailed discussion of this topic, which includes the effects of pond water mixing, wind and convection, please see ''Risk Assessment Revision for 40 CFR Part 61 Subpart W-Radon Emissions from Operating Mill Tailings, Task 5 Radon Emission from Evaporation Ponds,''(EPA–HQ–OAR–2008–0218–0080).

across existing facilities radon can be expected to be reduced by approximately 24,600 curies, a decline of approximately 93%.

The estimated cost associated with complying with the proposed one meter of liquid that would be required to limit the amount of radon emissions to the air vary according to the size of the impoundment and the geographic area in which it is located. We estimate that this requirement will cost owners or operators of 80 acre nonconventional impoundments between $1,042 and $9,687 per year. This value varies according to the location of the impoundment, which will determine evaporation rates, which determines how much replacement water will be required to maintain the minimum amount of one meter. If the evaporated water is not replaced by naturally occurring precipitation, then it would need to be replaced with make-up water supplied by the nonconventional impoundment's operator.

The most obvious source of water is what is known as ''process water'' from the extraction of uranium from the subsurface. Indeed, management of this process water is one of the primary reasons for constructing the impoundment in the first place, as the process water contains uranium byproduct material that must also be managed by the facility. It is possible that an operator could maintain one meter of water in the impoundment solely through the use of process water. If so, this would not create any additional costs for the facility as the cost of the process water can be attributed to its use in the uranium extraction process. However, for purposes of estimating the economic impacts associated with our proposal, our cost estimate does not include process water as a source of water potentially added to the impoundment to replace water that has evaporated. Instead, we estimated the costs of using water from other sources. This method results in the most conservative cost estimate for compliance with the one meter requirement.

In performing the cost impacts for this requirement, three potential sources of impoundment make-up water were considered: (1) Municipal water suppliers; (2) offsite non-drinking-water suppliers; and (3) on-site water (EPA–HQ–OAR–2008–0218–0087). Depending on the source of water chosen, we estimate that this requirement will cost owners or operators of nonconventional impoundments between $1,042.00 and $9,687.00 per year.[34]

This value also varies according to the size and location of the nonconventional impoundment. Such impoundments currently range up to 80 acres in size. The requirement to maintain a minimum of one meter of liquid in the ponds is estimated to cost approximately $0.03 per pound of uranium produced. The annual cost of makeup water was divided by the base case facility yellowcake annual production rate to calculate the makeup water cost per pound of yellowcake produced (EPA–HQ–OAR–2008–0218–0087). We conclude that this proposed requirement is a cost-effective way to significantly reduce radon emissions from nonconventional impoundments, and is therefore appropriate to propose as a GACT standard for nonconventional impoundments.

4. Heap Leach Piles

The final affected source type for which we are proposing GACT standards is heap leach piles. While there are currently no operating uranium heap leach facilities in the United States, we are proposing to regulate the HAP emission at any future facilities using this type of uranium extraction under Subpart W since the moment that uranium extraction takes place in the heap, uranium byproduct materials are left behind. During the process of uranium extraction on a heap, as the acid drips through the ore, uranium is solubilized and carried away to the collection system where it is further processed. At the point of uranium movement out of the heap, what remains is uranium byproduct materials as defined by 40 CFR 61.251(g). In other words, what remains in the heap is the waste produced by the extraction or concentration of uranium from ore processed primarily for its source material content. Thus, Subpart W applies because uranium byproduct materials are being generated during and following the processing of the uranium ore in the heap.

As a result, we are proposing GACT standards for heap leach piles. We are proposing that these piles conform to the phased disposal work practice standard specified for conventional impoundments in 40 CFR 61.252(a)(1)(i)(which limits the number of active heap leach piles to two, and limits the size of each one to no more than 40 acres) and that the moisture content of the uranium byproduct material in the heap leach pile be greater than or equal to 30% moisture content. We believe that the phased disposal approach can be usefully applied here because it limits the amount of tailings that can be exposed at any one time, which limits the amount of radon that can be emitted. The phased disposal work practice standard is applicable for heap leach piles because heap leach piles are expected to be managed in a manner that is similar in many respects to conventional impoundments. Based on what we understand about the operation of potential future heap leach facilities, after the uranium has been removed from the heap leach pile, the uranium byproduct material that remains would be contained in the heap leach structure which would be lined according to the requirements of 40 CFR 192.32(a)(1). The heap leach pile would also be covered with soil at the end of its operational life to minimize radon emissions.

This is what is required to occur at conventional impoundments using the phased disposal standard. Limiting the size of the operating heap leach pile to 40 acres or less (and the number of operating heap leach piles at any one time to two) has the same effect as it does on conventional impoundments; that is, it limits the area of exposed uranium byproduct material and therefore limits the radon emissions from the heap leach pile. While we believe that the 40 acre limitation is appropriate for heap leach piles, we are requesting comment on what should be the maximum size (area) of a heap leach pile.

We are also proposing as GACT that the heap leach pile constantly maintain a moisture content of at least 30% by weight. By requiring a moisture content of at least 30%, the byproduct material in the heap leach pile will not become dewatered, and we think that the heap leach pile will be sufficiently saturated with liquid to reduce the amount of radon that can escape from the heap leach pile. However, we request further information on all the chemical mechanisms in place during the leaching operation, and whether the 30% moisture content is sufficient for minimizing radon emissions from the heap leach pile. We also request comment on the amount of time the 30% moisture requirement should be maintained by a facility. We are proposing the term ''operational life'' of the facility. We are aware of several operations that take place during the

[34] Municipal sources were the most expensive, with average unit costs of $0.0033 per gallon. Offsite non-drinking water sources were the cheapest, at $0.000069 per gallon on average. Various references were used for the comparisons. For more detail, please see Section 6.3.3 of the Background Information Document.

uranium extraction process at a heap leach pile. After an initial period of several months of allowing lixiviant to leach uranium from the pile, the heap leach pile is allowed to ''rest,'' which enables the geochemistry in the pile to equilibrate. At that point the heap leach pile may be subjected to another round of extraction by lixiviant, or it may be rinsed to flush out any remaining uranium that is in solution in the heap leach pile. After the rinsing, the pile is allowed to drain and a radon barrier required by 40 CFR 192.32 can be emplaced. We are proposing that the operational life of the heap leach pile be from the time that lixiviant is first placed on the heap leach pile until the time of the final rinse. We believe this incorporates a majority of the time when the heap leach pile is uncovered (no radon barrier has been constructed over the top of the heap) and when the ability for radon to be emitted is the greatest.

Because there is no ''process water'' component to a heap leach operation, as there is for an ISL, water for the heap leach pile must be supplied from an outside source. Even if an ISL and heap leach operation were to be located at the same site, we consider it unlikely that an operator would use ISL process water as the basis for an acidic heap leach solution. It is possible, in fact likely, that the solution used in the heap will be recycled (i.e., applied to the heap more than once), which could reduce the amount of outside water needed to some degree, although as we discuss later in this section, it would not seem that recycling solution would affect the overall moisture content. In calculating the high-end costs of heap leaching, we have not included this possibility in our estimates of economic impacts.

The unit costs for providing liquids to a heap leach pile are assumed to be the same as the unit costs developed for providing water to nonconventional impoundments. In estimating the cost impacts for this requirement, three potential sources of impoundment make-up water were considered: (1) Municipal water suppliers; (2) offsite non-drinking-water suppliers; and (3) on-site water. The only cost associated with maintaining the moisture level within the pile is the cost of the liquid. We assume that existing piping used to supply lixiviant to the pile during leaching would be used to supply water necessary for maintaining the moisture level. Also, we assume that the facility will use the in-soil method for moisture monitoring. The in-soil method and its costs are described below.

Soil moisture sensors have been used for laboratory and outdoor testing purposes and for agricultural applications for over 50 years. They are mostly used to measure moisture in gardens and lawns to determine when it is appropriate to turn on irrigation systems. Soil moisture sensors can either be placed in the soil or held by hand.

For example, one system would bury soil moisture sensors to the desired depth in the heap. Then, a portable soil moisture meter would be connected by cable to each buried sensor one at a time, i.e., a single meter can read any number of sensors. The portable soil moisture meter costs about $350, and each in-soil sensor about $35 or $45, depending on the length of the cable (either 5 or 10 ft). Finally, it is assumed that moisture readings would be performed during the NRC required daily inspections of the heap leach pile, which would require approximately 2,000 additional work hours per year per facility. Our estimates for costs of monitoring the heap include 100 sensors located within the heap, with a meter on each sensor. We chose 100 sampling stations because heaps are generally the same size as conventional impoundments, and Method 115 prescribed 100 measurements for the tailings area of a conventional impoundment. The total estimated costs for using this system, including labor, are approximately $86,500 per year per facility.

Alternatively, with a handheld soil moisture meter, two rods (up to 8 inches long) that are attached to the meter are driven into the soil at the desired location, and a reading is taken. A handheld meter of this type costs about $1,065, and replacement rods about $58 for a pair. A minimum of 100 sampling stations for measuring radon could be required. We did not estimate costs for this method, as we concluded that the length of time required walking around a heap leach pile and obtaining these measurements required more time than is found in an average work day, and would expose workers to potentially hazardous constituents contained in the lixiviant.

The base case heap leach facility includes a heap leach pile that will occupy up to 80 acres at a height of up to 50 feet. With an assumed porosity of 0.39 and a moisture content of 30% by weight, the effective surface area of the liquid within the heap pile is 33.7 acres.

Table 3 presents the calculated cost for make-up water to maintain the moisture level in the heap leach pile, such that the moisture content is at 30% by weight, or greater. The unit costs for water and the net evaporation rates used for these estimates are identical to those derived for evaporation ponds.

TABLE 3—HEAP LEACH PILE ANNUAL MAKEUP WATER COST

Cost type	Water cost ($/gal)	Net evaporation (in/yr)	Makeup water cost ($/yr)	Makeup water rate (gpm/ft^2)
Mean	$0.00010	45.7	$4,331	2.3E–05
Median	0.00010	41.3	3,946	2.1E–05
Minimum	0.000035	6.1	196	3.0E–06
Maximum	0.00015	96.5	13,318	4.8E–05

To place this amount of make-up water in perspective, during leaching and rinsing of the heap leach pile, liquid is dripped onto the pile at a rate of 0.005 gallons per minute per square foot (gpm/ft^2). This rate is significantly higher than the make-up water rates necessary to maintain the moisture content at 30% by weight, shown in Table 3. We conclude from this analysis that the leaching solution applied in a typical operation should be sufficient to maintain the moisture content of the heap leach pile to the required levels, and only in unusual circumstances (such as during the final rinse and draindown of the heap leach pile) would additional liquids need to be applied. However, in a circumstance that would require the additional application of liquid to maintain the 30% moisture limit, such as excessive evaporation, we estimate that the cost of requiring the owner/operator of a heap leach pile to maintain 30% moisture content in the pile will average approximately $4,000 per year.

We are asking for comment on exactly where in the pile the 30% moisture content should be achieved. We are also soliciting comments on whether the leaching operation itself liberates more radon into the air than the equivalent of a conventional impoundment. We assume that because low-grade ore is usually processed by heap leach, there would be less radon emitted from a heap leach pile than from a conventional impoundment of similar size. We request information on whether this is a correct assumption.

We are also aware that there could be a competing argument against regulating the heap leach pile under Subpart W while the lixiviant is being placed on the heap leach pile. While not directly correlative, the process of heap leach could be defined as active ''milling.'' The procedure being carried out on the heap is the extraction of uranium. In this view, the operation is focused on the production of uranium rather than on managing uranium byproduct materials. Therefore, under this view, the heap meets the definition of tailings under 40 CFR 61.251(g) only after the final rinse of the heap solutions occurs and the heap is preparing to close. In this scenario the heap leach pile would close under the requirements at 40 CFR part 192.32 and Subpart W would never apply. We are requesting comments on the relative merits of this interpretation.

It bears noting that, as with ISL facilities, collection and/or evaporation ponds (nonconventional impoundments) may exist at heap leach facilities that will also contain uranium byproduct materials. These ponds' HAP emissions will be regulated under Subpart W regardless of whether the heap leach pile is also subject to regulation under that subpart.

V. Other Issues Generated by Our Review of Subpart W

During our review of Subpart W we also identified several issues that need clarification in order to be more fully understood. The issues that we have identified are:

- Clarification of the term ''standby'' and how it relates to the operational phase of an impoundment;
- Amending the definition of ''operation'' of an impoundment so that it is clear when the owner or operator is subject to the requirements of Subpart W;
- Determining whether Subpart W adequately addresses protection from extreme weather events;
- Revising 40 CFR 61.252(b) and (c) to accurately reflect that it is only 40 CFR 192.32(a)(1)that is applicable to Subpart W; and
- Removing the phrase ''as determined by the Nuclear Regulatory Commission'' in 40 CFR 61.252(b)(1) and (2).

A. Clarification of the Term ''Standby''

There has been some confusion over whether the requirements of Subpart W apply to an impoundment that is in ''standby'' mode. This is the period of time that an impoundment may not be accepting tailings, but has not yet entered the ''closure period'' as defined by 40 CFR 192.31(h). This period of time usually takes place when the price of uranium is such that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so. Since the impoundment has not entered the closure period, it could continue to accept tailings at any time; therefore, Subpart W requirements continue to apply to the impoundment. Today we are proposing to add a definition to 40 CFR 61.251 to define ''standby'' as:

Standby means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

B. Amending the Definition of ''Operation'' for a Conventional Impoundment

As currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that ''operation'' means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W). An impoundment is in operation from the day that tailings are first placed in the impoundment until the day that final closure begins.

There has been some confusion over this definition. For example, a uranium mill announced that it was closing a pre-December 15, 1989, impoundment. Before initiating closure, however, it stated that it would keep the impoundment open to dispose of material generated by other closure activities at the site that contained byproduct material (liners, deconstruction material, etc) but not ''new tailings.'' The company argued that since it was not disposing of new tailings the impoundment was no longer subject to Subpart W. We disagree with this interpretation. While it may be true that the company was no longer disposing of new tailings in the impoundment, it has not begun closure activities; therefore, the impoundment is still open to disposal of byproduct material that emits radon and continues to be subject to all applicable Subpart W requirements.

To prevent future confusion, we are proposing today to amend the definition of ''operation'' in the Subpart W definitions at 40 CFR 61.251 as follows:

Operation means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

C. Weather Events

In the past, uranium recovery facilities have been located in the western regions of the United States. In these areas, the annual precipitation falling on the impoundment, and any drainage area contributing surface runoff to the impoundment, has usually been less than the annual evaporation from the impoundment. Also, these facilities have been located away from regions of the country where extreme rainfall events (e.g., hurricanes or flooding) could jeopardize the structural integrity of the impoundment, although there is a potential for these facilities to be affected by flash floods, tornadoes, etc. Now, however, uranium exploration and recovery in the U.S. has the potential to move eastward, into more climatologically temperate regions of the country, with south central Virginia being considered for a conventional uranium mill. In determining whether additional measures would be needed for impoundments operating in areas where precipitation exceeds evaporation, a review of the existing requirements was necessary.

The proposed revisions to Subpart W will continue to require owners and operators of all impoundments to follow the requirements of 40 CFR 192.32(a)(1). That particular regulation references the RCRA surface impoundment design and operations requirements of 40 CFR 264.221. At 40 CFR 264.221(g) and (h) are requirements that ensure proper design and operation of tailings impoundments. Section 264.221(g) states that impoundments must be designed, constructed, maintained and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and rain action (e.g., a two foot freeboard requirement); rainfall; run-on;

malfunctions of level controllers, alarms and other equipment; and human error. Section 264.221(h) states that impoundments must have dikes that are designed, constructed and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

Since impoundments at uranium recovery facilities have been and will continue to be required to comply with the requirements of 40 CFR 192.32(a)(1), they are already required to be designed to prevent failure during extreme weather events. As we stated in Section IV B.2., we believe the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. Therefore, we are proposing to include these requirements in the Subpart W requirements without modification.

D. Applicability of 40 CFR 192.32(a) to Subpart W

The requirements at 40 CFR 61.252(b) and (c) require compliance with 40 CFR 192.32(a). However, we are now proposing to focus the Subpart W requirements on the impoundment design and construction requirements found specifically at 40 CFR 192.32(a)(1). The remainder of 40 CFR 192.32(a) goes beyond this limited scope by including requirements for ground-water detection monitoring systems and closure of operating impoundments. These other requirements, along with all of the part 192 standards, are implemented and enforced by the NRC through its licensing requirements for uranium recovery facilities at 10 CFR part 40, Appendix A. However, when referenced in Subpart W, the requirements in 40 CFR 192.32(a)(1) would also be implemented and enforced by EPA as the regulatory authority administering Subpart W under its CAA authority. Therefore today we are proposing to revise 40 CFR 61.252 (b) and (c) to specifically define which portions of 40 CFR 192.32(a) are applicable to Subpart W. At the same time we are proposing to eliminate the phrase ''. . .as determined by the Nuclear Regulatory Commission'' from 40 CFR 61.252(b). This should eliminate confusion regarding what an applicant must submit to EPA under the CAA in its pre-construction and modification approval applications as required by 40 CFR 61.07, and better explain that EPA is the regulatory agency administering Subpart W under the CAA. This proposed change will have no effect on the licensing requirements of the NRC or its regulatory authority under UMTRCA to implement the part 192 standards through its licenses.

VI. Summary of Environmental, Cost and Economic Impacts

As discussed earlier, uranium recovery activities are carried out at several different types of facilities. We are proposing to revise Subpart W based on how uranium recovery facilities manage uranium byproduct materials during and after the processing of uranium ore at their particular facility. As discussed in Sections III and IV, we are proposing GACT requirements for three types of affected sources at uranium recovery facilities: (1) Conventional impoundments; (2) nonconventional impoundments; and (3) heap leach piles.

For purposes of analyzing the impacts of the proposed rule, we assumed that approximately five conventional milling facilities, 50 ISL facilities (although this is only a projection since only 12 currently exist) and one heap leach facility, each with at least one regulated impoundment, would become subject to the proposed rule. The following sections present our estimates of the proposed rule's air quality, cost and economic impacts. For more information, please refer to the Economic Impact Analysis report that is included in the public docket for this proposed rule (EPA–HQ–OAR–2008–0218–0087).

A. What are the air quality impacts?

We project that the proposed requirements will maintain or improve air quality surrounding the regulated facilities. The GACT standards being proposed today are based on control technologies and management practices that have been used at uranium recovery facilities for the past twenty or more years. These standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings. The requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources.

B. What are the cost and economic impacts?

Table 24 presents a summary of the unit cost (per pound of U_3O_8) for implementing each GACT at each of the three types of uranium recovery facilities. In addition to presenting the GACT costs individually, Table 24 presents the total unit cost to implement all relevant GACTs at each type of facility.

A reference facility for each type of uranium recovery facility is developed and described in Section 6.2, including the base cost estimate to construct and operate (without the GACTs) each of the three types of reference facilities. For comparison purposes, the unit cost (per pound of U_3O_8) of the three uranium recovery reference facilities is presented at the bottom of Table 4.

TABLE 4—PROPOSED GACT STANDARDS COSTS PER POUND OF U_3O_8

	Unit cost ($/lb U_3O_8)		
	Conventional	ISL	Heap leach
GACT—Double Liners for Nonconventional Impoundments	$1.04	$3.07	$0.22
GACT—Maintaining 1 Meter of Water in Nonconventional Impoundments	0.013	0.010	0.0010
GACT—Liners for Heap Leach Piles	.....	.....	2.01
GACT—Maintaining Heap Leach Piles at 30% Moisture	.....	.....	0.0043
GACTs—Total for All Four	1.05	3.08	2.24
Baseline Facility Costs (Section 6.2)	51.56	52.49	46.08

Based on the information in Table 24, implementing all four GACTs would result in unit cost (per pound of U_3O_8) increases of about 2%, 6%, and 5% at conventional, ISL, and heap leach type uranium recovery facilities, respectively.

The baseline costs were estimated using recently published cost data for actual uranium recovery facilities. For the model conventional mill, we used

data from the recently licensed new mill at the Piñon Ridge project in Colorado. For the model ISL facility, we used data from two proposed new facilities: (1) The Centennial Uranium project in Colorado; and (2) the Dewey-Burdock project in South Dakota. The Centennial project is expected to have a 14- to 15-year production period, which is a long duration for an ISL facility, while the Dewey-Burdock project is expected to have a shorter production period of about 9 years, which is more representative of ISL facilities. For the heap leach facility, we used data from the proposed Sheep Mountain project in Wyoming.

Existing Subpart W required facilities to perform annual monitoring using Method 115 to demonstrate that the radon flux standard at conventional impoundments constructed before December 15, 1989 was below 20 pCi/m^2-sec. The proposed removal of this monitoring requirement would result in a cost saving to the three facilities for which this requirement still applies: (1) Sweetwater; (2) White Mesa; and (3) Shootaring Canyon. Method 115 requires 100 measurements as the minimum number of flux measurements considered necessary to determine a representative mean radon flux value. For the three sites that are still required to perform Method 115 radon flux monitoring, the average annual cost to perform that monitoring is estimated to be about $9,730 for Shootaring and Sweetwater, and $19,460 for White Mesa. For all three sites the total annual average cost is estimated to be $38,920 per year, with a range from approximately $28,000 to $49,500 per year. For all three sites the total annual average cost savings resulting from removal of the flux monitoring requirement would be $39,920.

Baseline costs (explained in Section IV.B) for conventional impoundment liner construction [35] will remain the same, since the proposed rule does not impose additional requirements. Liners meeting the requirements at 40 CFR 192.32(a)(1) are already mandated by other regulations and, therefore, built into the baseline cost estimate. Therefore there are consequently no costs (or benefits) resulting from the inclusion of these requirements in Subpart W.

The average cost to construct one of these impoundments is $13.8 million. We estimate that this cost is approximately 3% of the total baseline capital costs to construct a conventional mill, estimated at $372 million.

We have estimated that for an average 80 acre nonconventional impoundment the average cost of construction of an impoundment is $23.7 million. Requiring impoundments to comply with the liner requirements in 40 CFR 192.32(a)(1) will contain the uranium byproduct material and reduce the potential for ground water contamination. The only economic impact attributable to the proposed rule is the cost of complying with the new requirement to maintain a minimum of one meter of water in the nonconventional impoundments during operation and standby. As shown in Section IV.B.3. of this preamble, as long as approximately one meter of water is maintained in the nonconventional impoundments the effective radon emissions from the ponds are so low that it is difficult to determine if there is any contribution above background radon values. In order to maintain one meter of liquid within a pond, it is necessary to replace the water that is evaporated from the pond. Depending on the source of water chosen,[36] we estimate that this requirement will cost owners or operators of nonconventional impoundments between $1,042 and $9,687 per year. This value also varies according to the size of the nonconventional impoundment, up to 80 acres, and the location of the impoundment. Evaporation rates vary by geographic location. However, the cost to maintain the one meter of liquid in a nonconventional impoundment is estimated to be less than 1% of the total annual production costs, estimated at $23.7 million. The requirement to maintain a minimum of one meter of liquid in the ponds is estimated to cost approximately $0.03 per pound of uranium produced.

Designing and constructing heap leach piles to meet the requirements at 40 CFR 192.32(a)(1) would minimize the potential for leakage of uranium enriched lixiviant into the ground water. Specifically, this would require that a double liner, with drainage collection capabilities, be provided under heap leach piles. Baseline costs (explained in Section IV.B) for heap leach pile liner construction will remain the same, since the proposed rule does not impose additional requirements. Liners meeting the requirements at 40 CFR 192.32(a)(1) are already mandated by other regulations and, therefore, built into the baseline cost estimate. Therefore there are consequently no costs (or benefits) resulting from the inclusion of these requirements in Subpart W. Baseline costs for construction will be essentially the same as for conventional impoundments. Since the liner systems are equivalent to the systems used for conventional and nonconventional impoundments, we have been able to estimate the average costs associated with the construction of heap leach pile impoundments that meet the liner requirements we are proposing, and compare them to the costs associated with the total production of uranium produced by the facility. The average cost of constructing such an impoundment is estimated to be approximately $15.3 million. The costs of constructing this type of liner system are about 4% of the estimated total baseline capital costs of a heap leach facility estimated at $356 million.

For heap leach piles, when the soil moisture content in the heap leach pile falls below about 30% by weight, the radon flux out of the heap leach pile increases because radon moves through the air faster (with less opportunity to decay) than through water. We concluded from our analysis that the leaching solution applied in a typical operation should be sufficient to maintain the moisture content of the heap leach pile to the required levels, and only in unusual circumstances would additional liquids need to be applied. However, in a circumstance that would require the additional application of liquid to maintain the 30% moisture limit, such as excessive evaporation, we estimate that the cost of requiring the owner/operator of a heap leach pile to maintain 30% moisture content in the pile will average approximately $4,000 per year. We also estimate that it will cost approximately $86,500 per year (which includes labor of approximately 2,000 hours) to perform the tests required to verify that the moisture content is being maintained. These costs are less than one percent of the total baseline capital costs of a heap leach facility, estimated at $356 million.

[35] These liner systems (conventional, nonconventional and heap leach piles)are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC license. Therefore, there are no projected costs (or benefits) beyond the baseline resulting from the inclusion of these requirements in Subpart W.

[36] Municipal sources were the most expensive, with average unit costs of $0.0033 per gallon. Offsite non-drinking water sources were the cheapest, at $0.000069 per gallon on average. For more detail, please see Section 6.3.3 of the Background Information Document.

In summary, we estimate that for conventional impoundments there will be no additional costs incurred through this proposed rule. There will be a cost savings of approximately $39,900 per year for the three existing conventional impoundments that are currently required to monitor for radon flux through the use of Method 115, since we are proposing to eliminate this requirement. For nonconventional impoundments we estimate that the additional costs incurred by this proposed rule will be to maintain one meter of liquid in each nonconventional impoundment, and we have estimated those costs between approximately $1,040 and $9,680 per year. For heap leach piles, additional costs incurred by this proposed rule would be for the maintaining and monitoring of the continuous 30% moisture content requirement, which we estimate will impose a one-time cost of approximately $35,000 for equipment and approximately $86,000 per year to monitor the moisture content.

C. What are the non-air environmental impacts?

Water quality would be maintained by implementation of this proposed rule. This proposed rule does contain requirements (by reference) related to water discharges and spill containment. In fact, the liner requirements cross referenced at 40 CFR 192.32(a)(1) will significantly decrease the possibility of contaminated liquids leaking from impoundments into ground water (which can be a significant source of drinking water). Section 192.32(a)(1) includes a cross-reference to the surface impoundment design and construction requirements of hazardous waste surface impoundments regulated under the Resource Conservation and Recovery Act (RCRA), found at 40 CFR 264.221. Those requirements state that the impoundment shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life of the impoundment. There are other requirements for the design and operation of the impoundment, and these include construction specifications, slope requirements, sump and liquid removal requirements.

These liner systems (conventional, nonconventional and heap leach piles)are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC license.

Including a double liner in the design of all onsite impoundments that would contain uranium byproduct material would reduce the potential for ground-water contamination. Although the amount of the potential reduction is not quantifiable, it is important to take this into consideration due to the significant use of ground water as a source of drinking water.

VII. Statutory and Executive Orders Review

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action.'' The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may ''raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.'' Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 2464.01.

The information to be collected for the proposed rulemaking today is based on the requirements of the Clean Air Act. Section 114 authorizes the Administrator of EPA to require any person who owns or operates any emission source or who is subject to any requirements of the Act to:

—Establish and maintain records
—Make reports, install, use, and maintain monitoring equipment or method
—Sample emissions in accordance with EPA-prescribed locations, intervals and methods
—Provide information as may be requested

EPA's regional offices use the information collected to ensure that public health continues to be protected from the hazards of radionuclides by compliance with health based standards and/or Generally Available Control Technology (GACT).

The proposed rule would require the owner or operator of a uranium recovery facility to maintain records that confirm that the conventional impoundment(s), nonconventional impoundment(s) and heap leach pile(s) meet the requirements in section 192.32(a)(1). Included in these records are the results of liner compatibility tests, measurements confirming that one meter of liquid has been maintained in nonconventional impoundments and records confirming that heap leach piles have constantly maintained at least 30% moisture content during the operating life of the heap leach pile. This documentation should be sufficient to allow an independent auditor (such as an EPA inspector) to verify the accuracy of the determination made concerning the facility's compliance with the standard. These records must be kept at the mill or facility for the operational life of the facility and, upon request, be made available for inspection by the Administrator, or his/her authorized representative. The proposed rule would not require the owners or operators of operating impoundments and heap leach piles to report the results of the compliance inspections or calculations required in Section 61.255. The recordkeeping requirements require only the specific information needed to determine compliance. We have taken this step to minimize the reporting requirements for small business facilities.

The annual proposed monitoring and recordkeeping burden to affected sources for this collection (averaged over the first three years after the effective date of the proposed rule) is estimated to be 10,400 hours with a total annual cost of $400,000. This estimate includes a total capital and start-up cost component annualized over the facility's expected useful life, a total operation and maintenance component, and a purchase of services component. We estimate that this total burden will be spread over 21 facilities that will be required to keep records. Of this total burden, however, 4,150 hours (and $93,000) will be incurred by the one heap leach uranium recovery facility,

due to the requirements for purchasing, installing and monitoring the soil moisture sensors, as well as training staff on how to operate the equipment.

Burden is defined at 5 CFR 1320.3(b). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this rule, which includes this ICR, under Docket ID number EPA–HQ–OAR–2008–0218. Submit any comments related to the ICR to EPA and OMB. See **ADDRESSES** section at the beginning of this notice for where to submit comments to EPA. Send comments on the ICR to OMB to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW., Washington, DC 20503, Attention: Desk Office for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after May 2, 2014, a comment to OMB is best assured of having its full effect if OMB receives it by June 2, 2014. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business whose company has less than 500 employees and is primarily engaged in leaching or beneficiation of uranium, radium or vanadium ores as defined by NAIC code 212291; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule is estimated to impact approximately 18 uranium recovery facilities that are currently operating or plan to operate in the future.

To evaluate the significance of the economic impacts of the proposed revisions to Subpart W, separate analyses were performed for each of the three proposed GACTs.

The GACT for uranium recovery facilities that use conventional milling techniques proposes that only phased disposal units or continuous disposal units be used to manage the tailings. For either option, the disposal unit must be lined and equipped with a leak detection system, designed in accordance with part 192.32(a)(1). If phased disposal is the option chosen, the rule limits the disposal unit to a maximum of 40 acres, with no more than two units open at any given time. If continuous disposal is chosen, no more than 10 acres may be open at any given time. Finally, the Agency is proposing to eliminate the distinction that was made in the 1989 rule between impoundments constructed pre-1989 and post-1989 since all of the remaining pre-1989 impoundments comply with the proposed GACT. The elimination of this distinction also eliminates the requirement that pre-1989 disposal units be monitored on an annual basis to demonstrate that the average Rn-222 flux does not exceed 20 $pCi/m^2/sec$.

The conventional milling GACT applies to three existing mills and one proposed mill that is in the process of being licensed. The four conventional mills are: the White Mesa mill owned by Energy Fuels Resources (USA); the Shootaring Canyon mill owned by Uranium One, Inc.; the Sweetwater mill owned by Kennecott Uranium Co.; and the proposed Piñon Ridge mill owned by Energy Fuels, Inc. Of the three companies that own conventional mills, none are classified as small businesses using fewer than 500 employees as the classification criterion.

Energy Fuels White Mesa mill uses a phased disposal system that complies with the proposed GACT. When its existing open unit is full it will be contoured and covered and a new unit, constructed in accordance with the proposed GACT, will be opened to accept future tailings. Energy Fuels is proposing a phased disposal system to manage its tailings; this system also complies with the proposed GACT.

Based on the fact that both small entities are in compliance with the proposed GACT, we conclude that the rulemaking will not impose any new economic impacts on either facility. For Energy Fuels Mines, the proposed rule will actually result in a cost saving as it will no longer have to perform annual monitoring to determine the average radon flux from its impoundments.

The GACT for evaporation ponds at uranium recovery facilities requires that the evaporation ponds be constructed in accordance with design requirements in part 192.32(a)(1) and that a minimum of 1 meter of liquid be maintained in the ponds during operation and standby. The key design requirements for the ponds are for a double-liner with a leak detection system between the two liners.

In addition to the four conventional mills identified above, the GACT for evaporation ponds applies to in-situ leach facilities and heap leach facilities. Currently, there are five operating ISL facilities and no operating heap leach facilities. The operating ISLs are Crow Butte and Smith Ranch owned by Cameco Resources, Alta Mesa owned by Mestena Uranium, LLC, Willow Creek owned by Uranium One, Inc., and Hobson owned by Uranium Energy Corp. Again using the fewer than 500 employees' criterion, Mestena Uranium, LLC and Uranium Energy Corp are both small businesses, while Cameco Resources and Uranium One, Inc. are both large businesses.

All of the evaporation ponds at the four conventional mills and the five ISL facilities were built in conformance with part 192.32(a)(1). Therefore, the only economic impact is the cost of complying with the new requirement to maintain a minimum of 1 meter of water in the ponds during operation and standby.

The proposed revisions to Subpart W apply to five currently operating ISL facilities. The operating facilities are Crow Butte (Nebraska) and Smith Ranch (Wyoming), owned by Cameco Resources; Alta Mesa (Texas), owned by Mestena Uranium, LLC; Willow Creek (Wyoming), owned by Uranium One, Inc.; and Hobson (Texas), owned by Uranium Energy Corp. Again using the fewer than 500 employees' criterion, Mestena Uranium, LLC and Uranium Energy Corp are both small businesses, while Cameco Resources and Uranium One, Inc. are both large businesses.

In addition to the five operating ISL facilities, three additional ISL facilities have been licensed, all in the state of Wyoming. These are: Lost Creek, owned by Ur-Energy Inc.; Moore Ranch, owned by Uranium One, Inc.; and Nichols Ranch, owned by Uranerz Uranium Corp. Of these three companies, both Ur-Energy Inc. and Uranerz Uranium Corp. are small businesses.

Eleven other ISL facilities have been proposed for licensing. These include: Dewey-Burdock (South Dakota) and Centennial (Colorado), both owned by Powertech Uranium Corp.; and Kingsville Dome, Los Finados, Rosito, and Vasques (Texas), all owned by Uranium Resources Inc.; Crownpoint (New Mexico), also owned by Uranium Resources Inc., Church Rock (New Mexico), owned by Strathmore Minerals; Ross (Wyoming), owned by Strata Energy, Inc., Goliad (Texas), owned by Uranium Energy Corp.; and Antelope-Jab (Wyoming), owned by Uranium One, Inc. All of these companies, except for Uranium One, Inc. are small businesses.

According to the licensing documents submitted by the owners of the proposed ISL facilities, all will be constructed in conformance with part 192.32(a)(1). Therefore the only economic impact is the cost of complying with the new requirement to maintain a minimum of 1 meter of water in the ponds during operation and standby.

The requirement to maintain a minimum of 1 meter of liquid in the ponds is estimated to cost up to $0.03 per pound of U_3O_8 produced. This cost is not a significant impact on any of these small entities.

Although there are no heap leach facilities currently licensed, Energy Fuels, Inc. is expected to submit a licensing application for the Sheep Mountain Project. From the preliminary documentation that Titan presented (now owned by Energy Fuels), the facility will have an Evaporation Pond, a Collection Pond, and a Raffinate Pond. All three ponds will be double lined with leak detection. However, as Energy Fuels is a large business, it does not affect the determination of impacts on small businesses.

The GACT for heap leach facilities applies the phased disposal option of the GACT for conventional mills to these facilities and adds the requirement that the heap leach pile be maintained at a minimum 30 percent moisture content by weight during operations.

As noted previously, there are no heap leach facilities currently in existence, and the only one that is known to be preparing to submit a license application is being proposed by Energy Fuels, which is a large business.

Of the 20 facilities identified above, 15 are owned by small businesses. No small organizations or small governmental entities have been identified that would be impacted by the proposed GACTs. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local and tribal governments, in the aggregate, or the private sector in any one year. The proposed rule imposes no enforceable duties on any State, local or Tribal governments or the private sector. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments nor does it impose obligations upon them.

E. Executive Order 13132: Federalism

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the facilities subject to this action are owned and operated by State governments, and, nothing in the proposed rule will supersede State regulations. Thus, Executive Order 13132 does not apply to this proposed rule.

In the spirit of Executive Order 13132 and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The action imposes requirements on owners and operators of specified area sources and not tribal governments. Thus, Executive Order 13175 does not apply to this action.

EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to EO 13045 because it is based solely on technology performance.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This proposed rule will not adversely directly affect productivity, competition, or prices in the energy sector.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

We request public comment on this aspect of the proposed rulemaking, and specifically, ask you to identify potentially applicable voluntary consensus standards and to explain why such standards could be used in this regulation.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This proposed rule would reduce toxics emissions of radon from nonconventional impoundments and heap leach piles and thus decrease the amount of such emissions to which all affected populations are exposed.

List of Subjects in 40 CFR Part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

Dated: April 17, 2014.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency proposes to amend title 40, Chapter I of the Code of Federal Regulations as follows:

PART 61—[NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS]

■ 1. The authority citation for part 61 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart W—[National Emission Standards for Radon Emissions From Operating Mill Tailings]

■ 2. Section 61.251 is amended by revising the definition for (e) and adding new definitions for (h–m) as follows:

§ 61.251 Definitions.

* * * * *

(e) *Operation.* Operation means that an impoundment is being used for the continued placement of uranium byproduct materials or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

* * * * *

(h) *Conventional Impoundment.* A conventional impoundment is a permanent structure located at any uranium recovery facility which contains mostly solid uranium byproduct material from the extraction of uranium from uranium ore. These impoundments are left in place at facility closure.

(i) *Non-Conventional Impoundment.* A non-conventional impoundment can be located at any uranium recovery facility and contains uranium byproduct material suspended in and/or covered by liquids. These structures are commonly known as holding ponds or evaporation ponds. They are removed at facility closure.

(j) *Heap Leach Pile.* A heap leach pile is a pile of uranium ore placed on an engineered structure and stacked so as to allow uranium to be dissolved and removed by leaching liquids.

(k) *Standby.* Standby means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

(l) *Uranium Recovery Facility.* A uranium recovery facility means a facility licensed by the NRC or an NRC Agreement State to manage uranium byproduct materials during and following the processing of uranium ores. Common names for these facilities are a conventional uranium mill, an in-situ leach (or recovery) facility and a heap leach facility or pile.

(m) *Heap Leach Pile Operational Life.* The operational life of a heap leach pile means the time that lixiviant is first placed on the heap leach pile until the time of the final rinse.

■ 3. Section 61.252 is revised to read as follows:

§ 61.252 Standard.

(a) Conventional Impoundments.

(1) Conventional impoundments shall be designed, constructed and operated to meet one of the two following management practices:

(i) *Phased disposal* in lined tailings impoundments that are no more than 40 acres in area and shall comply with the requirements of 40 CFR 192.32(a)(1). The owner or operator shall have no more than two conventional impoundments, including existing impoundments, in operation at any one time.

(ii) *Continuous disposal* of tailings such that tailings are dewatered and immediately disposed with no more than 10 acres uncovered at any time and shall comply with the requirements of 40 CFR 192.32(a)(1).

(b) *Non-Conventional Impoundments.* Non-conventional impoundments shall meet the requirements of 40 CFR 192.32(a)(1). During operation and until final closure begins, the liquid level in the impoundment shall not be less than one meter.

(c) *Heap Leach Piles.* Heap leach piles shall comply with the phased disposal management practice in 40 CFR 61.252(a)(1)(i). Heap leach piles shall be constructed in lined impoundments that are no more than 40 acres in area and shall comply with the requirements of 40 CFR 192.32(a)(1). The owner or operator shall have no more than two heap leach piles, including existing heap leach piles, in operation at any one time. The moisture content of heap leach piles shall be maintained at 30% or greater. The moisture content shall be determined on a daily basis, and performed using generally accepted geotechnical methods. The moisture content requirement shall apply during the heap leach pile operational life.

§ 61.253 [Removed]

■ 4. Section 61.253 is removed.

§ 61.254 [Removed]

■ 5. Section 61.254 is removed.

■ 6. Section 61.255 is revised to read as follows:

§ 61.255 Recordkeeping requirements.

(a) The owner or operator of any uranium recovery facility must maintain records that confirm that the conventional impoundment(s), nonconventional impoundment(s) and heap leach pile(s) at the facility meet the requirements in 40 CFR 192.32(a)(1). These records shall include, but not be limited to, the results of liner compatibility tests.

(b) The owner or operator of any uranium recovery facility with nonconventional impoundments must maintain records that include measurements confirming that one meter of liquid has been maintained in the nonconventional impoundments at the facility.

(c) The owner or operator of any heap leach facility shall maintain records confirming that the heap leach piles maintained at least 30% moisture content by weight during the heap leach pile operational life.

(d) The records required in paragraphs (a), (b) and (c) above must be kept at the uranium recovery facility for the operational life of the facility and must be made available for inspection by the Administrator, or his authorized representative.

[FR Doc. 2014–09728 Filed 5–1–14; 8:45 am]

BILLING CODE 6560–50–P

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Tribal Law Assistance - Uranium Mill Tailings Rule
Date:	Tuesday, January 10, 2017 7:47:10 AM
Attachments:	0131 - National Tribal Air Association.pdf 0132 - Tribal Environmental Policy Center.pdf 0153 - Uranium Watch.pdf 0155 - Ute Mountain Ute Tribe.pdf Proposed Rule (5.2.2014) 2014-09728.pdf

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From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:15 PM
To: Collections.SubW
Subject: FW: Tribal Law Assistance - Uranium Mill Tailings Rule

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From: Jefferson, Tricia
Sent: Monday, April 25, 2016 2:17 PM
To: Guadagno, Tony <Guadagno.Tony@epa.gov>; Knorr, Michele <knorr.michele@epa.gov>
Cc: Seidman, Emily <seidman.emily@epa.gov>
Subject: FW: Tribal Law Assistance - Uranium Mill Tailings Rule

Hi Tony and Michele,

This is FYI. I met with Sue and Emily re the consultation issues. But the attached tribal comments (also excerpted below) also touch on EJ issues. Emily is the lead ARLO attorney on the rule and I wanted her to have a POC in OGC when the EJ response is written.

Thanks,

Tricia

Tricia Jefferson
Office of General Counsel
U.S. EPA
202.564.6628

From: Siegal, Tod
Sent: Thursday, April 21, 2016 3:57 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Cc: Stahle, Susan <Stahle.Susan@epa.gov>; Jefferson, Tricia <Jefferson.Tricia@epa.gov>
Subject: FW: Tribal Law Assistance - Uranium Mill Tailings Rule

Hi Emily. I'm adding Tricia Jefferson to your message. Tricia is the Indian law team's principal contact for EO 13175 and tribal consultation issues.

Tricia: As you'll see, EPA got comments (excerpted below and attached in full above) re: the EO and consultation (and EJ) in connection with a proposed CAA NESHAP that will cover a facility near Ute Mtn Ute. ARLO is looking for assistance in developing responses.

Emily and Sue: Has Region 8 been looped into this?

Thanks.

Tod Siegal
U.S. EPA, Office of General Counsel
Cross-Cutting Issues Law Office
202-564-5552

From: Seidman, Emily
Sent: Thursday, April 21, 2016 9:15 AM
To: Siegal, Tod <Siegal.Tod@epa.gov>
Cc: Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Tribal Law Assistance - Uranium Mill Tailings Rule

Tod,

Good morning. Sonja Rodman suggested I reach out to you. I'm developing responses to comments in connection with the NESHAP rule under CAA 112 that regulates radon emissions from uranium mill tailings (Subpart W). Are you familiar with this rule from the proposal in 2014 and from the concerns raised by the Ute Mountain Ute Tribe? If not, could you direct me to the appropriate person? I can give you background on the rule (or a refresher) as needed. I'm copying Sue Stahle who worked on the rule at the proposal stage and can probably answer more questions than I'm able to.

One of the facilities regulated by this rule is near the Ute Mountain Ute Tribe. As a result, we've received a number of comments regarding our obligation to consult with tribes and the applicability of EO 13175. Could I enlist your assistance (or the appropriate person's assistance) in responding to these comments?

Below, I've copied the specific comments on these issues. For additional context, I'm attaching the full comment letters from commenters who raised tribal concerns. I'm also attaching the proposed rule.

Thanks so much for your assistance!

Emily Seidman

Air and Radiation Law Office
Office of General Counsel
U.S. Environmental Protection Agency
202-564-0906 | WJCN 7409F

Tribal Comments / EO 13175 Comments

Commenters 0131 and 0132 strongly urged EPA to do more than simply adhere to its legal consultation requirements regarding Tribes and to integrate recommendations from Tribes impacted by uranium mill tailings, mining operations into this rule and future rules. (Comments 0131-6 & 0132-8; also in Section 12)

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Numerous commenters challenged EPA's statement that the Proposed Rule does "not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)." EPA based this statement on the fact that the Proposed Rule "imposes requirements on owners and operators of specified area sources and not tribal governments." Commenters 0131 and 0132 assert that the Proposed Rule does have tribal implications by pointing to section 1(a) of EO 13175 which defines "policies that have tribal implications" as:

[R]egulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Commenters assert that EO 13175 does not require the direct regulatory requirement be placed on Tribal governments for EO 13175 to be applicable. Further, Commenters 0131 and 0132 point to consultation letters that EPA sent to at least 53 Tribes to suggest that EPA recognizes the implications of the rule for many Tribes. Commenters encouraged EPA to reconsider the applicability of EO 13175 on the Proposed Rule, particularly in light of the historic and ongoing environmental contamination that has resulted from uranium operations in and around Tribal Lands. (Comments 0131-7 & 0132-7 & 0153-166) Commenters 0132 encourages EPA to engage with Tribes in government-to-government consultation to help insure that any actions proposed by EPA do not adversely impact Tribes. (Comment 0132-6).

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The Commenter 0155 commented that EPA failed to properly exercise its trust responsibility to the Tribe. The Tribe has engaged the EPA (at both the Region 8 level and at the National EPA office level) for many years about the Tribe's concerns with the operation and regulation of the WMM facility. The Tribe has exhaustively documented its concerns to the EPA. In particular, the Tribe has exhaustively documented its concern that the WMM has been allowed to operate in violation of the Subpart W phased disposal work practice standard, that the legacy impoundments at the WMM may be contaminating the groundwater underneath the facility, and that the management of the legacy impoundments has resulted (and may continue to result) in Radon-222 emissions above 20 pCi/(m2s).

Despite the Tribe's significant effort to engage the EPA during the Subpart W rule revision

process, and despite the fact that the Tribe's White Mesa community is located less than three miles from the only operational conventional uranium mill regulated under Subpart W, the EPA made no effort to seek Tribal input during the rulemaking. The EPA did not inform the Tribe at any point during the rulemaking process of how the EPA was approaching the rule revision, which parts of the rule the EPA was considering revising, or how the EPA was treating the disproportionate impact that the WMM places on the White Mesa community. The EPA refused to consult with the Tribe regarding the rulemaking (despite a clear Tribal request for government-to-government consultation before the Proposed Rule was released for public comment).

The Proposed Rule, published in May of 2014, fails to address important Tribal concerns about the WMM. The Proposed Rule contains wildly inaccurate information regarding the current status and operations at the WMM facility (but did not contain any information submitted to the EPA by the Tribe), and the EPA used the inaccurate information to make important and harmful decisions in the rulemaking. The EPA also purported to exercise significant agency discretion to make determinations that may effectively de-regulate facilities like the WMM even though the EPA also had the discretion to set stricter regulations to ensure the protection of human health and the environment near facilities regulated under Subpart W. Although the EPA acknowledged that the disproportionately high Native American populations at certain facilities (including the WMM) existed, the EPA refused to address environmental justice issues associated with the rulemaking. Finally, the Proposed Rule does not acknowledge the close proximity of the WMM to the Tribe's White Mesa Community or any of the documented environmental impacts from the WMM on surrounding lands and resources used by UMU Tribal members. The EPA failed to analyze the impact that the Proposed Rule would have to the UMU Tribal Members and to the environment and Indian Trust Assets in White Mesa.

The Tribe understands that the EPA has statutory restrictions and rulemaking processes that constrain the manner in which the EPA undertakes a rulemaking like the revision to Subpart W. However, those statutory restrictions and rulemaking processes do not obviate the need for the EPA to properly exercise its trust responsibility to protect human health and the environment in White Mesa or for the EPA to consult with the Tribe about the Subpart W rule in a manner that allows the Tribe to give meaningful input into the EPA's rulemaking process. It is a violation of the EPA's trust responsibility and the EPA's duty to consult with the Tribes to, as the EPA has done to the Tribe in this rulemaking, refuse to meaningfully consult or answer questions about the rulemaking after repeated consultation requests, and to force the Tribe to give input during a public comment process. (Comment 0155-36)

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Commenter 0153 commented that the EPA failed in its responsibility to implement Executive Order 3175 (*assume this was intended to be 13175*): Consultation and Coordination With Indian Tribal Governments, Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks, and Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations. (Comment 0153-153)

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National Tribal Air Association
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Flagstaff, AZ 86011-5004

October 8, 2014

Air and Radiation Docket
U.S. Environmental Protection Agency
Mail code: 2822T
Attention Docket ID No. EPA–HQ–OAR–2008– 0218
1200 Pennsylvania Ave., NW
Washington, DC, 20460

Subject: Proposed Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

Introduction

The National Tribal Air Association (NTAA) is pleased to submit these comments regarding the U.S. Environmental Protection Agency's (EPA)'s proposed rule for Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule, 79 Fed. Reg. 25388 (May 2, 2014) (Proposed Rule).

The NTAA is an autonomous organization with 85 principal member Tribes. The organization's mission is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of Indian Tribes. As such, the NTAA uses its resources to support the efforts of all federally recognized Tribes in protecting and improving the air quality within their respective jurisdictions. Although the organization always seeks to represent consensus perspectives on any given issue, it is important to note that the views expressed by the NTAA may not be agreed upon by all Tribes. Further, it is also important that EPA understands interactions with the organization do not substitute for government-to-government consultation, which can only be achieved through direct communication between the federal government and Indian Tribes.

The NTAA disapproves generally of the Proposed Rule, namely because it does not present a sound argument in favor of continued use of generally achievable control technologies (GACT) as compared to maximum achievable control technologies (MACT); it eliminates critical monitoring and reporting requirements as well as the 20 pCi/m^2/sec flux standard for "existing impoundments;[1]" and it offers insufficient information for the public to assess the relative advantages of

[1] EPA describes "existing" impoundments as those that were in existence prior to the promulgation of Subpart W pre-December 15, 1989.

continuous versus phased disposal.

To be clear, the NTAA strongly supports stricter regulation and enforcement measures at all uranium recovery facilities, including: (1) conventional uranium mills, (2) in-situ leach recovery facilities, and (3) heap leach facilities. The Proposed Rule, however, appears to relieve industry of several fundamental responsibilities which are critical for ensuring public welfare and preventing further environmental degradation from domestic uranium processing operations.

Generally Achievable versus Maximum Achievable Control Technologies

EPA asserts that under Clean Air Act Section 112(d)(5), "the Administrator has the discretion to use generally available control technologies (GACT) in lieu of maximum achievable control technologies (MACT)."[2] The legacy of widespread contamination and the extraordinary taxpayer burden associated with uranium mining[3] and milling[4] operations in this country necessitate that EPA adopt the strongest preventive measures to safeguard public health and welfare from emissions of hazardous air pollutants (namely radon-222) and environmental contamination surrounding uranium processing facilities. In the Proposed Rule, however, EPA provides for use of the more relaxed GACT rather than MACT without giving any sound justification for doing so. The NTAA finds that, at a minimum, EPA should have thoroughly evaluated MACT options for radon emissions from mill tailings, and sought public comment about those options as part of the Proposed Rule.

Monitoring and Reporting Requirements

In EPA's own words, uranium byproduct material/tailings are "deposited in an impoundment or 'mill tailings pile' *which must be carefully monitored and controlled*."[5] The only currently operating conventional mill in the nation, White Mesa Mill, is presently the subject of a civil action that was brought against its owners in response to what the plaintiff (Grand Canyon Trust) claims are violations of the Clean Air Act, 42 U.S.C. § 7401 et seq.[6] The civil action specifically addresses ongoing exceedances of the 20 $pCi/m^2/sec$ radon flux standard at Cells 2 and 3; violation of Subpart W's work practice standards (operating more than two impoundments at the Mill); and violations of the monitoring and notification protocols and reporting standards set forth in Subpart W related to radon-flux measurements at Cell 3.[7]

Flux Requirement Versus Management Practices for Conventional Impoundments

EPA proposes to eliminate the radon flux standard of 20 $pCi/m^2/sec$ for "existing" impoundments, finding that all "existing" impoundments "appear to meet the work practice

[2] Proposed Rule at 25390.
[3] U.S. Department of Energy, Defense Related Uranium Mines – Report to Congress (August 2014).
[4] U.S. Department of Energy, Uranium Mill Tailings Radiation Control Act - Fact Sheet (July 16, 2013). URL: < http://energy.gov/sites/prod/files/2013/07/f2/UMTRCA%20sites%20fact%20sheet_0.pdf>
[5] Proposed Rule at 25391.
[6] Grand Canyon Trust, Re: Notice of Intent to Sue Energy Fuels Inc., Energy Fuels Holding Corp., EFR White Mesa LLC, and Energy Fuels Resources (USA) Inc. for Violations of the Clean Air Act at the White Mesa Uranium Mill. July 29, 2014.
[7] *Id.*

standard."[8] EPA states that it evaluated information, including facility compliance histories, in order to reach the conclusion that the radon flux standard should be abandoned. However, the aforementioned civil action against White Mesa Mill claims ongoing exceedances of the radon flux standard in Cells 2 ("new" impoundment)[9] and 3 ("existing" impoundment). This clearly obviates the need for continued monitoring and increased regulatory oversight.

EPA should provide summary data on facility compliance for all affected facilities in the docket if such an assertion contributed to the recommendation for eliminating the flux standard.

The NTAA strongly recommends that EPA reconsider eliminating the 20 $pCi/m^2/sec$ radon flux standard for "existing" impoundments and instead implement this standard for all new and existing mill tailings facilities. Measurable standards for pollutants serve as a necessary and specific metric for evaluating the long-term effectiveness of emission control technologies. Further, reporting and monitoring radon emissions ensures transparency and accountability to the American public. In the absence of measurable emissions standards and publically accessible reporting records, the public has no recourse to hold industry accountable for malpractice.

Phased versus Continuous Disposal

In the Proposed Rule, EPA provides that no new tailings impoundment can be built (after December 15, 1989) unless it's designed, constructed, and operated to meet one of the following two work practice standards for mitigating radon emissions:

(1) Phased disposal in lined impoundments that are no more than 40 acres in area, and meet the requirements of 40 CFR 192.32(a) as determined by the U.S. Nuclear Regulatory Commission (NRC) (the owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time); and

(2) Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.[10]

Regretfully, EPA does not provide a sufficiently detailed description or comparison of the two work practice standards within the text of the Proposed Rule, which is critical for public deliberation. There exists a longstanding history of site abandonment and taxpayer-funded remediation efforts for uranium operations in the U.S. Subpart W should minimize public health burdens and potential public expense associated with such abandonment and remediation by limiting the number and dimensions of tailings impoundments at uranium mills and also requiring swift, responsible disposal of tailings. The continuous disposal approach seems to be more effective at ensuring ongoing radon mitigation[11] at impoundments. However, the NTAA

[8] Proposed Rule at 25395.
[9] EPA defines "new" impoundments as those "designed and/or constructed after December 15, 1989." Proposed Rule at 25392.
[10] Proposed Rule at 25392.
[11] EPA states that the area of a given impoundment "has a direct linear relationship with the Rn-222 source term

finds the lack of clarity regarding dimensions for the disposal impoundments and total allowable number of disposal sites as unacceptable. As the regulatory language is currently written, the continuous disposal work practice standard could result in the unintended use of operating mill tailings as permanent repositories for vast quantities of radioactive mill tailings. As such, the NTAA recommends that EPA revise the regulatory language for the continuous disposal approach to specify the dimensions and number of disposal cells allowed at a mill tailings facility.

Definition of "Operation" in the Proposed Rule

The Proposed Rule provides that "as currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that "operation" means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W)."[12] EPA proposes the following amended definition to replace the current definition: "*Operation* means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins."

The NTAA supports EPA's recommendation to amend the definition of "operation" as it pertains to Subpart W, but with one important modification (italicized below): "An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure *concludes*."

Public Engagement

Regarding public outreach, NTAA finds that EPA could have done more to engage Tribal and non-Tribal communities potentially affected by the Proposed Rule by holding public hearings in and around areas with existing or proposed mill tailings operations (see Fig. 1). The only public hearings for the Proposed Rule were held September 3-4, 2014, at the EPA Region 8 Offices in Denver, Colorado.

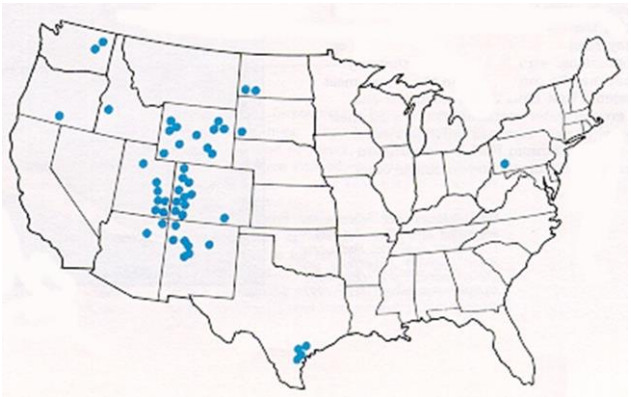

Fig.1 - Uranium Mill Tailings Piles (Courtesy, EPA Radiation Protection, Uranium Mill Tailings).
Last visited: September 21, 2014
URL: <http://www.epa.gov/radiation/docs/radwaste/402-k-94-001-umt.html>

The NTAA is pleased that EPA's Radiation Protection Division acquiesced to our request to discuss the Proposed Rule on

more so than the depth or volume of the impoundment." Proposed Rule at 25393. Thus, 2, 40-acre impoundments would likely have a greater Rn-222 emission potential than a single 10 acre section of disposal cell.

[12] Proposed Rule at 25405.

the June 26, 2014 NTAA/EPA policy call, during which Tribal representatives were allowed to ask questions about the rule. Further, the NTAA wishes to acknowledge the effort on behalf of EPA to meet its government-to-government consultation obligations to Tribes through delivery of consultation invitation letters to the 53 Tribes listed on the EPA Tribal Consultation Opportunities Tracking System (TCOTS) site.[13]

Beyond EPA simply adhering to its legal consultation requirements regarding Tribes, the NTAA strongly urges EPA to integrate recommendations from Tribes impacted currently and historically from uranium mill tailings[14] and mining[15] operations into this Proposed Rule and future proposed rules.

Tribal Consultation

EPA provides that the Proposed Rule does "not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)."

The rationale for EPA's finding is that the Proposed Rule " imposes requirements on owners and operators of specified area sources and not tribal governments." The NTAA finds that EPA does not understand fully the intent behind EO 13175 as it is not limited to federal actions with regulatory requirements imposed on Tribal governments. Specifically, section 1(a) of EO 13175 defines "policies that have tribal implications" as:

> [R]egulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.[16]

The definition makes no reference to direct regulatory requirements placed on Tribal governments.

Despite this erroneous supposition in the language of the Proposed Rule, NTAA notes that EPA did in fact deliver consultation letters to at least 53 Tribes, as noted above. This effort on behalf of EPA suggests that there are many within the agency who understand the obvious implications of this rule for many Tribes. NTAA strongly encourages EPA to reconsider the applicability of

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[13] EPA, Proposed Revisions to the Radon Emission Standards for Operating Uranium Mill Tailings Rule (Subpart W); Invitation to Consult Letter mailed to the following tribes on May 8, 2014 URL:<http://tcots.epa.gov/oita/tconsultation.nsf/ByUNID/0CE768F30DE0616985257CED00412620/$File/Invitation+to+Consultat+Letter+Sent+to+These+Tribes.pdf?OpenElement>

[14] USGS, Assessment of Potential Migration of Radionuclides and Trace Elements from the White Mesa Uranium Mill to the Ute Mountain Ute Reservation and Surrounding Areas, Southeastern Utah (Scientific Investigation Report 2011-5231). URL: <http://pubs.usgs.gov/sir/2011/5231/pdf/sir20115231.pdf>

[15] EPA, Technologically Enhanced Naturally Occurring Radioactive Materials From Uranium Mining Volume 2: Investigation of Potential Health, Geographic, and Environmental Issues of Abandoned Uranium Mines. [EPA 402-R-08-005] (April 2008).

[16] Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 9, 2000), at http://www.epa.gov/fedrgstr/eo/eo13175.htm (last visited on August 29, 2014).

EO 13175 in the Proposed Rule, particularly in light of the historic and ongoing environmental contamination that has resulted from uranium operations in and around Indian Country (see Figures 1 and 2).

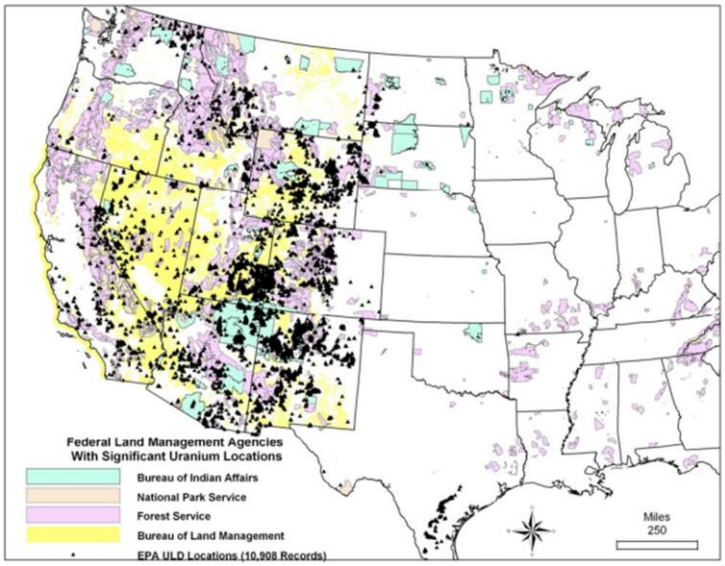

Fig. 2. Uranium Locations from EPA Database and Federal Lands. Note proximity of Bureau of Indian Affairs lands (indicated in green) to EPA Uranium Location Database locations throughout the Western U.S.

Conclusion

In summary, the NTAA is pleased to provide the aforementioned comments and recommendations concerning the Proposed Rule.

On Behalf of the NTAA Executive Committee,

Bill Thompson, Chairman, NTAA

Tribal Environmental Policy Center

PO Box 2468 ✹ Corrales, NM 87048 ✹ 505-340-6319 ✹ www.tribalepc.org

October 10, 2014

Air and Radiation Docket
U.S. Environmental Protection Agency
Mailcode: 2822T
Attention Docket ID No. EPA–HQ–OAR–2008– 0218
1200 Pennsylvania Ave., NW
Washington, DC, 20460

Subject: Proposed Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

To Whom It May Concern:

The Tribal Environmental Policy Center (TEPC) is pleased to submit these comments regarding the U.S. Environmental Protection Agency's (EPA)'s proposed Revisions to National Emission Standards for Radon Emissions (hereinafter "Proposed Rule").

Introduction

The TEPC is a non-profit organization formed in 2013 dedicated to the mission of providing Indian Tribes with the requisite policy support to advance their efforts to protect, manage, and regulate environmental, energy, and natural resources based on their own values and priorities. Our staff has a long-term relationship with many Tribal leaders and representatives in Indian Country with whom we confide and seek recommendations about actions proposed by EPA and other federal agencies, one being the Proposed Rule for which the TEPC provides its comments. However, the TEPC represents itself only as an organization having the best interest of Tribes in mind, and not as a Tribe that faces daily the impacts of air pollution on its people and the environment. As such, for this Proposed Rule and other such rules, we recommend strongly that EPA engage with Tribes in government-to-government consultation to help insure that any actions proposed by EPA do not impact such Tribes adversely in any way.

The TEPC disapproves generally of the Proposed Rule, namely because it does not present a sound argument in favor of continued use of generally achievable control technologies (GACT) as compared to maximum achievable control technologies (MACT); it eliminates critical monitoring and reporting requirements as well as the 20 pCi/m2/sec flux standard for

"existing impoundments;"[1] and it offers insufficient information for the public to assess the relative advantages of continuous versus phased disposal.

To be clear, the TEPC strongly supports stricter regulations and enforcement measures at all uranium recovery facilities, including: (1) conventional uranium mills, (2) in-situ leach recovery facilities, and (3) heap leach facilities. However, the Proposed Rule appears to relieve industry of several fundamental responsibilities that are critical for ensuring public welfare and preventing further environmental degradation from domestic uranium processing operations.

Generally Achievable versus Maximum Achievable Control Technologies

EPA asserts that under Clean Air Act Section 112(d)(5), "the Administrator has the discretion to use generally available control technologies (GACT) in lieu of maximum achievable control technologies (MACT)."[2] The legacy of widespread contamination and the extraordinary taxpayer burden associated with uranium mining[3] and milling operations[4] in this country necessitate that EPA adopt the strongest preventive measures to safeguard public health and welfare from emissions of hazardous air pollutants (*e.g.*, radon-222) and environmental contamination surrounding uranium processing facilities. However, the Proposed Rule provides for use of the more relaxed GACT rather than MACT without giving any sound justification for doing so. The TEPC finds that, at a minimum, EPA should have thoroughly evaluated MACT options for radon emissions from mill tailings, and sought public comment about those options as part of the Proposed Rule.

Monitoring and Reporting Requirements

In EPA's own words, uranium byproduct material/tailings are "deposited in an impoundment or 'mill tailings pile' *which must be carefully monitored and controlled*."[5] The only currently operating conventional mill in the nation, White Mesa Mill, is presently the subject of a civil action that was brought against its owners in response to what the plaintiff (Grand Canyon Trust) claims are violations of the Clean Air Act, 42 U.S.C. § 7401 et seq.[6] The civil action specifically addresses ongoing exceedances of the 20 pCi/m2/sec radon flux standard at Cells 2 and 3; violation of Subpart W's work practice standards (operating more than two

[1] EPA describes "existing" impoundments as those that were in existence prior to the promulgation of Subpart W pre-December 15, 1989

[2] Proposed Rule at 25390.
[3] U.S. Department of Energy, Defense Related Uranium Mines – Report to Congress (August 2014).
[4] U.S. Department of Energy, Uranium Mill Tailings Radiation Control Act - Fact Sheet (July 16, 2013). URL: < http://energy.gov/sites/prod/files/2013/07/f2/UMTRCA%20sites%20fact%20sheet_0.pdf>
[5] Proposed Rule at 25391.
[6] Grand Canyon Trust, Re: Notice of Intent to Sue Energy Fuels Inc., Energy Fuels Holding Corp., EFR White Mesa LLC, and Energy Fuels Resources (USA) Inc. for Violations of the Clean Air Act at the White Mesa Uranium Mill. July 29, 2014.

impoundments at the Mill); and violations of the monitoring and notification protocols and reporting standards set forth in Subpart W related to radon-flux measurements at Cell 3.[7]

Flux Requirement Versus Management Practices for Conventional Impoundments

EPA proposes to eliminate the radon flux standard of 20 pCi/m2/sec for "existing" impoundments, finding that all "existing" impoundments "appear to meet the work practice standard."[8] EPA states that it evaluated information, including facility compliance histories, in order to reach the conclusion that the radon flux standard should be abandoned. However, the aforementioned civil action against White Mesa Mill claims ongoing exceedances of the radon flux standard in Cells 2 ("new" impoundment)[9] and 3 ("existing" impoundment). This clearly obviates the need for continued monitoring and increased regulatory oversight.

The TEPC strongly recommends that EPA reconsider eliminating the 20 pCi/m2/sec radon flux standard for "existing" impoundments and instead implement this standard for all new and existing mill tailings facilities. Measurable standards for pollutants serve as a necessary and specific metric for evaluating the long-term effectiveness of emission control technologies. Further, reporting and monitoring radon emissions ensures transparency and accountability to the American public. In the absence of measurable emissions standards and publically accessible reporting records, the public has no recourse to hold industry accountable for malpractice.

Phased versus Continuous Disposal

The Proposed Rule provides that no new tailings impoundment can be built (after December 15, 1989) unless it's designed, constructed, and operated to meet one of the following two work practice standards for mitigating radon emissions:

(1) Phased disposal in lined impoundments that are no more than 40 acres in area, and meet the requirements of 40 CFR 192.32(a) as determined by the U.S. Nuclear Regulatory Commission (NRC) (the owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time); and

(2) Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.[10]

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[7] *Id.*

[8] Proposed Rule at 25395

[9] EPA defines "new" impoundments as those "designed and/or constructed after December 15, 1989." Proposed Rule at 25392

[10] *Id.*.

Regretfully, EPA fails to provide a sufficiently detailed description or comparison of the two work practice standards within the text of the Proposed Rule, which is critical for public deliberation. There exists a longstanding history of site abandonment and taxpayer-funded remediation efforts for uranium operations in the U.S. Subpart W should minimize public health burdens and potential public expense associated with such abandonment and remediation by limiting the number and dimensions of tailings impoundments at uranium mills and also requiring swift, responsible disposal of tailings. The continuous disposal approach seems to be more effective at ensuring ongoing radon mitigation[11] at impoundments. However, the TEPC finds the lack of clarity regarding dimensions for the disposal impoundments and total allowable number of disposal sites as unacceptable. As the regulatory language is currently written, the continuous disposal work practice standard could result in the unintended use of operating mill tailings as permanent repositories for vast quantities of radioactive mill tailings. As such, the TEPC recommends that EPA revise the regulatory language for the continuous disposal approach to specify the dimensions and number of disposal cells allowed at a mill tailings facility.

Definition of "Operation" in the Proposed Rule

The Proposed Rule provides that "as currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that "operation" means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W)."[12] EPA proposes the following amended definition to replace the current definition: "*Operation* means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins."

The TEPC supports EPA's recommendation to amend the definition of "operation" as it pertains to Subpart W, but with one important modification (italicized below): "An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure *concludes*."

Tribal Consultation

EPA provides that the Proposed Rule does "not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)."

[11] EPA states that the area of a given impoundment "has a direct linear relationship with the Rn-222 source term more so than the depth or volume of the impoundment." Proposed Rule at 25393. Thus, 2, 40-acre impoundments would likely have a greater Rn-222 emission potential than a single 10 acre section of disposal cell.

[12] Proposed Rule at 25405.

The rationale for EPA's finding is that the Proposed Rule "imposes requirements on owners and operators of specified area sources and not tribal governments." The TEPC finds that EPA does not understand fully the intent behind EO 13175 as it is not limited to federal actions with regulatory requirements imposed on Tribal governments. Specifically, section 1(a) of EO 13175 defines "policies that have tribal implications" as:

> [R]egulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

The definition makes no reference to direct regulatory requirements placed on Tribal governments. The TEPC strongly encourages EPA to reconsider applicability of EO 13175 in the Proposed Rule, particularly in light of the historic and ongoing environmental contamination that has resulted from uranium operations in and around Indian Country.

Despite this erroneous supposition in the language of the Proposed Rule, the TEPC notes that EPA did, in fact, deliver consultation letters to the 53 Tribes listed on the EPA Tribal Consultation Opportunities Tracking System (TCOTS) site.[13] However, the TEPC believes that EPA should have sent such letters to all Tribes, understanding that some of them could have historical ties to lands near uranium recovery facilities. Further, the TEPC is pleased that EPA's Radiation Protection Division discussed the Proposed Rule on the June 26, 2014 NTAA/EPA policy call, during which Tribal representatives were allowed to ask questions about the rule.

Beyond EPA simply adhering to its legal consultation requirements regarding Tribes, the TEPC strongly urges EPA to integrate recommendations from Tribes impacted currently and historically from uranium mill tailings[14] and mining operations[15] into this Proposed Rule and future proposed rules.

Conclusion

[13] EPA, Proposed Revisions to the Radon Emission Standards for Operating Uranium Mill Tailings Rule (Subpart W); Invitation to Consult Letter mailed to the following tribes on May 8, 2014 URL:<http://tcots.epa.gov/oita/tconsultation.nsf/ByUNID/0CE768F30DE0616985257CED00412620/$File/Invitation+to+Consultat+Letter+Sent+to+These+Tribes.pdf?OpenElement>

[14] USGS, Assessment of Potential Migration of Radionuclides and Trace Elements from the White Mesa Uranium Mill to the Ute Mountain Ute Reservation and Surrounding Areas, Southeastern Utah (Scientific Investigation Report 2011-5231). URL: <http://pubs.usgs.gov/sir/2011/5231/pdf/sir20115231.pdf>

[15] EPA, Technologically Enhanced Naturally Occurring Radioactive Materials From Uranium Mining Volume 2: Investigation of Potential Health, Geographic, and Environmental Issues of Abandoned Uranium Mines. [EPA 402-R-08-005] (April 2008).

In summary, the TEPC is pleased to provide the aforementioned comments regarding the Proposed Rule. If EPA should have any questions of the TEPC, please feel free to contact the TEPC via phone at (505) 340-6319 or via e-mail at info@tribalepc.org.

Respectfully submitted,

Tribal Environmental Policy Center

Uranium Watch

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October 29, 2014

via www.regulations.gov

Air and Radiation Docket
Environmental Protection Agency
Mailcode: 2822T
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

Re: Docket ID No. EPA–HQ– OAR–2008–0218. Comments on Proposed Rule: Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings (40 C.F.R. Part 61 Subpart W). 79 Fed. Reg. 25388, May 2, 2014.

Dear Sir or Madam:

Below please find comments on Environmental Protection Agency's (EPA's) Proposed Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings, 49 C.F.R. Part 61 Subpart W, Docket ID No. EPA–HQ– OAR–2008–0218. 79 Fed. Reg. 25388, May 2, 2014. These comments are submitted by Uranium Watch (UW). Comments are also submitted on behalf of Living Rivers, Moab, Utah; Grand Canyon Trust, Flagstaff, Arizona; Greenaction for Health and Environmental Justice, San Francisco, California; Information Network for Responsible Mining, Norwood, Colorado; Advocacy Coalition of Telluride, Telluride, Colorado; Clean Water Alliance, Rapid City, South Dakota; Western Nebraska Resources Council, Chadron, Nebraska; Western Colorado Congress, Grand Junction, Colorado; Sierra Club Nuclear Free Campaign, Columbia, South Carolina; Tallahassee Area Community, Cañon City, Colorado.

I. SUMMARY

1. As will be shown below, the Proposed Revisions to the National Emission Standards for Radon Emissions From Operating Mill Tailings (40 C.F.R. Part 61 Subpart W) is without a sound factual, technical, and legal basis.

2. The Proposed Rule does not comply with the requirements of the 1990 Clean Air Act (CAA), specifically Section 112(h).

3. There is no factual basis for the EPA's determination that the current "existing" tailings impoundments at conventional mills, as defined by 40 C.F.R. § 61.251(d), meets or will soon meet the proposed work-practice and design standard for "new" impoundments. Therefore, there is no factual and legal basis for the elimination of the radon emission standard for "existing" impoundments at 40 C.F.R. § 61.252(a).

4. There is no legal basis for establishing work-practice and design standards, in lieu of emissions standards, for "existing" impoundments, new impoundments, in-situ leach (ISL) operations, and heap-leach operations, given the failure of the Administrator to determine that emission standards are not feasible, as required by the CAA Section 112(h).

5. The assumption that a water cover on conventional mill tailings serves to limit radon emissions is no longer supported by facts and data. The high levels of radium and resulting significant radon emissions from the liquid effluents at four White Mesa Mill impoundments means that the EPA must establish a radon emission standard for liquid effluents and require methodologies to reduce those emissions.

6. The EPA failed to seek relevant data and information from mill licensees and place relevant data on the Rulemaking Docket. The EPA failed to include decades of Subpart W compliance reports, or even the most relevant recent reports, in the Rulemaking Docket.

7. The EPA failed in its responsibility to implement Executive Order 3175: Consultation and Coordination With Indian Tribal Governments, Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks, and Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations.

8. The Proposed Rule leaves a long-standing regulatory gap. The current and proposed 40 C.F.R. Part 6s Subpart W regulations and the EPA's rescission of Part 61 Subpart T means that at the very time when radon emissions increase due to the drying out of a tailings impoundment, the radon emissions are unregulated. This period of unregulated, unmonitored, unreported, and unmitigated radon emissions can amount to ten years or more before the placement of the final radon barrier.

9. Uranium recovery operations should be considered, by definition, major sources of hazardous air pollutants and subject to major source requirements. The EPA has avoided this designation since 1990. All uranium recovery operations licensed by the Nuclear Regulatory Commission (NRC) or an NRC Agreement State is subject to the 40 C.F.R. Part 61 Subpart W regulations. There is no emission level that divides those sources that are subject to the rule and those that are not. There is no emission level that separates those that must have EPA or Utah State authorization to construct and operate a source at a new or existing license operation and those that are not.

10. Due to the numerous factual, technical, and legal inadequacies in the Proposed Rule, the EPA must 1) correct those errors; 2) develop new proposed regulations that can be supported factually, technically, and legally; and 3) issue a new Proposed Rule for public comment.

II. LEGAL ISSUES

1. Clean Air Act Amendments of 1990.

1.1. The current Subpart W Rulemaking is being conducted under the provisions of the CAA Amendments of 1990. The existing 40 C.F.R. Part 61 Subpart W rule was promulgated in December 1989,[1] prior to the promulgation of the 1990 CAA Amendments. The 1990 CAA at Section 112(q)(1) states, with respect "Standards Previously Promulgated": "Each such standard shall be reviewed and, if appropriate, revised, to comply with the requirements of subsection (d) within 10 years after the date of enactment of the Clean Air Act Amendments of 1990." The standards in Subpart W for uranium mills were not exempted from this provision by subsection (q)(3).

1.2. Subsection (d) is a subsection of Section 112, entitled "Emission Standards." Therefore, any proposed emission standards promulgated under subsection (d) must comply with all applicable provisions of Section 112. This means that the proposed Subpart W emission standards, whether not they change or restate emission standards in the current Subpart W regulation, must comply with all applicable requirements in Section 112 of the 1990 CAA Amendments.

1.3. Section 112(d)(2), Standards and Methods, states that "emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section." Therefore, Section 112(d)(2) requires maximum achievable control technology (MACT) for both major and area sources. However, Section 112(d)(5) allows for the use of generally available control technology or management practices (GACT) to reduce hazardous air emissions from area sources.

1.4. Section 112(d)(2) lists some of the types of measures, processes, methods, systems or techniques that could be used to reduce hazardous air emissions. Section 112(d)(5) applies to the same list of potential emission reduction methodologies; it just says that an area source can use GACT in place of MACT. The list of possible control technologies or combination of technologies—whether used as the maximum or generally available technologies—includes design, equipment, work practice, or operational standards (Section 112(d)(2)(D)). Subsection (d)(2)(D) requires that the application of design and work practice standards must be "as provided in subsection (h)."

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[1] 54 Fed. Reg. 51654, 51654-51713; December 15, 1989.

1.5. Subsection (h), Work Practice Standards and Other Requirements, applies to standards promulgated pursuant to Section 112. Subsection (h) states that it is "for the purposed of this section." Therefore, subsection (h) applies to Section 112 and the establishment of "work practice standards" under subsection (d). Such "work practice standards," through the use of generally available technologies, have been proposed by the EPA.

1.6. Section 112(h) of the CAA states:

(h) WORK PRACTICE STANDARDS AND OTHER REQUIREMENTS.

(1) IN GENERAL.—For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f). In the event the Administrator promulgates a design or equipment standard under this subsection, the Administrator shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

(2) DEFINITION.—For the purpose of this subsection, the phrase ''not feasible to prescribe or enforce an emission standard'' means any situation in which the Administrator determines that—

(A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or

(B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.

1.7. As stated above, under the provisions of subsection (h), the EPA cannot establish a design, equipment, work practice, or operational standard, or combination thereof (whether through the application of maximum available technologies or generally available technologies) **in lieu of** an emission standard unless the Administrator makes certain findings. If the EPA proposes to establish a design, equipment, work practice, or operational standard, or combination thereof, the Administrator must find that it is not feasible to prescribe or enforce an emission standard, meaning that the the application of a measurement methodology is not technologically and economically practicable.

1.8. The EPA Air Toxics Website's "Overview by Section of CAA, Introduction to CAA and Section 112 (Air Toxics)," states with respect "Overview of Section 112 and

its Subsection" for subsection (h) Work Practice Standards and Other Requirements: "Allows the EPA, in cases where it is not feasible to prescribe or enforce an emission standard [under Section 112(d) or (f)], to promulgate a design, equipment, work practice, or operational standard." [2]

1.9. There is no evidence that the EPA Administrator has found that it is not feasible to prescribe or enforce radon emission standards for area sources subject to Subpart W, including conventional impoundments, liquid waste impoundments, and heap leach operations.

1.10. Compliance with the emission standard for existing impoundments involves radon flux measurements to demonstrate compliance using a methodology that has been incorporated into EPA Part 61 regulation.[3] That measurement methodology has been found to be both technically and economically feasible and has been used for decades to demonstrate compliance with the Subpart W radon emission standard for existing impoundments at uranium mills.

1.11. There are measurement technologies, including calculation of radon emissions from nonconventional fluid impoundments, based on measurements of radium content and meteorological conditions, that can be used to demonstrate compliance with a radon emission standard for liquid impoundments. There are other possible measurement technologies that can be applied to heap leach operations to demonstrate compliance with a radon emission standard. The EPA had not demonstrated that other possible methodologies for measuring or calculating radon emissions from nonconventional impoundments or heap-leach operations are not technically or economically feasible.

1.12. Therefore, the EPA has no legal basis for the promulgation of a design, equipment, work practice, or operational standard, or combination thereof, **in lieu of** a radon emission standard, pursuant to Section 112 of the CAA. Design, equipment, work practice, or operational standards are meant to supplement, not replace, a standard that places specific numerical limitations on the emission of a hazardous air pollutant. The EPA may supplement an emission standard with a design, equipment, work practice, or operational standard, but it cannot replace a numeric emission standard without the Administrator making the required findings. In this instance, the Administrator has not, and cannot make such findings.

III. GENERAL COMMENTS

1. The public and various stakeholders expected the EPA to improve environmental protection concerning the process of uranium milling and closure. The EPA has

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[2] http://www.epa.gov/ttn/atw/overview.html

[3] 40 C.F.R. Part 61, Appendix B, Method 115-Monitoring for Radon-222 Emissions, 2. Radon-222 Emissions from Uranium Mill Tailings Piles.

proposed a drastic step that will degrade environmental and community protection against radon emissions from uranium recovery operations.

2. As will be shown below, in developing the proposed rule the EPA relied on erroneous, incomplete, and misleading information.

3. The *Federal Register* Notice (FRN) contains numerous misleading and erroneous statements and assertions that are not supported by citations to supportive documents. *See* 79 Fed. Reg. 25388, May 2, 2014.

4. The EPA has not attempted to learn from the experience over the previous decades by analyzing available data and incorporating the results of the analyses into an organized body of knowledge about the radon emissions from liquid and solid tailings impoundments and the performance of these impoundments and designs and work practices over the past several decades.

5. The EPA failed to consider Subpart W and its implementation and enforcement as a whole regulatory program with various parts, including the regulations and how those regulations have been and will be implemented and enforced. The EPA egregiously failed to provide documentation regarding the enforcement so Subpart W since 1989 and discuss the numerous issues associated with that enforcement.

IV. PROPOSED REVISIONS TO 40 C.F.R. PART 61 SUBPART W

1. Proposed Rule, at II.A. Background Information for Proposed Area Source Standards, *What is the statutory authority for the proposed standards?* (page 25390, col. 1, ¶ 2) states (in part):

> Section 112(d) of the CAA requires EPA to establish emission standards for major and area source categories that are listed for regulation under CAA section 112(c). A major source is any stationary source that emits or has the potential to emit 10 tons per year (tpy) or more of any single hazardous air pollutant (HAP) or 25 tpy or more of any combination of HAP. An area source is a stationary source of HAP that is not a major source. . . . Calculations of radon emissions from operating uranium recovery facilities have shown that facilities regulated under Subpart W are area sources (EPA- HQ-OAR-2008-0218-0001, 0002).

1.1. The discussion of whether the Subpart W radon standard applies to an area or major source is highly misleading. Radon is never measured in tons per year. Very high and hazardous levels of radon emission would never reach the tons per year major source levels, because that source category applies to particulates, not radioactive gases. The EPA never intended the 10 or 25 tons per year emission level to apply to the emission of radon or other radionuclides. It is disingenuous of the EPA to suggest otherwise.

1.2. The Clean Air Act (CAA), Section 112 —Hazardous Air Pollutants, defines "major" and "area" sources:

> SEC. 112. HAZARDOUS AIR POLLUTANTS.
> (a) DEFINITIONS.—For purposes of this section, except subsection (r)—
> (1) MAJOR SOURCE.—The term ' 'major source' ' means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. **The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.**
> (2) AREA SOURCE.—The term ''area source'' means any stationary source of hazardous air pollutants that is not a major source. [Emphasis added.]

The part of the definition of "major source," which the EPA inexplicably left out of the discussion in the May 2 FRN, clearly states that the Administrator could establish lesser criteria for major sources and, in the case of radionuclides a **different criteria**. The problem is that the Administrator never took it upon his or herself to establish criteria for determining whether a radionuclide source is a "major source."

1.3. Also, EPA regulation at 40 C.F.R. Part 70, State Operating Permit Programs, provides addition information:

> Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Act.
> ***
> Major source means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person (or persons under common control)) belonging to a single major industrial grouping and that are described in paragraph (1), (2), or (3) of this definition. For the purposes of defining "major source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

> **(1) A major source under section 112 of the Act, which is defined as:**
> (i) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or
> **(ii) For radionuclides, "major source'' shall have the meaning specified by the Administrator by rule.** [Emphasis added.]

Again, the CAA and EPA Part 70 regulation anticipated that the EPA Administrator would issue a rulemaking that would specify the basis for determining whether a radionuclide source is a "major source." Subsequent to the passage of the 1990 amendments to the CAA, the EPA Administrator failed to establish specific criteria for "major" radionuclide sources, as was contemplated by the Clean Air Act, Section 112(a)(1), and 40 C.F.R.
§ 70.2. The EPA cannot, and should not justify the failure of the Administrator to establish specific criteria for "major" radionuclide sources.

1.4. The radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPS) themselves state whether a emission source must adhere to a emission standard and apply for a permit pursuant to 40 C.F.R. Part 61 Subpart A. Under Subpart W, all uranium recovery facilities that are licensed by the Nuclear Regulatory Commission (NRC) or an NRC Agreement State under the Atomic Energy Act are subject to Subpart W, no matter now much radon is emitted. Under Subpart B (National Emission Standards for Radon Emissions from Underground Uranium Mines), uranium mines that produce or are expected to produce more than 100,000 tons of uranium ore are subject to the Part 61 Subpart B standard. Therefore, the EPA established criteria for regulation of that emission source. The EPA singled out radon emissions from uranium mills for its own specific NESHAP radon emission standard, clearly demonstrating that that source category warranted a specific regulation and regulatory program to control radon emissions.

1.5. Under 40 C.F.R. § 70.3(b)(1), states that administer EPA CAA regulations may exempt area sources from the obligation to obtain a permit:

> § 70.3 Sec. 70.3 Applicability.
> ***
> (b) Source category exemptions.

> (1) All sources listed in paragraph (a) of this section that are not major sources, affected sources, or solid waste incineration units required to obtain a permit pursuant to section 129(e) of the Act, may be exempted by the State from the obligation to obtain a part 70 permit until such time as the Administrator completes a rulemaking to determine how the program should be structured for nonmajor sources and the appropriateness of any permanent exemptions in addition to those provided for in paragraph (b) (4) of this section.

However, a state that administers the Part 61 radionuclide NESHAPS may not exempt a uranium mill (or other radionuclide source subject to Part 61 regulations) from the necessity of obtaining a permit pursuant to Subpart A (General Requirements) and Subpart W. In other words, the State of Utah cannot treat a uranium mill as a area source subject to a permitting exemption. Instead, it must treat a uranium mill as a "major" source.

1.6. The Administrator of the EPA should make a determination that any source subject to the National Emission Standards for Radon Emissions From Operating Mill Tailings is, by definition, a major source.

2. Proposed Rule, at II.A. Background Information for Proposed Area Source Standards, What is the statutory authority for the proposed standards? (page 25390, col. 1, ¶ 2) states (in part): "For the purposes of Subpart W, the HAP at issue is radon-222 (hereafter referred to as "radon"). We presently have no data or information that shows any other HAPs being emitted from these impoundments."

2.1. The EPA is clearly aware that materials that emit radon-220 from the decay of thorium-232 have been disposed of in tailings impoundments subject to Subpart W standard. The NRC authorized the receipt, storage, processing, and disposal of wastes containing thorium-232 and its more highly radioactive progeny at the White Mesa Mill, San Juan County, Utah. The licensee even developed standard operating procedures (SOPs) for the handling of high-thorium content material. The thorium-232 and thorium-232 progeny were not removed during processing. Therefore, radon-220 from the decay of thorium-232, is probably emitted from tailings Cells 2 and 3 at the White Mesa Uranium Mill, San Juan County, Utah. The reason that the EPA has no data or information that shows that radon-220 is being emitted at the White Mesa Mill is because the method used by the Mill licensee to measure radon from Cells 2 and 3 in order to demonstrate compliance with Subpart W does not capture and measure radon-220 or radon-220 progeny.[4] Nor is there evidence that other radioactive measurements at or near the site are capable of measuring radon-220 and radon-220 progeny. So, it is no wonder the EPA has no data showing that radon-220 is being emitted from the White Mesa Mill.

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[4] Tellco Environmental, Grand Junction, Colorado. Personal communication.

3. Proposed Rule, at II.A. Background Information for Proposed Area Source Standards, *What is the statutory authority for the proposed standards?* (page 25390, col. 2, ¶ 1) states:

> Under CAA section 112(d)(5), the Administrator may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.'' Under section 112(d)(5), the Administrator has the discretion to use generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT) under section 112(d)(2) and (d)(3), which is required for major sources. Pursuant to section 112(d)(5), we are proposing revisions to Subpart W to reflect GACT.

3.1. Any state that administers and enforces Subpart W has the authority to determine that such sources are "major sources." Since the State of Utah, which regulates the only operating uranium mill in the U.S., administers and enforces the radionuclide NESHAPS. it would be highly improper to only consider the GACT in lieu of MACT. Radon, radon progeny, and other radionuclides that are emitted from uranium mill sites should be subject to MACT.

3.2. As discussed above, it was the intention of the CAA and EPA regulation that the EPA Administrator specify criteria for determining "major" sources of radionuclide emissions. As also discussed above, the fact that all uranium recovery facilities are subject to regulation under Subpart W means that, by definition, they are "major" sources. Therefore, the EPA has no basis whatsoever using generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT)

4. Proposed Rule, at II.B. Background Information for Proposed Area Source Standards, *What criteria did EPA use in developing the proposed GACT standards for these area sources?* (page 25390, col. 2, ¶ 3) states:

> Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that may include small businesses.

4.1 EPA should define "small business" in the context of this rule, which applies to the owners and operators of uranium mills and other uranium recovery facilities. The EPA should provide information on the size of the companies, assets, and incomes that will be affected by these rules.

4.2. It is doubtful that any facility in this source category is owned by a small business. The only operating uranium mill in the US is owned by a large foreign

company. Other owners and operators of uranium recovery facilities are often large, multi-national companies, with incomes and resources in the millions of dollars.

4.3. A small business that would be adversely by the proposed regulation is the company that manufactures the canisters that measure radon on tailings impoundments and determines the radon flux from those canisters. The EPA should provide more financial information about how small companies that provide support for compliance with the Subpart W standard will be impacted.

5. Proposed Rule, at II.B. Background Information for Proposed Area Source Standards, *What criteria did EPA use in developing the proposed GACT standards for these area sources?* (page 25390, col. 2, ¶ 4), states:

> Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources[2] in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.
>
> [2] None of the sources in this source category are major sources.

5.1. The following portion of the above paragraph should be deleted: "We also consider the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue." This statement should be deleted because it is a false and misleading statement, typical of other false and misleading statements in the Proposed Rule.

The EPA could not have "considered the standards applicable to major sources in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources." This is because all of the facilities in the same industrial sector, that is, uranium recovery facilities and 11e.(2) byproduct material impoundments, are considered to be area sources by the EPA, so there are no major sources in the same industrial sector to consider.

6. Proposed Rule, at II.C. Background Information for Proposed Area Source Standards, What source category is affected by the proposed standards? (page 25390, col. 3, ¶ 1), states (in part):

> As defined by EPA pursuant to the CAA, the source category for Subpart W is "facilities licensed [by the U.S. Nuclear Regulatory Commission (NRC)] to manage uranium byproduct material during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings." 40 CFR 61.250. Subpart W defines "uranium byproduct material or tailings" as "the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content." 40 CFR 61.251(g).

6.1. Based on the definition above, there is a significant question regarding how Subpart W applies to the wastes that have been placed in impoundments at licensed conventional uranium mills that do not come from the processing of uranium ores. These uranium recovery wastes come from the processing of wastes from other mineral processing facilities. Thousands of tons of materials that are not "ore,"[5] as contemplated by the Atomic Energy Act of 1946 (as supplemented and amended by the Atomic Energy Act of 1954 and the Uranium Mill Tailings Radiation Control Act of 1978, and the EPA and NRC regulations promulgated pursuant to UMTRCA) have been disposed of at a licensed uranium mill (White Mesa Mill). The EPA has never amended its regulations, nor has ever claimed that 40 C.F.R. Part 61 Subpart W or 40 C.F.R. Part 192 apply to the wastes produced by the extraction or concentration of uranium from materials other than "ore" that have been processed primarily for its source material content. Therefore, there is no legal basis for the application of Subpart W to the wastes from the processing of wastes from other mineral processing operations at licensed uranium mills. The EPA must address this issue in the Proposed Rule.

7. Proposed Rule, at II.C. Background Information for Proposed Area Source Standards, *What source category is affected by the proposed standards?* (page 25390, col. 3, ¶ 1) states (in part):

> Uranium recovery facilities process uranium ore to extract uranium. The HAP emissions from any type of uranium recovery facility that manages uranium byproduct material or tailings is subject to regulation under Subpart W. This currently includes three types of uranium recovery facilities: (1) conventional uranium mills; (2) in-situ leach recovery facilities; and (3) heap leach facilities.

7.1. The EPA must consider types of uranium recovery facilities, using new

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[5] White Mesa Mill Radioactive Materials License. http://www.deq.utah.gov/businesses/E/energyfuels/docs/2010/06Jun/4BER%20UT1900479%20061410.pdf

technologies, that process uranium ore to extract uranium. These facilities include borehole mining operations and ablation processing. Black Range Minerals and their joint venture with Ablation Technologies LLC, Mineral Ablation, have undertaken research and development activities associated with the ablation process, and Black Range Minerals is developing a borehole mining project. [6] The EPA must investigate and evaluate these technologies with respect Subpart W standards.

7.2. The EPA must also consider the applicability of Subpart W to research and development uranium recovery operations, particularly ablation.

7.3. The EPA must have a process for evaluating new uranium recovery technologies in a timely manner with respect Subpart W standards and compliance with those standards.

8. Proposed Rule, at II.D(1)(D). Background Information for Proposed Area Source Standards, *What are the production operations, emission sources, and available controls?,* (1) Conventional Mills (page 25391, col. 1, ¶ 8), states (in part):

> Uranium byproduct material/tailings are typically created in slurry form during the crushing, leaching and concentration processes and are then deposited in an impoundment or ''mill tailings pile,'' which must be carefully monitored and controlled. This is because the mill tailings contain heavy metal ore constituents, including radium. The radium decays to produce radon, which may then be released to the environment. Because radon is a radioactive gas which may be inhaled into the respiratory tract, EPA has determined that exposure to radon and its daughter products contributes to an increased risk of lung cancer.

8.1. The EPA states here that a "mill tailings pile" must be carefully monitored and controlled. However, the proposed rule removes any requirement for active monitoring and control of radon emissions from mill tailings piles. The EPA cannot claim, on one hand, that a tailing pile must be carefully monitored and controlled and, on the other hand, remove any requirement for monitoring and remove any possibility for "control" of those emissions when the emissions exceed a specific radon emission standard.

8.2. Here the EPA should have discussed the operations that produce liquids and other materials that are held in liquid effluent ponds and ponds on top of the solid tailings disposal impoundments, their radiological constituents, and the emissions from such effluents. The EPA should have discussed the sources of these liquids and the solids in those liquids. These effluent sources would include effluents and raffinates from ore

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[6] http://www.blackrangeminerals.com/content/wp-content/uploads/2014/10/24-Oct-2014-Further-Positive-Results-From-Ablation-Testwork.pdf
http://www.blackrangeminerals.com/content/ablation-joint-venture/

processing, tailings pore water, liner system leachates, liquids from tailings dewatering, pumpback from groundwater corrective actions, natural precipitation, and runoff. The EPA should also have discussed the solids dissolved and suspended in the liquids and the sources of those particulates and their radiological properties. Further, the EPA should have discussed and provided data regarding the generation of radon from the radium in these ponds, which the EPA proposes to call "nonconventional impoundments."

8.3. The Proposed Rule must consider and address the radon emissions from stockpiled uranium ore as a radon emission source at uranium recovery facilities. The EPA should have, but did not, identify and consider other sources of emissions of radon and other radionuclides at conventional, ISL, or heap leach operations (including contaminated soil, ore pads, windblown tailings, stockpiled radioactive wastes prior to processing, ore handling areas, stacks). The CAA directs the EPA to regulate radionuclides, including radon, not just radon emissions from 11e.(2) byproduct material. There is no legal or technical justification for the EPA disregarding other sources of radon and other radioactive emissions at uranium recovery operations. All radioactive contaminants that are inhaled or are taken up by soils, water, and enter the food chain have health risks. The health risks from uranium and other radioactive particulate emissions from uranium mills (e.g., uranium isotopes, radium-226, thorium-230, and polonium-126) must also be considered.

9. Proposed Rule, at II.E. Background Information for Proposed Area Source Standards, *What are the existing requirements under Subpart W?,* (page 25392, col. 2 to col. 3).

9.1. The EPA leaves out any discussion of the requirement in Subpart W at Section 61.252(b)(1): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." The FRN should have discussed the implementation and enforcement, or lack of implementation and enforcement, of that provision. The EPA should discuss how the EPA and the State of Utah, Division of Air Quality (DAQ), ignored that provision since 1989 for the White Mesa Mill. Since 1989, there have been at least 3 operational impoundments at the White Mesa Mill. At the time the FRN was issued, there were 6 impoundments (Cells 1, 2, 3, 4A, 4B, and Roberts Pond) "in operation" at White Mesa.

9.2. The FRN states, "The owners or operators of existing impoundments must report to EPA the results of the compliance testing for any calendar year by no later than March 31 of the following year." The EPA should also mention that the owner and operator of the only operating mill (White Mesa Mill) and one of the mills on standby (Shootaring Canyon Mill) must report to the Utah Division of Air Quality (an EPA Delegated State), which administers and enforces the EPA radionuclide NESHAPs in Utah.

10. Proposed Rule, at II.E. Background Information for Proposed Area Source Standards, *What are the existing requirements under Subpart W?,* (page 25392, col. 3, ¶ 6, to page 25392, col. 1, ¶ 2) states:

> The work practice standards described above were promulgated after EPA considered a number of factors that influence the emissions of Rn-222 from tailings impoundments, including the climate and the size of the impoundment. For example, for a given concentration of Ra-226 in the tailings, and a given grain size of the tailings, the moisture content of the tailings will control the radon emission rate; the higher the moisture content the lower the emission rate. In the arid and semi- arid areas of the country where most impoundments are located or proposed, the annual evaporation rate is quite high. As a result, the exposed tailings absent controls like sprinkling) dry rapidly. In previous assessments, we explicitly took the fact of rapid drying into account by using a Rn-222 flux rate of 1 pCi/m2/s per pCi/g Ra-226 to estimate the Rn-222 source term from the dry areas of the impoundments. (Note: The estimated source terms from the ponded (areas completely covered by liquid) and saturated areas of the impoundments are considered to be zero, reflecting the complete attenuation of the Rn-222).
>
> Another factor we considered was the area of the impoundment, which has a direct linear relationship with the Rn- 222 source term, more so than the depth or volume of the impoundment. Again, assuming the same Ra-226 concentration and grain sizes in the tailings, a 100-acre dry impoundment will emit 10 times the radon of a 10-acre dry impoundment. This linear relationship between size and Rn-222 source term is one of the main reasons that Subpart W imposed size restrictions on all future impoundments (40 acres per impoundment if phased disposal is chosen and 10 acres total uncovered.

10.1. There are only 2 impoundments that more or less meet the size requirement for new impoundments, Cells 4A and 4B at the White Mesa Mill. Only Cell 4A, which has only been operational for a few years, has received solid tailings. Therefore, the EPA has no operational history for 40 acre impoundments. Additionally, the EPA give no justification for not requiring 20-acre or 10-acre impoundments, to reduce the amount of radon emissions.

10.2. The fact is, at the White Mesa Mill, additional impoundments, no matter what their size, mean additional radon emissions from the mill site. The White Mesa Mill licensee the "existing" impoundments continue to emit radon and those emissions will increase as the impoundments dry out. The new impoundments emit radon from the liquids. Based on the EPA's determination that there are radon emissions of 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium and recent data on the radium content of new Cells 4A and 4B, the radon emissions from Cell 4A are 110.6 pCi/m^2-sec and those from Cell

4B are 102.2 pCi/m^2-sec. This is over 5 times the current radon emission standard. *See* Section IV. 45.11, below.

11. Proposed Rule, at II.F.1. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25393, col. 3, ¶ 3), states (in part):

> The White Mesa Conventional Mill in Blanding, Utah, has one pre-1989 impoundment (known by the company as Cell 3) that is currently in operation and near capacity but is still authorized and continues to receive tailings. The company is now pumping any residual free solution out of the cell and contouring the sands. It will then be determined whether any more solids need to be added to the cell to fill it to the specified final elevation. It is expected to close in the near future (EPA-HQ-OAR-2008-0218- 0069). The mill also uses an impoundment constructed before 1989 as an evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

11.1. The EPA should have acknowledged another pre-1989 impoundment that was an existing tailings impoundment at the time the Proposed Rule was issued on May 2, 2014. Cell 2 (66 acres) was an "existing" tailings impoundment, constructed before December 1989.

11.2. The White Mesa Mill licensee, currently Energy Fuels Resources (USA) Inc. (EFRI), continued to monitor the radon flux for Cell 2 and submit the results to the EPA and the Utah Division of Air Quality (DAQ)[7] on an annual basis. In 2012, the radon flux from Cell 2 exceeded the Subpart W standard of 20 pCi/m^2-sec of radon-222 for an existing uranium tailings impoundment. 40 C.F.R. § 61.252(a). The exceedance was reported to the DAQ and EPA in March 2013.[8] The April 17, 2013, DAQ White Mesa Mill Subpart W compliance review states that "due to the exceedance from Cell #2, monthly reports are required to be submitted," and that "the first report will be submitted April 2013." Until May 2014, Energy Fuels submitted monthly reports on the radon flux for Cell 2 and the measures taken to bring Cell 2 into compliance with the Subpart W standard, pursuant to Section 61.254(b). The Licensee, EPA, and DAQ's actions were the result of a determination that the provisions of Section 61.252(a) applied to Cell 2 as an "existing" tailings impoundment.

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[7] In 1995 the State of Utah assumed administrative and enforcement authority for the radionuclide NESHAPS for Utah.

[8] White Mesa Uranium Mill, National Emissions Standards for Radon Emission from Operating Mill Tailings Transmittal of 2012 Annual Radon Flux Monitoring Reports; Energy Fuels Resources (USA) Inc. to Bryce Bird, Director, Division of Air Quality; March 29, 2013.

11.3. Even though the Licensee was submitting annual and monthly Subpart W compliance reports for Cell 2 as late as the end of May 2014, the EPA failed to even mention Cell 2 in the Proposed Rule. The was an egregious oversight on the part of the EPA.

11.4. In the monthly compliance for April 2014, submitted in May 2014 (after the publication of the May 2 Proposed Rule), the Licensee requested permission to cease monthly monitoring because Cell 2 was in compliance with the radon flux standard. On July 23, 2014, the Utah Division of Radiation Control (DRC) issued an order stating that Cell 2 is not in operation and is in closure. The DRC directive stated that no additional radioactive materials of any sort or other waste may be added to the cell.[9] However, it is doubtful that Cell 2 can be considered to be in "closure." The White Mesa Mill License[10] does not include an approved Closure Plan for Cell 2. There are no enforceable reclamation milestones for the closure and reclamation of Cell 2 that have been incorporated into the License as license conditions, as required by and 10 C.F.R. Part 40, Appendix A, Criterion 6A, and 40 C.F.R. § 192.32(a)(3).

11.5. The 2012 Annual Compliance Report submittal (page 1) states that the Cell 2 dewatering activities are mandated by the Mill's State of Utah Groundwater Discharge Permit. There is no reference to dewatering activities mandated by the Mill's Radioactive Materials License or a closure plan. There is no reference to enforceable reclamation milestone for the removal of free-standing liquids from Cell 2. The EPA rescinded 40 C.F.R. Part 61 Subpart T under the assumption that that enforceable reclamation milestones would be incorporated into uranium mill licenses as part of closure.[11]

11.6. The FRN neglects to mention another "existing" 11e.(2) byproduct material disposal impoundments at the White Mesa Mill. Cell 1, constructed in 1981, receives and stores processing liquids and solid material. Eventually, part of Cell 1 will be used to dispose of solid 11e.(2) byproduct material from the reclamation of the Mill. Another impoundment that receives processing liquids is Roberts Pond, yet there is no mention of that impoundment in the FRN, and it does not appear that it was approved pursuant to 40 C.F.R. §§ 61.07 and 61.08.

12. Proposed Rule, at II.F.1. Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25394, col. 1, ¶ 1), states (in part):

> The mill also uses an impoundment constructed before 1989 as an

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[9] http://www.deq.utah.gov/businesses/E/energyfuels/docs/2014/07Jul/EnergyFuels072814.pdf

[10] http://www.deq.utah.gov/businesses/E/energyfuels/docs/2010/06Jun/4BER%20UT1900479%20061410.pdf

[11] 59 FR 36302, July 15, 1994

> evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

12.1. Cell 1 contains 11e.(2) byproduct material. But it is misleading to state that its HAP emissions are also regulated by Subpart W. There is no requirement to measure the radon emissions from Cell 1 because Cell 1 contains liquids. So, it may be regulated, but with no requirement to actually measure the radon emissions, it might as well not be regulated. The EPA should make that clear. The materials, solids and liquids, in Cell 1 are 11e.(2) byproduct material. Even the Cell 1 liner is 11e.(2) byproduct material.

12.2. Further, since 1990, the EPA, DAQ, and the White Mesa Mill license did not include Cell 1when determining compliance Section 61.252(b)(1), which states (in part): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." If Cell 1 was really being regulated by Subpart W, it would have counted as the third operating impoundment when Subpart W became effective. In reality, at no time since 1990 has the EPA or DAQ actually regulated Cell 1 under Subpart W.

12.3. Recent data indicates that there are, have been, and will continue to be significant radon emissions from the liquid effluents in Cell 1. *See* Section IV. 45.11, below. Yet, the EPA has maintained that radon emissions from liquid evaporation ponds, now called nonconventional impoundments, were negligible.

12.4. Roberts Pond, which also receives liquid effluent and solids, was also constructed before December 1989. Neither the EPA, nor the DAQ, ever approved the construction of, or later relining of, Roberts Pond.

13. Proposed Rule, at II.F.1. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25394, col. 1, ¶ 3, and col. 2, ¶ 1), states (in part):

> The Shootaring Canyon project is a conventional mill located about 3 miles north of Ticaboo, Utah, in Garfield County. The approximately 1,900-acre site includes an ore pad, a small milling building, and a tailings impoundment system that is partially constructed. The mill operated for a very short period of time. Shootaring Canyon did pre-date the standard, but the mill was shut down prior to the promulgation of the standard. The impoundment is in a standby status and has an active license administered by the Utah Department of Environmental Quality, Division of Radiation Control. The future plans for this uranium recovery operation are unknown.
> ***
> The Shootaring Canyon mill operated for approximately 30 days.

> Tailings were deposited in a portion of the upper impoundment. A lower impoundment was conceptually designed but has not been built. Milling operations in 1982 produced 25,000 cubic yards of tailings, deposited in a 2,508 m ^{2} (0.62 acres) area.

13.1. Most of the tailings at the Shootaring Canyon Mill did not come from the processing of ore at the mill. The tailings came from the disposal of equipment and wastes from the cleanup of the Hyrdo-Jet Heap-Leach operation (NRC Docket No. 40-7869).

13.2. The EPA should include the fact that the Shootaring Canyon Mill site includes stockpiled ore, ore on the tailings impoundment berm, and areas of radioactively contaminated soils that must be removed and placed in the tailings impoundment[12] The estimated amout of ore and contaminated soil is 114,000 cubic yards. The ore stockpile and soil beneath the ore pile that will be removed is 65,500 cubic yards. An additional 6,700 cubic yards of ore is on top of one of the tailings impoundment berms. The average radium-226 concentration of 30 ore samples is 225.68 pCi/gm (rounded to 226 pCi/gm). The average tailings radium concentration is 78.8 pCi/gm.[13]

13.3. The EPA seriously underestimates the amount of contaminated soils, ore, and other tailings that are at the Shootaring Canyon Mill.

13.4. Regarding future plans for the Shootaring Mill, on October 17, 2014, the Utah Division of Radiation Control (DRC) authorized the Transfer of Control and Ownership from Uranium One Americas, Inc. to Anfield Resources Holding Corp.[14]

14. Proposed Rule, at II.F.1. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Pre-1989 Conventional Mill Impoundments (page 25394, col. 1, ¶ 3, and col. 2, ¶ 2), states:

> A fourth mill is Cotter Corporation in Cañon City, Colorado. The mill no longer exists, and the pre-1989 impoundments are in closure.

14.1. It is questionable whether the pre-1989 impoundments at the Cotter Mill are "in closure." To the best of Commenters' knowledge, the Cotter Mill does not have an approved Closure Plan. To the best of Commenters' knowledge, there are no enforceable

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[12] Tailings Reclamation and Decommissioning Plan for Shootaring Canyon Uranium Project, Garfield County, Utah. License Number SUA-1371 (NRC); UT 0900480 (DAQ). Hydro-Engineering LLC, Environmental Restoration Inc. Revised November 2003. Updated and submitted March 29, 2012. http://www.radiationcontrol.utah.gov/Uranium_Mills/uraniumone/docs/2012/March/DRC-2012-001447.pdf

[13] Id. Section 5.4.4, page 5-6.

[14] http://www.deq.utah.gov/businesses/U/uraniumone/docs/2014/10Oct/TransferofContorl101714.pdf

reclamation milestones for the closure and reclamation the tailings impoundments that have been incorporated into the Cotter Mill license as license conditions, as required by 40 C.F.R. Part 192 and 10 C.F.R. Part 40, Appendix A, Criterion 6A. Closure demands a closure plan and enforceable reclamation milestones for the removal of free-standing liquids (dewatering), placement of the interim cover, and placement of the final radon barrier.

15. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25394, col. 3, § 4; page 25395, col. ¶ 1), states (in part):

> In performing our analysis we considered the information we received from all the existing conventional impoundments. We also looked at the compliance history of the existing conventional impoundments. After this review we considered two specific questions: (1) Are any of the conventional impoundments using any novel methods to reduce radon emissions? (2) Is there now any reason to believe that any of the existing conventional impoundments could not comply with the management practices for new conventional impoundments, in which case would we need to continue to make the distinction between conventional impoundments constructed before or after December 15, 1989? We arrived at the following conclusions: First, we are not aware of any conventional impoundment that uses any new or different technologies to reduce radon emissions.
>
> Conventional impoundment operators continue to use the standard method of reducing radon emissions by limiting the size of the impoundment and covering tailings with soil or keeping tailings wet. These are very effective methods for limiting the amount of radon released to the environment.

15.1. Here, the EPA has asked the wrong questions. This question that should be asked is whether the existing regulations are protective of the public health and safety, how those regulations have been implemented, and how the regulations can be improved to limit the amount of radon released from a conventional uranium mill tailings impoundment prior to the placement of the final radon barrier. By asking Question 2, the EPA is going down a path of manipulating the experience of the implementation and enforcement of Subpart W. The EPA is assuring that, in the future, radon emissions will not be monitored and therefore, no mitigative measures will be taken to bring tailings impoundments within the accepted 20 pCi/m^2-sec standard when that standard is exceeded.

15.2. Another question that should be asked is not whether existing conventional impoundments can comply with the management practices for new mill tailings

impoundments (40 C.F.R. § 61.252(b)), but whether the new mill tailings impoundments should also be subject to the radon flux standard for existing mill tailings piles (40 C.F.R. § 61.252(a)).

15.3. UW strongly believes that all tailings impoundments must be subject to the current radon flux standard for "existing" impoundments, or a more restrictive standard, no matter the size or when they were constructed. Unless there is monitoring of the radon flux, a mill operator, the public, and regulatory agencies will not know how much radon is actually being emitted from a tailings. With no standard and no monitoring, the mill operator will not be required to take effective measures to limit the radon emissions. It is only when there is a radon emission standard, requirement for yearly compliance monitoring and reporting, requirement for monthly reporting and mitigative measures if an impoundment is out of compliance, and possibility of an enforcement order, that the EPA can assure that effective methods are being used to limit the amount of radon released to the environment.

15.4. A tailings impoundment that limits the size of the impoundment to 40 acres, is not required under Subpart W to use any other method to limit the radon emissions. By having a 40-acre impoundment the mill owner has satisfied the EPA requirement for an effective method to reduce radon emissions. There is no EPA requirement to cover the tailings with soil or keep the tailings wet. If the radon emissions increase due to drying out of the pile, through natural evaporation or active dewatering, presence of wild-blown tailings, or placement of material in the impoundment with higher radon emissions than expected or emissions of radon-220, with no monitoring, the emissions would not be documented. Therefore, there is no prospect of using other "effective methods for limiting the amount of radon released to the environment."

15.5. The Clean Air Act (CAA) has guidance for the promulgation of work practice standards. Section 112(h) of the CAA states:

> (h) WORK PRACTICE STANDARDS AND OTHER REQUIREMENTS.
>
> (1) IN GENERAL.—**For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f).** In the event the Administrator promulgates a design or equipment standard under this subsection, the Administrator shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

> (2) DEFINITION.—**For the purpose of this subsection, the phrase "not feasible to prescribe or enforce an emission standard" means any situation in which the Administrator determines that—**
>
> (A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or
>
> **(B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.** [Emphasis added.]

Clearly, it is feasible to prescribe and enforce the radon emission standard in Section 61.252(a). Clearly, the application of the measurement methodology is practicable and there are no technological and economic limitations related to the use of the measurement methodology used to determine compliance with the standard. For 25 years the EPA has relied on an emission standard for the control of radon from uranium mill tailings. EPA has not demonstrated that this method is unreliable, unfeasible, or has significant technical or economic limitations. Therefore, there is no legal basis for eliminating this standard for existing mill tailings impoundments and replacing it with a work practice standard.

15.6. The EPA and, in Utah the DAQ, have consistently failed to enforce the work practice standard applicable to both existing and new tailings impoundments. The EPA and DAQ failed to enforce the 2-impoundment provision in Section 61.252(b)(1): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time."

16. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 1, ¶ 2), states (in part):

> Second, we believe that only one existing operating conventional impoundment designed and in operation before December 15, 1989, could not meet the work practice standards. This impoundment is Cell 3 at the White Mesa mill, which is expected to close in 2014 (Personal communication between EPA staff and Utah Department of Environmental Quality staff, May 16, 2013, EPA–HQ– 2008–0218–0081).

16.1. At the time of the issuance of the May 2 FRN, there was another existing tailings impoundment at the White Mesa Mil that did not meet the work practice standards. Up until July 23, 2014, Cell 2 was an existing impoundment subject to the provisions of Subpart W. *See* Section 11, above.

16.2. The EPA has not provided any documentation that demonstrates that the Shootaring Canyon and Sweetwater Mills meet the work practice and design standards in Section 61.252(b). For some reason, the EPA failed to send letters to the owners of the Shootaring Canyon and Sweetwater Mills requesting information about their tailings impoundments, pursuant to Section 114 of the CAA. At least, no letters and no responses have been posted on the EPA Subpart W Review website where the EPA has posted inquiries and responses from other mill owners.

16.3. Also, there is documentation that White Mesa Cells 4A and 4B are larger than 40 acres. Any EPA claim that White Mesa Cells 4A and 4B are 40 acres must be supported by documentation.

16.4. There is no documentation from the licensee that supports the assumption that Cell 3 will close in 2014. The DAQ Public Participation Summary for the Dawn Mining Alternate Feed Amendment Request provides information regarding the status of Cell 3:

> Cell 3: Cell 3 was approved by the NRC in September of 1982, and is one of the Mill's two operating cells. It is currently near capacity, but is still accepting byproduct material such as in situ leach waste for direct disposal, an activity authorized by the Mill's license. This material is currently going to Cell 3 rather than Cell 4A. Because byproduct material for direct disposal is delivered by truck rather than by slurry, there must be a minimum amount of tailings in a cell in order to protect the integrity of the cell's liner and other structural elements (e.g., the leak detection system). Cell 4A does not yet have enough tailings in it to allow trucks to drive on it safely, ensuring the liner is property protected. For that reason, and consistent with its License, Energy Fuels has indicated that it intends to continue to use Cell 3 for direct byproduct disposal until those materials can go into Cell 4A. All but approximately seventeen acres of Cell 3 are covered by a clean soil liner. [15]

Therefore, according to Energy Fuels, the White Mesa Mill will be placed on standby at the end of 2014, pending improvements in market prices.[16] Currently, there is a water cover on the Cell 4A bulk tailings. This means that it may be years before Cell 4A will have enough solid tailings to be used for the disposal of ISL waste. In order to dispose of ISL waste in Cell 4A, the License must be amended, which takes an application, public notice, comment, and an opportunity for a hearing, DAQ review and

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[15] Public Participation Summary, Dawn Mining Alternate Feed Amendment Request, Energy Fuels Resources (USA) Inc. (Energy Fuels) (Utah Radioactive Material License UT1900479), White Mesa Uranium Mill; San Juan County, Utah; July 10, 2014. Page 3. http://www.deq.utah.gov/businesses/E/energyfuels/docs/2014/07Jul/EnergyFuelsDawnMiningPPSummary61014.pdf

[16] http://www.energyfuels.com/investors/press_releases/index.php?content_id=297

approval. Therefore, it may be years before ISL materials can be disposed of in Cell 4A. Further, for Cell 3 to close, it requires a license amendment and the incorporation of a closure plan and reclamation milestones for Cell 3 into the License. Again, this license application, public participation, and approval process will take some time.

Therefore, for the foreseeable future, Cell 3 will be an operational mill tailings impoundment, subject to the monitoring and reporting requirements in Subpart W.

16.5. There is nothing on the record that would justify any cessation in the monitoring and reporting requirements in Subpart W for Cell 3. In fact, it will be this monitoring and reporting that will assure that, when the tailings impoundment dries out, the expected radon flux increase will be documented in annual Subpart W compliance reports, and any exceedance of the standard will be met with timely and effective mitigative measures. The DAQ and EPA have demonstrated that the unfettered release of radon from the existing Cell 2 as Cell 2 dried out was not acceptable: the radon must be measured, the radon flux reported, and appropriate measures be taken to bring the tailings cell back into compliance with the flux standard when the flux is exceeded. So, why would it be acceptable to do otherwise for Cell 3?

16.4. The EPA has not provided any documentation that would support the assertion that the existing Shootaring Canyon and Sweetwater Mill impoundments have synthetic liners and meet the design standards in Section 61.252(b).

17. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 1, ¶ 2), states (in part):

> We were very clear in our 1989 rulemaking that all conventional mill impoundments must meet the requirements of 40 CFR 192.32(a), which, in addition to requiring ground-water monitoring, also required the use of liner systems to ensure there would be no leakage from the impoundment into the ground water. We did this by removing the exemption for existing piles from the 40 CFR 192.32(a) requirements (54 FR 51680). **However, we did not require those existing impoundments to meet either the phased disposal or continuous disposal work practice standards, which limit the exposed area and/or number of conventional impoundments, thereby limiting the potential for radon emissions.** [Emphasis added.]

17.1. It is **not true** that in 1989 the EPA did not require existing impoundments to meet the requirement that limited the number of impoundments and thereby limit the potential for radon emissions. Section 61.252(b)(1) clearly states: "The owner or operator shall have no more than two impoundments, **including existing impoundments**, in operation at any one time." Emphasis added. Also, there is no mention that this impoundment limitation applies to so-called "conventional impoundments."

17.2. Just because the EPA and State of Utah failed to enforce the two-impoundment limitation, does not mean that such a limitation was not a requirement in the Subpart W rule promulgated in 1989.

18. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 2, ¶ 1) states (in part):

> We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a).

18.1. Contrary to the EPA's claim that the Shootaring Canyon Mill tailing impoundment is synthetically lined, the tailings impoundment does not have a synthetic liner.[17] [18] The Shootaring Canyon Mill impoundment has a clay liner. The DAQ would not permit the use of that impoundment for the disposal of 11e.(2) byproduct material if the Mill restarts commences processing of uranium ore.

18.2. The Sweetwater Mill tailings impoundment is 60 acres, not 40 acres.[19]

19. Proposed Rule, at II.F.5. Background Information for Proposed Area Source Standards, *How did we gather information for this proposed rule?,* Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989 (page 25395, col. 2, ¶ 1) states (in part):

> As a result, we find there would be no conventional impoundment designed or constructed before December 15, 1989 that could not meet a work practice standard. Since the conventional impoundments in existence prior to December 15, 1989 appear to meet the work practice standards, we are proposing to eliminate the distinction of whether the conventional impoundment was constructed before or after December 15, 1989. We are also proposing that all conventional impoundments (including those in existence prior to December 15, 1989) must meet the requirements of one of the two work practice standards, and that the flux

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[17] Tailings Reclamation and Decommissioning Plan for Shootaring Canyon Uranium Project, Garfield County, Utah. License Number SUA-1371 (NRC); UT 0900480 (DAQ). Hydro-Engineering LLC, Environmental Restoration Inc.

[18] John Hulquist, Division of Radiation Control, electronic communication, May 20, 2014.

[19] NRC Staff, electronic communication.

> standard of 20 pCi/m2/sec will no longer be required for the impoundments in existence prior to December 15, 1989.

19.1. The Shootaring Canyon Mill does not have a synthetic liner, therefore it does not meet the requirements of 40 C.F.R. § 192.32(a) and the work practice standard in Section 61.252(b). Also, the EPA has not substantiated the assertion that the Sweetwater Mill has a synthetic liner. Therefore, there is no basis for the EPA's conclusion that the radon flux standard is no longer required.

19.2. If a tailings impoundment meets the work practice standard in Section 61.252(b), it is not a forgone conclusion that the "flux standard of 20 pCi/m2/sec will no longer be required for the impoundments in existence prior to December 15, 1989." The work practice standard should not be used in place of an emission practice standard for any mill tailings impoundment no matter the size and year of construction. The EPA has not and cannot demonstrate that the radon flux standard and monitoring method are unreliable, unfeasible, or have significant technical or economic limitations, pursuant to Section 112(h) of the CAA. Therefore, the EPA cannot replace the emission standard with a work practice standard. Nor can the EPA rely solely on a work practice standard for new tailings impoundments.

19.3. If the EPA relies solely on a work practice standard for uranium mill tailings impoundments, the EPA will sanction the indefinite, unmonitored, unreported, unfettered, and unmitigated release of radon from tailings impoundments.

20. Proposed Rule, at II.H. Background Information for Proposed Area Source Standards, *Why did we conduct an updated risk assessment?* (page 25395, col. 2, to 25396, col. 3).

20.1. The risk assessment information for the White Mesa Mill only references radon emissions from 2008.

20.2. The risk assessment is not supported by actual studies of the health impacts to people living in the vicinity of uranium mills since 1989, or before that time.

20.3. The risk assessment does not consider the risks for other health effects besides cancer from exposure to radon. The EPA must also identify, characterize, and assess those risks.

21. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 2, ¶ 1), states (in part):

> As discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed. We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities

> can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a)(1). The existing cell 3 at the White Mesa mill will undergo closure in 2014 and will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard. Therefore, there is no reason not to subject these older impoundments to the work practice standards required for impoundments designed or constructed after December 15, 1989. By incorporating these impoundments under the work practices provision of Subpart W, it is no longer necessary to require radon flux monitoring, and we are proposing to eliminate that requirement.

21.1. As discussed above, the Shootaring Canyon Mill tailings impoundment does not have a synthetic liner. The Sweetwater Mill impoundment is far greater than 40 acres. Further, the EPA has provided no documentation that substantiates the assumption that both the Shootaring Canyon Mill and Sweetwater Mill impoundments can meet the work practice standards of the current Subpart W regulation and, apparently, failed to request the pertinent information about those impoundments from the licensees. White Mesa Mill Cell 3 is an existing tailings impoundments and documentation supports the assumption that Cell 3 will remain in operation for the indefinite future. Further, there is every reason to continue to monitor the radon emissions from existing tailings impoundments until the end of the closure period so that the EPA will not sanction the indefinite, unmonitored, unreported, unfettered, and unregulated emission of radon from existing tailings impoundments.

21.2. The EPA clams that the White Mesa Mill Cell 3 "will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard." Actually Cell 4A and 4B have already been constructed and are receiving 11e. (2) byproduct material. Tailings slurry and effluents are being placed in Cell 4A, and Cell 4B is being use to contain liquids, including liquids from the dewatering of Cell 2. Cell 3, like Cell 2, is not really being replaced. The number of solid tailings impoundments emitting radon are increasing, and the radon emissions are increasing at the Mill. So, there are at least 5 operating impoundments currently at the Mill (Cell 1, Cell 3, Cell 4A, Cell 4B, and Roberts Pond), a clear violation of the so-called work practice standard that only permits 2 operational impoundments at any one time.

21.3. The regulatory program for existing uranium tailings impoundments at the White Mesa Mill, as it have been implemented since 1989 to the present, must continue. Monitoring and reporting of the radon emissions from Cells 2 and 3 and actions to reduce those radon emissions if the standard is exceeded, as happened at Cell 2 in 2012, must not be eliminated by EPA fiat. Maintaining the requirements in Sections 61.252(a), 61.253, 61.254, and 61.255 is the only way that the EPA can fulfill its statutory responsibility to reduce and control radon emissions.

22. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 2, ¶ 2), states (in part):

> While we are proposing to eliminate the radon monitoring requirement for these three impoundments under Subpart W, this action does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements of their operating license issued by the NRC or its Agreement States. These requirements are found at 10 CFR Part 40, Appendix A, Criterion 8 and 8A. Additionally, NRC, through its Regulatory Guide 4.14, may also recommend incorporation of radionuclide air monitoring at operating facility boundaries.

22.1. 10 C.F.R. Part 40, Appendix A, Criterion 8 and 8A, do not require the monitoring of radon emissions from tailings impoundments, so NRC regulations do not replace the radon emission standards in Subpart W.

22.2. The EPA should have referenced 10 C.F.R. § 20.1301, which requires compliance with an dose standard to the nearest occupant. Recently, the NRC provided an opportunity to comment on NRC revised draft guidance: "Evaluations of Uranium Recovery Facility Surveys of Radon and Radon Progeny in Air and Demonstrations of Compliance with 10 CFR 20.1301."[20] The NRC will now require annual demonstration of compliance. One of the methods for demonstrating compliance and demonstrating the assumptions in a calculated dose assessment is the actual measurement of the radon source emissions. However, since the EPA now believes that the actual measurement of radon emissions from tailings impoundments is not appropriate at any uranium mill, it is unlikely that any uranium mill licensee will be able to justify radon emission assumptions with actual data from tailings impoundments and liquid effluents to support those assumptions over time. It is very short sighted of the EPA not to require licensees to determine the radon emissions from a major source of those emissions.

22.3. Other regulatory requirements that the EPA is conveniently ignoring are the provisions of 40 C.F.R. Part 192.32(a)(3) and 10 C.F.R. Part 40, Appendix A, Criterion 6A. These regulations require a closure plan (radon) and the enforceable reclamation milestones. If, after these milestones have been incorporated into the license as license amendments, the licensee wishes to extend the milestone(s), the licensee must demonstrate compliance with the 20 pCi/m^2-sec radon flux standard. After that, the licensee must demonstrate compliance on an annual basis. Maybe the EPA is not mentioning such requirements because the EPA, NRC, and States of Utah and Colorado are not seeing to it that reclamation milestone requirement is implemented and enforced

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[20] Interim Staff Guidance FSME–ISG–01, ''Evaluations of Uranium Recovery Facility Surveys of Radon and Radon Progeny in Air and Demonstrations of Compliance with 10 CFR 20.1301.'' Revised Draft Report for Comment. March 2014. 79 Fed. Reg. 17194; March 27, 2014. Docket ID NRC-2011-0266.

for the White Mesa and Canon City Mills. With no milestones, there is no need to extend the milestones if enforceable milestones are not met and, thus, no need to ever again be required to comply with the 20 pCi/m^2-sec standard on an annual basis until the final radon barrier is in place. This lack of milestones provides an open window for indefinite, unmonitored, unreported, unfettered, and unregulated emission of radon from tailings impoundments.

23. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 2, ¶ 4), states (in part):

> From a cost standpoint, by not requiring radon monitoring we expect that for all three sites the total annual average cost savings would be $29,200, with a range from about $21,000 to $37,000.

23.1. If the licensees of the Shootaring Canyon and Sweetwater Mill would like to save on the annual costs of monitoring their radon emissions, the licensee can commence the long-delayed decommissioning and reclamation. The EPA states that "standby" is a period of time that "usually takes place when the price of uranium is such that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so." The 2 mills on standby last operated in the early 1980's. Since that time there have been times when the price of uranium increased sufficiently to support the operation of the White Mesa Mill and even the licensing of a new mill in Colorado. The most recent uranium price upswing started about 2006, and the White Mesa Mill started mining and processing uranium ore again. That uranium boom, which lasted less than an decade, is now over. During those uranium price upswings, neither the Shootaring Canyon nor the Sweetwater Mill re-established operations. How many more up and down uranium price cycles will have to occur before the regulators realize that these mills are unlikely to operate again and must commence decommissioning and reclamation?

23.2. Also, when a licensee does not wish to continue operations is does not "surrender its operating license." This is a mischaracterization of what happens when a mill ceases operation completely. At that time decommissioning and reclamation, which can last for decades, commences. The license is eventually terminated by the NRC or NRC Agreement State when certain conditions are met and the reclaimed tailings impoundment turned over to the U.S. Department of Energy (or other authorized state or federal authority) for perpetual care and maintenance.

23.3. The costs of monitoring radon emissions at the White Mesa Mill is minimal, considering the money that is being made on the sale of uranium and the assets of the company. The cost of not monitoring radon emissions, for example, if the emissions from Cell 2 had not been monitored, is the indefinite, unmonitored, unreported, unfettered, and unregulated emission of radon from the tailings impoundment.

24. Proposed Rule, at III.B.1. Summary of the Proposed Requirements, *What are the proposed requirements?*, Conventional Impoundments (page 25397, col. 3, ¶ 1), states:

> We determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for design and operation of surface impoundments at 40 CFR 264.221, are the only requirements necessary for EPA to incorporate for Subpart W, as they are effective methods of containing tailings and protecting ground water while also limiting radon emissions. This liner requirement, described earlier in this preamble, remains in use for the permitting of hazardous waste land disposal units under RCRA. The requirements at 40 CFR 192.32(a)(1) contain safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. We are therefore proposing to retain the two work practice standards and the requirements of 40 CFR 192.32(a)(1) as GACT for conventional impoundments because these methods for limiting radon emissions while also protecting ground water have proven effective for these types of impoundments.

24.1. The EPA, in relying on 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 for containing tailings and protecting ground water while also limiting radon emissions, fails to recognize the fact that, as tailings impoundments are dewatered to protect groundwater, radon emissions can be expected to increase. The active dewatering of Cell 2 at the White Mesa Mill in 2011 and 2012 resulted in an increase in the radon flux to above the Subpart W regulatory standard. Under the Mill's Ground Water Discharge Permit (UGW-370004), the licensee was required to accelerate dewatering of solutions in the Cell 2 slimes drain.[21] As the pore moisture in the tailings impoundment decreased, the radon emissions increased. The radon emissions subsequently exceeded the radon flux standard for existing mill tailings impoundments. As the EPA would now have it, that monitoring that determined that an exceedance had occurred and the mitigative measure taken to bring the impoundment back into compliance should not even have occurred. Rather, the EPA has determined that Cell 2 and Cell 3 no longer need to be monitored and the radon emission are better left in the realm of the unknown. Since the radon emissions will not be ascertained, there will be no reason to conduct such frivolous (and costly) activities as determining the cause of radon emission exceedances or taking corrective actions, cleaning up windblown tailings, or placing additional clean materials on top of the impoundment. This also applies to new tailings impoundments. According to the EPA, it's just better not to know what the radon emissions really are.

24.2. EPA regulations at 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 do not require any additional measures to control radon emissions from an impoundment once it is constructed and throughout the life of the impoundment, including the dewatering period. These provisions do not require clean material on top of an impoundment to attenuate the radon emissions. These provisions do not take into consideration the

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[21] http://www.uraniumwatch.org/whitemesamill/EFR-DAQ_SupartWAnnualRpt.130329.pdf

placement of materials containing thorium-232 and progeny or material containing higher than expected levels of radium-226 (possibly from the disposal of wastes other than tailings from the processing of natural ore).

24.3. EPA regulations at 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 do not protect uranium tailings impoundments, whether they contain solid tailings or liquid effluents, from impacts caused by extreme weather events; for example, hurricanes or tornadoes. The EPA has provided no engineering data and information that supports any claim that 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 264.221 assure that solid and liquid tailings will not be dispersed outside the confines of a liquid effluent impoundment (of indeterminate size, since the EPA will not regulate the size of such effluent ponds) or a solid tailings impoundment.

24.4. An "early warning" leak detection system at the bottom of a tailings impoundment is irrelevant for the control of radon emissions from the top of an impoundment.

24.5. EPA's claim that 40 C.F.R. § 192.32(a)(1) as GACT is sufficient for conventional impoundments because these methods for limiting radon emissions, while also protecting ground water, have proven effective for these types of impoundments. The EPA has no data on an new tailings impoundment at a licensed uranium mill that supports this assertion. The only new tailings impoundment subject to the current Section 61.252(b)(1) provisions are Cells 4A and 4B, at the White Mesa Mill. Cell 4A has only been receiving tailings slurry for a short period of time, and Cell 4B is only receiving processing liquids. It will be decades before a determination can be made regarding the extent to which the design and work practice standards in Section 61.252(b) actually limit radon emissions while also protecting ground water.

24.6. The EPA, licensees, and the public will not know exactly how effective 40 C.F.R. § 192.32(a)(1) and 40 C.F.R. § 62.252(b) are in limiting radon emissions, because there will be no requirement to actually measure those radon emissions under Subpart W. Plus, there is no definition of "effective," such as a radon flux limit, to use to determine whether the design and work practice standards are actually "effective." And, with no monitoring, if the provisions do not prove "effective," there is no way to know that and no requirement to mitigate any lack of effectiveness. Is this what the CAA contemplated?

25. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25397, col. 3, ¶ 2), states:

> Today we are proposing a GACT standard specifically for non-conventional impoundments where uranium byproduct materials are contained in ponds and covered by liquids. Common names for these structures may include, but are not limited to, impoundments and evaporation or holding ponds. These affected sources may be found at any

of the three types of uranium recovery facilities.

25.1. The whole discussion of "Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids" is very confusing and should be rewritten. Title says that Nonconventional Impoundments are those where tailings are contained in ponds and covered by liquids. However, tailings in "convention ponds" are also covered or partially covered by liquids during much of the operating life of the impoundment. The EPA does not differentiate between impoundments at conventional uranium mills that contain bulk tailings and are covered by liquids and the "nonconventional" impoundments that are specifically used to hold, and sometimes treat or evaporate, liquids. The EPA fails to discuss the fact that conventional impoundments designed for the long-term disposal of solid tailings are often used to hold liquid effluents prior to being used for the disposal of solid tailings; for example Cell 4B at the White Mesa Mill.

25.2. The terminology "nonconventional impoundments" is confusing. It implies that these impoundments are only at uranium recovery facilities other than conventional uranium mills and that conventional impoundments are found at conventional uranium mills. The EPA should use another term to avoid confusion.

25.3. The main difference between a "nonconventional impoundment" and a newly defined "conventional impoundment" is that the latter is used for permanent disposal of uranium mill tailings, whether or not the impoundment contains liquids, liquids and solids, semi-solids, or solids at any one time. An impoundment that will be used for permanent disposal of 11e.(2) byproduct material can sometimes contain mainly liquids or solid tailings covered by a liquid. The definition of these 2 types of impoundments should reflect their long-term purpose, not what they contain at any one time.

25.4. If the EPA intends to regulate impoundments that are not designed for the permanent disposal of 11e.(2) byproduct material, the EPA must be a lot clearer about what exactly is being regulated and the justification for such regulation. Accurate terminology and accurate descriptions are important.

26. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25397, col. 3, ¶ 3), states (in part):

> These units meet the existing applicability criteria in 40 CFR 61.250 to classify them for regulation under Subpart W. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct material, either in solid form or dissolved in solution, and therefore their emissions are regulated under Subpart W.

26.1. Here, the EPA states that the emissions from nonconventional impoundments, which old liquid effluents, are regulated under Subpart W. Not so! There is no radon emission standard for these liquid effluent impoundments and no requirement to determine the radon flux. Based on recent data, the radon flux from the nonconventional Cell 1 at the White Mesa Mill, the radon flux is 228.9 pCi/m^2-sec. This is based on EPA's determination that at the White Mesa Mill, the radon flux is 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium[22] and data on the radium content of Cell 1 in 2013.[23] *See* Section IV. 45.11, below. Since the radium content fluctuates over time, the radon flux will also fluctuate. The EPA has for decades claimed that the radon flux from liquid holding ponds is negligible and did not need to be measured or calculated. It is blatantly false the emissions from these liquid impoundments have ever been regulated under Subpart W.

26.2. Since 1989, the EPA failed to include liquid impoundments when calculating the number of operational tailings impoundments, which are limited to 2. Further Roberts Pond at the White Mesa Mill, which also holds liquid effluents, was never approved pursuant to the requirements of 40 C.F.R. §§ 61.07 and 61.08.

27. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25398, col. 1, ¶ 2), states (in part):

> Evaporation or holding ponds, while sometimes smaller in area than conventional impoundments, perform a basic task. They hold uranium byproduct material until it can be disposed. Our survey of existing ponds shows that they contain liquids, and, as such, this general practice has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero. Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions. We have found that as long as approximately one meter of liquid is maintained in the pond, the effective radon emissions from the pond are so low that it is difficult to determine whether there is any contribution above background radon values. *EPA has stated in the Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Background Information Document* (August, 1986):

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[22] Risk Assessment Revision for40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010.

[23] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

27.1. The liquid holding pond (Cell 1) at the only operating conventional mill is about 55 acres. Liquids are often held in such ponds so that the liquids can be recirculated in the uranium recovery operation.

27.2. The EPA's assertion that "Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions," is not supported by the facts. Based on the EPA's calculations and data from the White Mesa Mill regarding the radium content of the liquids in Cells 1, 3, 4A, and 4B, the radon emissions from those cells range from 102.2 pCi/m^2-sec to 573.3 pCi/m^2-sec. *See* Section IV. 45.11, below.

27.3. The EPA can no longer mislead the public regarding the significant levels of radon that are being emitted from liquids effluents at the White Mesa Mill. The radon emissions from these liquids must monitored and controlled. The EPA must require compliance with the current radon emission standard for liquids.

27.4. The quote from the August 1986 Background Information Document is confusing, because it applies to conventional impoundments, not what the EPA now defines as "nonconventional impoundments."

28. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25398, col. 1, ¶ 3), states:

> Therefore, we are proposing as GACT that these impoundments meet the design and construction requirements of 40 CFR 192.32(a)(1), with no size/area restriction, and that during the active life of the pond at least one meter of liquid be maintained in the pond.

28.1 There is now documentation that the radon emissions from liquid impoundments at conventional mills is 5 times or more than the current radon standard for existing tailings impoundments. *See* Section IV. 45.11, below. The more impoundments, the larger the size of those impoundments, the more radon will be emitted. The number and size of these impoundments, particularly at conventional mills, must be limited in size and number.

28.2. A single meter of radium-laden effluents will not limit the radon emissions at liquid impoundments. The radium will continue to be a source of radon emissions.

28.3. One reason for limiting the size and number of liquid impoundments is the propensity for liquid impoundments at in-situ leach operations to leak or spill their contents. The larger the impoundment, the more liquids are available to leak from an impoundment and the greater the possibility that during construction there will be flaws in the impoundment. Additionally, in regions where liquid impoundments may be

compromised, or even destroyed, due to hurricanes or tornadoes, a smaller impoundment would be easier to control and repair or replace.

28.4. The EPA does not define "active life of a pond." The EPA failed to discuss the radon emissions when there is no longer one meter of liquid or when there are only solids after the liquids have evaporated. The EPA must consider the whole life cycle of a nonconventional impoundment (now referred to as "ponds) and the radon emissions up to the time the nonconventional impoundment is removed and disposed of in a conventional impoundment as part of decommissioning.

28.5. The EPA must also consider whether there is greater turbulence at larger impoundments and, thus, greater dispersal of radon and radon progeny from liquid impoundments.

28.6. The EPA may no adopt a work practice standard (whether GACT or MACT) in lieu of an emission standard unless that Administration determines that an emission standard is not feasible. The Administrator have not made such a finding. Therefore, the EPA must adopt an emission standard for nonconventional impoundments. *See* Section II, above.

29. Proposed Rule, at III.B.2. Summary of the Proposed Requirements, *What are the proposed requirements?*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids (page 25398, col. 1, ¶ 4, to col. 2, ¶ 1), states (in part):

> We are also proposing that no monitoring be required for this type of impoundment. We have received information and collected data that show there is no acceptable radon flux test method for a pond holding a large amount of liquid. (Method 115 does not work because a solid surface is needed to place the large area activated carbon canisters used in the Method). Further, even if there was an acceptable method, we recognize that radon emissions from the pond would be expected to be very low because the liquid acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for most of the radon produced by the solids or from solution to migrate to the water surface and cross the water/air interface before decaying (EPA–HQ–OAR–2008–0218– 0087). It therefore appears that monitoring at these ponds is not necessary for demonstrating compliance with the proposed standards. We do, however, ask for comment and supporting information on three issues: (1) Whether these impoundments need to be monitored with regard to their radon emissions, and why; (2) whether these impoundments need to be monitored to ensure at least one meter of liquid is maintained in the pond at all times, and (3) if these impoundments do need monitoring, what methods could a facility use (for example, what types of radon collection devices, or methods to measure

liquid levels) at evaporation or holding ponds.

29.1. The EPA is ignoring data that shows that there are high levels of radon emissions from the liquid impoundments, both the liquids in the Cell 1 evaporation pond (now to be defined as a nonconventional impoundment) and the liquids on top of and in the conventional impoundments Cells 3, 4A, and 4B. *See* Section IV. 45.11, below. The EPA has already determined that the radon flux from liquid impoundments can be determined by calculations based on the meteorological conditions and radium content of the liquids.[24] The EPA's assumption that the radon emissions from liquid impoundments are minimal and do not need to be determined by measurement or calculation has no basis in fact.

29.2. The radon emissions from liquid impoundments need to be determined based on the radium content of the liquids and local meteorological conditions. The radium content fluctuates over time, the effluents are added, fluids evaporate, sediments accumulate, and the underlying tailings or sediments increase and the radiological content changes. Therefore, measurement of radium and calculation of the radon flux must occur at least quarterly at conventional mills and there must be methods for removing the radium. The radon flux standard for "existing" impoundments must be made applicable to existing and new conventional and nonconventional impoundments that hold liquid effluents.

29.3. If the liquids in a nonconventional impoundment evaporate to expose solid sediments, regular radon flux measurements must be taken.

29.4. The EPA must amend Method 15 to include an honest and accurate methodology to calculate the radon emissions from liquid impoundments, base on meteorological data, radium content, and any other relevant parameter. These calculations must take place at least quarterly. The licensee must not be permitted to average the radon flux from liquid impoundments with the radon flux measurements on solid tailings.

29.5. Licensees, particularly conventional mill licensees, must be required to use a technical methodology for removing radium from the liquid effluents in order the reduce the radium content and resulting radon emissions to meet the radon emission standard. One generally available technical method is the treatment of effluents with barium chloride to remove radium. The EPA must also explore other technologies that are available, whether defined as GACT or MACT. The EPA can no longer allow high high levels of radon to be emitted at the White Mesa Mill.

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[24] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010.

29.6. When measuring the radium content, the licensee must measure the radium-224 content (thorium-232 decay chain) as well as radium-226. Thousands of tons of materials containing thorium-232 and progeny were disposed of at the White Mesa Mill. Therefore, radium-224 will be present in the Mill's liquid effluents.

29.7. There may be other effective methods for measuring radon emissions from liquid effluents. These could be used to verify radon emission calculations.

30. Proposed Rule, at III.B.3. Summary of the Proposed Requirements, *What are the proposed requirements?*, Heap Leach Piles (page 25398, col. 2 to col. 3):

30.1. The discussion of heap leach piles does not contain information about the process of developing a heap leach pile and the amount of ore that would be placed in such a pile, and the time it would take to create a heap leach pile. There is no information about the life cycle of these operations and how radon emissions will be controlled.

30.2. The EPA references a presentation by Titan Uranium presentation to the to the NRC of May 24, 2011 (NRC Accession No. ML111740073; NRC Docket No. 40-9094) (Titan 2011). There are some claims and assumptions in that presentation that must be addressed by the EPA. The Titan presentation contains a list of "Our Understandings" (slide 53): 1) There are no size limits on the size of **active** heaps (emphasis in original); 2) heap pad designs are approved solely by the NRC; 3) process pond designs are approved solely by NRC; and 4) heap material only become tailings (11e.(2) byproduct material) once active uranium recovery is complete. Titan also states (slide 54) that "Part 61 applies only to spent heap material (tailings)." All of these assumptions appear to be contrary to the EPA's assumptions in the discussion of Subpart W provisions applicable to heap leach operations. Whether or not these assumptions reflect the current thinking of the current owner of the Sheep Mountain Project (Energy Fuels), the EPA must respond to the assumptions in the 2010 Titan presentation.

30.3. The EPA BID has a minimal discussion of heap leaching and a proposed heap leach operation in Wyoming. The discussion references the Titan Uranium 2011 presentation to the NRC, which includes a conceptual design and outline of a heap leach operation. However, Energy Fuels' April 30, 2013, conceptual and operational design for the same facility is very different that that of Titan (NRC Accession No. ML13144A693). Also, Energy Fuels has not submitted an application and has not communicated with the NRC about the project since May 2013.

30.4. Neither the FRN nor the BID provide a complete and accurate description of a potential heap leach operation and the potential radon emissions during the whole heap leach operational process, including ore stockpiling, ore crushing, ore loading and placement prior to leaching, length of time ore will be exposed prior to leaching, leaching schedule, exposure of ore during leaching process, emissions after leaching when leach piles dry out, and possible methods of reducing radon emissions during the life of a heap leach pile. The EPA must regulate the radon emissions from all aspects of the operation,

not just the heap leach piles. EPA must regulate the emission of radon during the period of time the heap leach piles are drying out, when the radon emissions increase. Although heap leaching is usually used on low-grade ore, the method removed about 70% of the uranium, so the wastes may have higher levels of radon emissions than those of typical uranium ore tailings. The EPA must also consider the uranium dust that results from crushing, ore transportation, and loading to create the heap leach piles.

30.5. Commenters support a radon emission monitoring from all radon and other radionuclide sources at a heap leach operation.

30.6. The EPA must also consider the radon emissions when a licensee creates a heap leach pile, but fails to conduct a leaching operation, or interrupts that operation.

30.7. The proposal to require the licensee to maintain 30% moisture content in a heap leach pile might not be technically feasible and may interfere with the leaching process. The 30% moisture is based on the definition of "dewatering" of conventional tailings impoundments, where most of the uranium has been removed from the tailings.

31. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 1):

> Since we have now determined that existing older conventional impoundments can meet one of the two work practice standards, we are proposing to eliminate the radon flux monitoring requirement.

31.1. As discussed above, the EPA has not demonstrated with facts and documentation that existing older conventional impoundments "can meet one of the two work practice standards." Licensing records for the Shootaring Canyon Mill document the fact that the mill does not have a "synthetically" lined impoundment. Rather it has a clay impoundment. Further, Cells 3 at the White Mesa Mill meets the definition of an existing impoundment (constructed prior to December 1989 and licensed to receive 11e. (2) byproduct material for disposal) and will continue to be regulated by the DAQ as an existing impoundment subject to the Section 61.252(a) radon flux standard. Therefore, there is no factual or regulatory support for the elimination of the Section 61.252(a) radon flux monitoring requirement.

31.2. Additionally, the EPA has not shown that the use of a work practice and design standard meets the requirements of the CAA at Section 112(h), therefore there is no legal justification for eliminating the radon flux monitoring requirement.

31.3. Elimination of the radon flux monitoring requirement is not supported by the need for continual monitoring of existing tailings impoundments to control the radon emissions as the tailings piles dry out prior to placement of the final radon barrier.

31.4. Even if "existing" impoundments met one of the two design and work practice standards in Section 61.252(b), that is still no justification for eliminating the

requirement for radon monitoring, reporting, and control at White Mesa Mill Cell 3 at the very time when Cell 3 will likely be dewatered. This dewatering has, and will continue to, cause an increase in the radon emissions. That increase must be monitored, documented, studied, reported, and mitigated. It is the EPA responsibility to regulate radon emissions, not deregulate these emissions, as currently proposed.

32. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

> In reviewing Subpart W we looked into whether we should extend radon monitoring to all affected sources constructed and operated after 1989 so that the monitoring requirement would apply to all conventional impoundments, nonconventional impoundments and heap leach piles containing uranium byproduct materials. We also reviewed how this requirement would apply to facilities where Method 115 is not applicable, such as at impoundments totally covered by liquids.

32.1. First of all, the EPA has not demonstrated that there is a factual and legal basis for the use of a design and work practice standard in place of an emissions standard for "existing" impoundments complies with the statutory requirements of Section 112(d) and 112(h) of the CAA.

32.2. Second, the EPA has not demonstrated that there is factual and legal basis for EPA's determination that "existing" conventional mill impoundments can meet one of the two work practice standards in Section 61.252(b).

32.3. There is no basis for the assumption that conventional tailings impoundments that currently meet the definition of "existing" impoundments meet one of the two design and work practice standards in Section 61.252(b). The White Mesa Mill Cell 3 is more than 40 acres, and the EPA has no knowledge regarding when Cell 3 will no longer be licensed to receive 11e.(2) byproduct material; therefore, for the purposes of this Rulemaking, Cell 3[25] is an "existing" impoundment subject to Section 61.252(a) standard and the monitoring and reporting requirements in Sections 61.253 and 61.254. There is no documentation on the record of this Rulemaking that supports the notion that tailings impoundments at the Shootaring Canyon and Sweetwater Mills have synthetic liners. However, there is documentation that the Shootaring Canyon Mill has a clay liner, not a synthetic liner.[26] There is no documentation that the Sweetwater Mill impoundment is 40 acres.

33. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

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[25] White Mesa Cell 2 also meets the definition of "existing" impoundment in Section 61.252(a).

[26] http://www.deq.utah.gov/businesses/U/uraniumone/docs/2012/03Mar/DRC-2012-001447.pdf

> We concluded that the original work practice standards (now proposed as GACT) continue to be an effective practice for the limiting of radon emissions from conventional impoundments and from heap leach piles.

33.1. "Effective" is a relative term, which the EPA has not defined. The EPA does not state what expectations the EPA has for the limiting of radon emissions. Without any standard and without any measurements there is no basis for assuming that any design or work practice standards are "effective. "

33.2. There is no basis for the EPA's conclusion that the work practice standards "continue to be an effective practice for the limiting of radon emissions from conventional impoundments . . . ." There are only 2 conventional tailings impoundment in operation that were constructed according to the design and work practice standard in Section 61.252(b)(1), impoundments 4A and 4B at the White Mesa Mill. Cell 4A was reconstructed in 2007/2008. Cell 4A has operated for only a few years and currently has about a 100% water cover, because the impoundment has not accumulated bulk tailings above the water surface. Cell 4B is only receiving liquid effluents, including liquids from the dewatering of Cell 2. Since there are no radon monitoring and reporting requirements, there is no data to support the assertion that the radon emissions have been effectively limited or will continue be limited. There is data, however, on the emission of radon from the liquid cover. Data shows that the radon emissions from Cells 4A and 4B are over 100 pCi/m^2-sec. *See* Section IV. 45.11, below.

33.3. There is no basis for the EPA's conclusion that the work practice standards "continue to be an effective practice for the limiting of radon emissions from . . . heap leach piles." There are no licensed heap leach piles and no evidence of any radon emissions being effectively limited from heap leach piles. The EPA assertion is absurd.

34. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

> We also concluded that by maintaining an effective water cover on nonconventional impoundments the radon emissions from those impoundments are so low as to be difficult to differentiate from background radon levels at uranium recovery facilities.

34.1. There is no citation for the assertion that maintaining an effective water cover on nonconventional impoundment would cause radon emissions to be close to background.

34.2. The Rulemaking Risk Assessment for Radon Emission from Evaporation

Ponds[27] does not support this assertion. The Risk Assessment for Radon Emission from Evaporation Ponds does not fully consider the radon emissions from nonconventional impoundments at conventional uranium mills. This may be due to the fact that the White Mesa Mill licensee did not respond to the EPA's May 2009 request for information regarding the evaporation ponds and other radioactive emissions at the Mill.[28] There is no description of the White Mesa Mill liquid impoundments and no data on actual emissions on the Rulemaking Docket. The Risk Assessment estimates 7.0 pCi/m^2-sec radon emissions per 1,000 pCi/L of radium in a White Mesa Mill liquid impoundment. However, the Risk Assessment does not tie that to actual radium concentrations in Cell 1, Roberts Pond, or Cell 4A (which receives liquids, but was designed and constructed as a conventional impoundment). Nor does the Risk Assessment tie their formula to the actual radium concentrations from the pond on top of Cell 3 or the liquids in Cell 4A. The EPA could have obtained information about the radium content of those liquid impoundments in order to determine how far above background, or above the radon flux standard, the radon emissions have been for the White Mesa liquid impoundments. If the radium content is above 3,000 pCi/L, as has been reported for Cell 1,[29] the radon emissions would be greater than 20.0 pCi/m^2-sec. Comparing radon emissions from ISL liquid pond total radon emissions is not the same as comparing to background.[30]

35. Proposed Rule, at III.C. Summary of the Proposed Requirements, *What are the monitoring requirements?* (page 25399, col. 1, § 2), states (in part):

> Therefore, we are proposing today that it is not necessary to require radon monitoring for any affected sources regulated under Subpart W. We seek comment on our conclusion that radon monitoring is not necessary for any of these sources as well as on any available cost-effective options for monitoring radon at non- conventional impoundments totally covered by liquids.

35.1. The EPA has no factual or legal basis for it desire to forego radon monitoring requirements and a radon emission standard for any affected sources regulated under Subpart W. As discussed above at Section II, the provisions of Section 112(d) and 112(h) require a determination by the Administrator that it is not feasible

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[27] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings; Task 5 – Radon Emission from Evaporation Ponds, by S. Cohen & Associates, November 9, 2010.

[28] http://www.epa.gov/radiation/docs/neshaps/subpart-w/uranium-denison-test.pdf

[29] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

[30] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings; Task 5 – Radon Emission from Evaporation Ponds. Table 11, page 20.

prescribe or enforce an emission standard for control of radon emissions from uranium recovery facilities.

35.2. The EPA's justification for removing any requirement for radon monitoring from "existing" impoundments is that any remaining "existing" impoundments will be closed at some undetermined time in the future or already meet the Section 1.252(b)(1) work practice and design standard. However, the Shootaring Canyon Mill impoundment does not have a synthetic liner, and there is no documentation that the Sweetwater Mill's impoundment is 40 acres or less.

35.3. Basically, what the EPA is saying is that knowledge and awareness of the level of radon emissions from tailings impoundments and liquid storage impoundments is a bad thing. Apparently, the EPA feels that it is so much better if the licensee, EPA, DAQ, NRC, workers, and the community are not aware of the level of radon emissions from conventional and nonconventional impoundments. If there is a radon emission standard and requirement to reduce the emissions if the standard is exceeded that can only lead to the difficulties. The licensee will have to spend money and the public will be concerned, so the best plan is for everyone to remain ignorant of the radon emission levels and any increase in those level, particularly when a tailings impoundment is drying out. As the EPA sees it, de-regulation is better than having pesky radon emission standards that have to be enforced. It's the EPA's equivalent of "Don't Ask, Don't Tell."

35.4. It is necessary to monitor radon for affected sources in order to assure that radon emissions are kept as low as reasonably achievable.

35.5. The EPA has not explained why—at the very time that the radon emissions for tailings cells at the White Mesa that are drying out and exceeded the emission standard and can be brought back into compliance because of monitoring, reporting, and timely corrective action—the most appropriate thing the EPA can do to reduce radon emissions during dewatering is to eliminate the requirement for radon monitoring as dewatering continues. Clearly, there the GACT work practice standard that would be an "effective practice" for limiting the radon emissions from dewatered. It is the monitoring, reporting, and timely corrective actions that have proved to be the "effective practice" for limiting the radon emissions from tailings impoundments that are drying out.

36. Proposed Rule, at III.D. Summary of the Proposed Requirements, *What are the notification, recordkeeping and reporting requirements?* (page 25399, col. 1, ¶ 4 to col. 2, ¶ 1), states (in part):

> Today we are also proposing that all affected sources will be required to maintain certain records pertaining to the design, construction and operation of the impoundments, both including conventional impoundments, and nonconventional impoundments, and heap leach piles. We are proposing that these records be retained at the facility and contain

> information demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1), including but not limited to, all tests performed that prove the liner is compatible with the material(s) being placed on the liner. For nonconventional impoundments we are proposing that this requirement would also include records showing compliance with the continuous one meter of liquid in the impoundment; [29] for heap leach piles, we are proposing that this requirement would include records showing that the 30% moisture content of the pile is continuously maintained. . . . Records showing compliance with the one meter liquid cover requirement for nonconventional impoundments and records showing compliance with the 30% moisture level required in heap leach piles can be created and stored during the daily inspections of the tailings and waste retention systems required by the NRC (and Agreement States) under the inspection requirements of 10 CFR 40, Appendix A, Criterion 8A.

36.1. The EPA appears to disregard the fact that the affected sources are also regulated by the NRC or an NRC Agreement State under the Atomic Energy Act. The NRC and Agreement States have found that one element of an effective regulatory program is public participation and the timely availability of pertinent licensing and permitting documents. Transparency is required if the public is to have any confidence in government regulatory program.

36.2. The EPA is, in fact expanding its Subpart W regulatory program. An EPA regulatory program demands public knowledge and public participation. Public participation demands the timely availability of pertinent documents. So, by proposing that pertinent compliance records be retained at the sites and not be submitted to the EPA, the EPA is making sure that documents related to Subpart W compliance will not be available to the public. This is a policy of withholding information from the public is not a policy of openness and transparency. It shows a lack of confidence in the uranium recovery licensees and the EPA and State regulatory staff.

36.3. In a day and age when most documents are created and retained electronically or can be readily scanned and made available electronically, there is no justification for the EPA not requiring the submittal of records that document compliance with Subpart W requirements. Further, some of the documents EPA does not care to take and make available to the public—via a website that posts the Subpart W regulatory documents or via a Freedom of Information Act (FOIA) request—will also need to be submitted to the NRC or Agreement State as part of their source material license. There is no excuse for the EPA not to require the submittal of all relevant Subpart W compliance records.

36.4. In sum, any records demonstrating compliance with Subpart W must be submitted to the EPA or EPA authorized state in a timely manner. The revised Subpart W must include a schedule for the timely submittal of this documentation.

36.5. Documents showing that the impoundments and/or heap leach pile meet the requirements in Section 192.32(a)(1) are required as part of the pre-construction application submitted under 40 C.F.R. § 61.07. However, there was a situation where those documents were not submitted and there was no application submitted under 40 C.F.R. § 61.07 and no approval under 40 C.F.R. § 61.08. This was the reconstruction and relining of Cell 4A at the White Mesa Mill. The EPA had approved the construction of that impoundment in the 1980s, prior to the promulgation of the current Subpart W requirements. The impoundment was constructed in 1989 and licensed to receive tailings in 1990.[31] Little material was placed in the impoundment and it eventually deteriorated and need to be cleaned out and replaced. The Utah DRC approved the design and construction of a replacement impoundment and liner system. However, the licensee at the time (Denison Mines) did not submit a application to the Utah Division of Air Quality, which administers and enforces Subpart W and other radionuclide NESHAPS in Utah, pursuant to 40 C.F.R. § 61.07. Rather, the licensee relied on the pre-December 1989 EPA approval of the construction of Cell 4A. As it was, Cell 4A is approximately 40 acres (though a few acres more) and was constructed pursuant to Section 192.32(a)(1).[32] However, the DAQ and EPA had no active role in assuring that the reconstructed Cell 4A met those Section 192.32(a)(1) requirements.

Therefore, Subpart W must include provisions related to the reconstruction or replacement of a solid tailings or liquid impoundment. A licensee must be required to submit a new Section 61.07 application and receive a Section 61.08 approval before reconstructing or replacing a conventional or nonconventional impoundment. There shouldn't be cracks in the Subpart W regulatory program.

36.6. Additionally, there should be a limit on the time between the authorization of the construction of an impoundment and when it is actually constructed. A licensee should not be able receive approval of construction, then construct the impoundment years, if not decades, later. Authorization should have an expiration date, requiring a new application after 5 years if the impoundment has not been constructed and used.

37. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 1, ¶ 4), states:

> As provided in CAA section 112(d)(5), we are proposing standards representing GACT for this area source category. In developing the proposed GACT standards, we evaluated the control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities.

37.1. The EPA has not, but should, provide a regulatory and technical justification

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[31] http://www.epa.gov/radiation/docs/neshaps/subpart-w/denisionresponsetosection114letter.pdf

[32] http://www.radiationcontrol.utah.gov/Uranium_Mills/IUC/cell4a/IUC.htm

for relying on the GACT described in Section 112(d)(5) in place of MACT, as described in Section 112(d)(2). The EPA must explain their use of "discretion." What, exactly, was the basis for that determination? Just stating that it was based on information received from industry and other stake holders is not an explanation. The EPA cannot make a discretionary determination without explaining, with particularity and specificity, the reasoning behind that determination.

37.2. The EPA should make a full comparison of all the potential GACT and MACT that might be used to control radon emissions from uranium recovery operations.

37.3. The EPA should have identified the "control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities" that the EPA reviewed and evaluated. These would include technologies used or previously used at conventional mills, ISLs, and heap leach operations. For example, in the past heap leaching was done in vats.

37.4. The EPA did not give full consideration of the technologies that are generally available and utilized by operating uranium recovery facilities. Most specifically, the EPA does not include a description of and evaluate the technologies and management practices associated with compliance with 40 C.F.R. § 61.252(a). This is an egregious omission.

38. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 2, ¶ 2, below Table 1), states (in part):

> We identified two general management practices that reduce radon emissions from affected sources. These general management practices are currently being used at all existing uranium recovery facilities. First, limiting the area of exposed tailings in conventional impoundments limits the amount of radon that can be emitted. The work practice standards currently included in Subpart W require owners and operators of affected sources to implement this management practice by either limiting the number and area of existing, operating impoundments or covering dewatered tailings to allow for no more than 10 acres of exposed tailings.

38.1. Of significance is the fact that the work practice standards currently included in Subpart W do not include a requirement to limit the area of exposed tailings by any other method, other than limiting the general size of the impoundment. This limited standard does not require the limitation of the exposed tailing by the maintenance of a water cover or saturated tailings or the placement of soil on the impoundment when it is technically feasible. The current work practice standard in Section 61.252(b) has only been applied to one impoundment and only recently (White Mesa Mill Cell 4A). Therefore, the EPA has no information whatsoever regarding the effectiveness of this methodology at a currently operating uranium mill. What the EPA is ignoring are the

general management practices that have been applied to the "existing" affected sources over the past 25 years. The EPA has not explained the reason for disregarding these general management practices. Such disregard of the management practices that have been used at "existing" conventional impoundments since Subpart W was promulgated in 1989 is hard to comprehend.

38.2. The EPA must provide data on the radon emissions from tailings that are dry on top (but uncovered), saturated tailings, and liquids that are being used to attenuate radon on top of solid tailings. The EPA has always maintained that a water cover reduces the radon emissions from solid tailings impoundments. More data is needed to substantiate that assumption.

38.3. The EPA is disregarding the GACT that are currently being used to reduce radon emissions: 1) water on top of conventional impoundments,[33] 2) keeping tailings wet, 3) placement of soil as tailings dry out, and 4) monitoring the radon, reporting the radon flux, and taking corrective actions to bring the radon flux back into compliance with the standard. These are the primary technologies and work practices being used at conventional mills to reduce radon emissions, yet the EPA is completely disregarding these methods.

39. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 2, ¶ 3 to col. ¶ 1, below Table 1), states (in part):

> Second, covering uranium byproduct materials with liquids is a general management practice that is an effective method for limiting radon emissions. This general management practice is often used at nonconventional impoundments, which, as stated earlier, are also known as evaporation or holding ponds.

39.1. This discussion is confusing. First, there is no requirement in the proposed rule for the use of liquids on top of conventional impoundments to attenuate the radon. The EPA does not acknowledge the fact that the liquids in nonconventional evaporation pond or holding ponds are the uranium byproduct material. The nonconventional impoundments are there to hold and sometimes evaporate liquids, not hold solids covered by liquids. Some sediments and solids may be at the bottom of these ponds, but the solids come from the liquid wastes. So, a management practice for liquids in nonconventional ponds is not covering the solids with liquids. The management practice is placing liquids in these ponds for evaporation, recycling, treatment and discharge, or other containment purposes (e.g., prior to deep well disposal or land application), because the liquids that are the byproduct material that must be contained in the ponds. Without

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[33] There is now data the brings into question the effectiveness of maintaining a liquid cover over solid tailings. The radon emissions from the liquid cover on Cell 3 at White Mesa are far above the emission standard and the emissions are not controlled.

these liquid wastes, there is no need for the ponds. It is primarily the radium in the liquids that produce the radon. The liquids are not there to reduce the radon emissions.

39.2. The EPA must provide a clearer description of these evaporation and holding ponds, their purpose, how they are created, how sediments accumulate, and other relevant information.

39.3. Since it is now apparent that nonconventional effluents and the liquid in conventional impoundments can be major sources of radon emissions, the EPA must fully consider the methods (GACT and MACT) that will be required to reduce those emissions and the need for a radon standard and demonstration of compliance for these types of impoundments.

40. Proposed Rule, at IV. A. Rationale for This Proposed Rule, *How did we determine GACT?* (page 25400, col. 3, ¶ 1, below Table 1), states (in part):

> While this management practice of covering uranium byproduct materials in impoundments with liquids is not currently required under Subpart W, facilities using this practice have generally shown its effectiveness in reducing emissions in both conventional impoundments (that make use of phased disposal) and nonconventional impoundments (i.e. holding or evaporation ponds). We are therefore proposing to require the use of liquids in nonconventional impoundments as a way to limit radon emissions.

40.1. This paragraph is confusing. The purpose of nonconventional impoundments is to hold liquids that are contaminated with radium and other radionuclides. How can you use liquids as a way to limit radon emissions in an impoundments that serve to contain and evaporate liquid effluents? Is it that additional, non-contaminated, water would serve to dilute and radium and limit the emissions?

40.2. Recent White Mesa Mill data regarding the radon emissions from liquids in nonconventional impoundments and those placed in and on conventional impoundments demonstrates that the radon emissions from these liquids is greater than 100 pCi/m^2/sec. *See* Section IV. 45.11, below. *See*, also, 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings. Calculation Brief: Radon Emissions from Evaporative Ponds White Mesa Uranium Mill, July 7, 2014.[34] Therefore, the EPA must demonstrate that, in fact, the presence of liquid processing effluents on top of or in conventional tailings impoundments limit radon emissions.

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[34] Non Privileged Records (July-Sept 2014, Part 1), pages 405-416.
http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part1.pdf
Non Privileged Records (July-Sept 2014, Part 2) pages 1-3 and 200-246.
http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part2.pdf

40.3. The EPA must also consider whether the radium-laden processing effluents actually increase the radon emissions in conventional and nonconventional impoundments at conventional mills.

40.4. The EPA must analyze the radon emissions from liquid-covered impoundments that are produced during the transfer of radium-laden effluents to and between impoundments and during enhanced evaporation sprays.

41. Proposed Rule, at IV. B.2. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Conventional Impoundments (page 25402, col. 1, ¶ 1) states (in part):

> We are proposing as the GACT standard that *all* conventional impoundments—both existing impoundments and new impoundments—comply with one of the two work practice standards, phased disposal or continuous disposal, because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments (reference EPA 520–1–86–009, August 1986). We are proposing that existing impoundments also comply with one of the two work practice standards because, as discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed.

41.1. As was discussed above, there are conventional impoundments that meet the definition of "existing" impoundments in Section 61.251(d) and are subject to the emission standard in Section 61.252(a), but do not meet the work practice standard in Section 61.252(b). Cells 2 and 3 at the White Mesa Mill are licensed to accept additional tailings and were in existence as of December 15, 1989. Cells 2 and 3 do not meet the work practice standards in Section 61.252(b) because they are greater than 40 acres. There is no evidence on the Subpart W Rulemaking Docket that supports EPA's assertion that the tailings impoundments at the Shootaring Canyon Mill in Utah and the Sweetwater Mill in Wyoming have synthetic liners and meet the requirements of 40 C.F.R, § 192.32(a)(1). There is evidence that the tailings impoundment at the Shootaring Canyon Mill has a clay, not a synthetic, liner.[35] Therefore, at least 3 current existing conventional impoundments cannot meet the work practice standard at Section 61.252(b).

41.2. The EPA proposal to solely rely on a design and work practice standard for both existing and new conventional tailings impoundments is contrary to the CAA Section 112 provisions that apply to this Emission Standard rulemaking. Specifically, Section 112(h) provisions do not authorize the adoption of a design or work practice standard in place of an emission standard unless a determination has been made by the

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[35] http://www.radiationcontrol.utah.gov/Uranium_Mills/uraniumone/docs/2012/March/DRC-2012-001447.pdf

Administrator that it is not feasible to prescribe or enforce an emission standard for control of a hazardous air pollutant. Given the 25-year history of the enforcement of the radon emission standard for existing uranium tailings impoundments, it is doubtful that the Administrator could honestly make such a finding.

41.3. The EPA asserts that the Section 61.252(b) minimal work practice standards are the only ones necessary for both existing and new impoundments "because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments." However, as discussed above, there is only one, new conventional impoundment that is licensed to receive tailings. That ~ 40-acre impoundment was recently constructed to meet the Section 61.252(b)(1) design and work practice standard. So, there is really no data regarding the effectiveness of this design standard to reduce the area of exposed tailings, as compared to the effectiveness of the use of water or soil on existing impoundments (which are not required under the proposed Rule) for limiting the area of exposed tailings. There is no data that shows that the Section 61.252(b) design and work practice standard will be as effective or more effective for reducing radon than the use of Section 61.252(a) emission standard and the generally accepted methodologies for complying with that standard.

41.4. The EPA is completely ignoring the emission standard and the work practices that have been used for over 25 years to effectively reduce radon emissions to meet that standard. Without a radon flux standard to comply with, there will be no incentive to use the most effective methods of keeping the radon emissions within the regulatory standard. It is the radon emission standard and the practices that are used to comply with that standard that are the most effective methods of reducing radon emissions. A work practice standard that only requires a certain size impoundment, but no requirement to take any active measures during the life of the impoundment to reduce the radon emissions and no requirement to even measure the radon emissions does not assure that the emissions will be kept a low as reasonably achievable.

41.5. The EPA must provide a full evaluation of the differences in the short and long term radon emissions associated with phased disposal and continuous disposal. The EPA must justify not requiring continuous disposal method for all new impoundments. This comparison is especially relevant given the fact that any ponded water on top of a phased disposal impoundment may emit high levels of radon. Any comparison must look at the radon emissions from various phases of impoundments that use the continuous and phased disposal methods.

41.6. The provisions in Section 112(d)(3) for New and Existing Sources state: "The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator." The emission control practice for current existing impoundments (that is, a radon flux emission standard, monitoring, reporting, placement of a soil barrier when

parts of the impoundment are dry, and corrective actions when the standard is exceeded) generally achieve a radon emission level of below 20 pCi/m^2-sec. The EPA has not demonstrated that the reduction of emissions solely by the use of the 40-acre tailings impoundment design standard for new impoundments will achieve the same or higher level of radon emission control as used at existing impoundments. Therefore, the EPA has not demonstrated, with facts and data, that maximum degree of reduction in emissions that is deemed achievable for new sources (that is, new impoundments) will not be less stringent than the current emission controls currently in use at existing tailings impoundments (that is, the combination of a radon flux emission standard, monitoring, placement of a soil barrier when parts of the impoundment are dry, and corrective actions when the standard is exceeded.

41.7. Clearly, the EPA must require the use of the most effective methodologies for reducing the emission of radon from conventional uranium tailings impoundments. This means that the CAA and the application of the most effective methodologies to reduce radon emissions require that the radon-flux standard in Section 61.252(a) be applied to all conventional tailings impoundments, no matter when they were constructed.

42. Proposed Rule, at IV. B.2. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Conventional Impoundments (page 25402, col. 1, ¶ 2) states:

> We are also not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. Operators continue to use the general management practices discussed above for reducing radon emissions from their conventional impoundments, i.e., limiting the size and/or number of the impoundments, and covering the tailings with soil or keeping the tailings wet. These management practices form the basis of the work practice standards for conventional impoundments and continue to be very effective methods for limiting the amount of radon released to the environment.

42.1. This paragraph is misleading. The EPA claims that the "covering the tailings with soil or keeping the tailings wet" are general management practices used to reduce radon emissions. However, the proposed Subpart W Rule does not include any requirement to implement those practices. The EPA implies that they are; but, they are not. Therefore, these methodologies are not part of the general management practices that the EPA will require for conventional impoundments in the revised Subpart W.

42.2. The EPA claims that they are not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. The EPA is perfectly aware that of the most prevalent methodology used to reduce radon emissions at conventional impoundments is the

combined use of a radon emission standard, monitoring, annual reporting, monthly reporting and investigation if the emissions exceed the standard, corrective actions along with the practice of maintaining a moisture content in the tailings, and placement of soil when areas of the impoundment have dried out. This package of management practices is based on the radon flux limitation. Without a radon flux standard, there is no definition of "effective" when it comes to technologies and management practices. Without the radon flux standard and the requirement to demonstrate compliance, there is no necessity under Subpart W to maintain a moisture content or a soil cover to limit the exposed tailings. Without the radon flux standard and monitoring there is no way to determine whether the soil cover is effectively limiting the radon emissions to the desired level. Without monitoring, there would be no awareness of the actual amount of the radon emissions and no awareness of any increase in those emissions. Without a requirement to take timely corrective actions to lower radon emissions if the standard is exceeded, there would be no necessity for determining the cause of the radon emission increase, nor the necessity of taking an mitigative measures. Without a radon emission standard there is no incentive to propose or try new technologies.

So, it is the radon emission standard and provisions that implement that standard in Subpart W that have been used as means of assuring that the radon emissions will be kept as low as reasonably achievable.

42.3. Other measures to reduce radon emissions are the cleanup of windblown tailings, adding additional fill on areas that have higher emissions, as determined by radon emission monitoring. There are probably ways to deposit tailings in the impoundment that do not create small areas with higher radon emissions. The only way to determine whether there may be areas of higher radium concentration, windblown tailings, or other issues related to radon emissions is through annual monitoring across the tailings area.

42.4. The EPA should identify the maximum available technologies that could be used to reduce radon emissions at uranium mills. Additionally, the EPA must compare the expected radon emissions from impoundments using the phased disposal methods as opposed to continuous disposal methods. Considering the fact that conventional mills do not operate continuously, but experience both short and long-term periods of non-operation, the EPA must consider requiring smaller impoundments that use continuous disposal methods. Data and information on the costs and effectiveness of these methods over the life of a conventional mill should be considered. In addition to reducing the potential for radon emissions via continuous disposal, dry tailings do not hold liquids that can leak into the groundwater. Leakage of tailings fluids into groundwater has been, and will continue to be, an ongoing issue at conventional uranium mills.

42.5. No matter how the industry or the EPA defines "operating" or "closure," the fact is that radon monitoring at "existing impoundments" needs to continue during and after the placement of an interim cover on the impoundment and when an impoundment is drying out, whether reduction of water on top of or within a tailings pile occurs

naturally or via active dewatering. The EPA acknowledged that if the impoundment is allowed to dry out, "emissions can increase significantly."[36] As stated in the 1989 Final Rule: "EPA recognizes that the risks from mill tailings piles can increase dramatically if they are allowed to dry and remain uncovered."[37] Tailings dry out during periods of low precipitation and reduced ore processing. For every impoundment there comes a time when the impoundment must be dried out to remove standing liquids and pile moisture to facilitate settlement of the impoundment (necessary for placement of the final radon barrier) and to reduce the potential for leakage of tailings effluents and groundwater contamination. This dewatering process can take decades.

42.6. In 1989 the EPA addressed the problem of the increase in radon emissions during the "closure" period, by establishing a 20 pCi/m^2-sec limit on emissions and a schedule for compliance.[38] However, 40 C.F.R. Part 61 Subpart T was rescinded for commercial uranium mills, based on the assumption that the NRC and Agreement State programs would assure timely placement of an interim cover and final radon barrier.[39] The EPA assumed that there would be approved closure (reclamation) plans and reclamation milestones for the reclamation of tailings impoundments. However, there is no approved closure plan and no reclamation milestones for the Cotter Mill (Cañon City, Colorado) or for Cell 2 at the White Mesa Mill, as required by 10 C.F.R. Part 40 Appendix A, Criterion 6A, and 40 C.F.R. § 192.32.

42.7. The recent experience at the White Mesa Mill for Cell 2 demonstrates the need for and effectiveness of continued monitoring of an "existing" impoundment prior to the placement of the final radon barrier and during the dewatering period. In 2012 the radon emissions from Cell 2 increased due to dewatering, areas on the pile that had higher radon emissions, and windblown tailings. Due to compliance with the Subpart W requirements for "existing" impoundments, the licensee became aware of the radon emission increases, discovered the cause, and took corrective actions. Corrective actions included cleanup of windblown tailings and placement of additional soil cover. Therefore, continued monitoring at "existing" and at any new impoundments is part of a program to assure that effective measures are taken to reduce emissions. Another reason for the monitoring program is that data on the relationship between dewatering and the increase in radon emissions has been collected.

The only way to attenuate the radon emissions throughout this period is 1) knowledge of what the radon emissions are through monitoring, 2) a radon emission limit, 3) investigation of the causes of the emissions, 4) identification of the actions that would effectively reduce the emissions over the long term, 5) and corrective actions. Another reason to continue monitoring for radon emissions.

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[36] 56 Fed. Reg. 51654, 51679, col. 2, ¶ 3; December 15, 1989.

[37] 56 Fed. Reg. 51654, 51680, col. 2, ¶ 2.

[38] 56 Fed. Reg. 51654, 51702. 40 C.F.R. Part 61 Subpart T, § 61.222(a).

[39] http://www.epa.gov/radiation/docs/neshaps/subparttrecission.pdf

42.8. Given the high level of radon emissions from the liquid effluents on top of the White Mesa Mill Cell 3 (*See* Section IV. 45.11, below), the EPA must reconsider its assumption that maintaining a pond of radium laden fluids on top of tailings impoundments is an effective means of limiting the radon emissions. The EPA must throughly examine, with supporting data, whether or not these liquid ponds should be permitted and whether or not all tailings should be dewatered before placement in a tailings impoundment. The EPA must determine the difference between emissions from tailings that are "wet" and tailings covered by radium laden processing fluids. The EPA must consider the radon emissions during the drying out period for wet tailings that are disposed of in phases, as compared to the emissions from dry tailings that are dewatered prior to "continuous" disposal.

43. Proposed Rule, at IV. B.2. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Conventional Impoundments (page 25402, col. 1, ¶ 3) states:

> These work practice standards are a cost-effective method for reducing radon emissions from conventional impoundments. In addition, the liner requirements for conventional impoundments are also required by the NRC in their licensing requirements at 10 CFR part 40. Therefore, we are proposing that GACT for conventional impoundments will be the same work practice standards as were previously included in Subpart W.

43.1. The liner requirement is supposed to serve two (2) purposes: 1) prevent the contamination of ground and surface water from the leakage of tailings fluids from the tailings impoundment and 2) hold water in the impoundment so that liquids on top of the within the pile that serve to attenuate the radon do not leak from the pile. However, with no specific radon flux limit and no requirement for active measures to attenuate the radon emissions with liquids in and on the impoundment, the liner system serves a minimal radon reduction function under Subpart W.

43.2. As discussed above, the proposed GACT does not include the work practice standards that the EPA claims have been cost effective methods for reducing radon emissions at conventional impoundments. GACT does not include monitoring, a radon flux limit, active measures (such as the use of fluids or soil) to attenuate the radon, or any other active measure beyond the limitation of the size of the impoundment and use of a liner system. (Assuming here that no mill used the continuous tailings disposal method.)

44. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25402, col. 3, ¶ 3) states (in part):

> The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct materials, either in solid form or dissolved in solution, and therefore their

HAP emissions are regulated under Subpart W.

44.1. Commenters agree with the EPA that holding or evaporation ponds at conventional mills, ISL facilities, and any heap leach facilities fall under the authority of the EPA under Section 112 of the CAA and the radionulide NESHAPS in Subpart W. The Section 112(b) of the CAA give the EPA the authority to regulate radionuclides, including radon.

44.2 Commenters do not agree with the EPA that it should limit its authority over radon to emissions to uranium mill tailings, liquid effluent ponds, heap leach piles. Radon is emitted, and sometimes in significant amounts from other areas and sources at these uranium recovery facilities. Large amounts of radon are emitted from wellfields and other parts of ISL operations. The radon emissions from the Smith Ranch-Highland operation in Wyoming is quite high, yet the EPA takes no responsibility under the CAA for the regulation of those emissions. The EPA must assert its authority under the CAA for all sources of radon emissions at uranium recovery operations.

44.3. The EPA and/or the DAQ consistently failed to enforce the work practice standard applicable to both existing and new tailings impoundments since 1989. The EPA and DAQ failed to enforce the 2-impoundment provision in Section 61.252(b)(1): "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." The EPA never applied this requirement to both tailings piles and liquid impoundments at conventional mills. The EPA avoids a discussion of this fact in the Proposed Rule.

45. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25402, col. 2, ¶ 4 to col. 3, ¶ 1) states (in part):

> We are proposing that these nonconventional impoundments (the evaporation or holding ponds) must maintain a liquid level in the impoundment of no less than one meter at all times during the operation of the impoundment. Maintaining this liquid level will ensure that radon-222 emissions from the uranium byproduct material in the pond are minimized. We are also proposing that there is no maximum area requirement for the size of these ponds since the chance of radon emissions is small. Our basis for this determination is that radon emissions from the pond will be expected to be very low since the liquid in the ponds acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for approximately 98% of the radon produced by the solids or from the solution to migrate to the water surface and cross the water/air interface before decaying.

45.1. The EPA states above that a nonconventional impoundment is where tailings are contained in ponds covered by liquids. Then in the quote above, it states that nonconventional impoundments are evaporation ponds or holding ponds. It is confusing because the EPA claims that nonconventional impoundment is where tailings are contained in ponds covered by liquids. That is just not the case. As stated in the proposed definition of nonconventional impoundment, nonconventional impoundments contain uranium byproduct material suspended in and/or covered by liquids. The ponds exist to hold liquids effluents, not solid wastes. The solids are suspended in the liquids and may eventually settle to the bottom. It is also the case that conventional impoundments are used as liquid holding ponds before they transition to use for the deposition of solid wastes.

45.2. There are times when a liquid impoundment will hold less than 1-meter of liquids. For example, when White Mesa Cell 4B, which is currently receiving liquids needs to transition to an impoundment that only receives tailings slurry. Some impoundments are used to hold liquids prior to deep well disposal, off-site discharge after treatment, or land application. In these instances or when it is necessary to dry out the impoundment for repair or during periods of limited or standby operations, the operator may have a reason decrease the liquid level below the 1-meter level. Some ponds do not have enough depth to have 1-meter of liquid and a free space above the liquid level. The EPA regulation must take all design and operating contingencies into consideration.

45.3. The EPA must consider more than just the radon emissions from a nonconventional impoundment in determining whether a size limit is not required. The EPA must also consider the primary function of a nonconventional impoundment: containment of the liquids within the impoundment.

There is a long history of leakage and spills from liquid impoundments. The EPA should provide data and information regarding leakage from liquid impoundments. That data should include information on nonconventional impoundments that have leaked. Information that may be included: the name of facility, impoundment number or other identifier, date of leakage was detected, length of time of leakage, time before discovery of the leak, rate of leakage, size of the impoundment, amount of liquid released, nature of liner and leak detection system, reason for leaks, cleanup, liner replacement, and other pertinent information. The EPA should provide information that compares stresses and strains on liner systems that could cause leakage for different sizes of impoundments; for example, underlying ground and materials, wind, waves, temperature differences, sunlight, liquid pressure, and other influences. All things being equal, the stability and long-term performance of a liner system and liquid impoundment may be influenced by the size. The EPA and the public must have the information necessary to determine how the size of an impoundment may impact not just the radon emissions, but the long-term stability and performance of the liquid impoundment.

45.4. A larger impoundment will hold more liquids so there are more fluids to leak, particularly when there is a significant failure of the system. Therefore, failures of

liquid impoundments of large areas and liquid volume would have more significant impacts than those of a smaller size.

45.5. The EPA does not differentiate between a nonconventional liquid impoundment that is designed only hold liquids and a conventional one that will hold liquids, but will eventually be used to hold more solid tailings for disposal and perpetual storage. An example is Cell 4B at the White Mesa Mill. Such impoundments must be limited in size.

45.6. The EPA has not adequately addressed the possibility of large liquid impoundments in a region, such as Virginia, where impoundments are constructed to hold processing fluids from tailings impoundments for treatment to remove radium, particulates, and possibly uranium and hazardous constituents, pursuant to 40 C.F.R. § 440.34(b)(2).[40] The EPA has not evaluated the long-term stability and performance of various sizes of impoundments in a region that is subject to flooding, hurricanes, and tornadoes. One would expect that the impact of extreme weather events on impoundments of a large size would be greater that impacts on smaller impoundments. The EPA has provided no information about these types of impoundments and the differences in long-term stability and performance for different size impoundments that are subject to extreme weather events.

45.7. The EPA must limit the size of nonconventional liquid impoundments.

45.8. The information provided by the Risk Assessment for Radon Emissions from Evaporation Ponds [41] does not support the notion that the radon emissions from liquid impoundments will be "very low" and "the chance of radon emissions is small." Also, the EPA has not defined "low" or "very low." The Risk Assessment concluded:

> Using actual radium pond concentrations and wind speed data, Equation 13 was used to calculate the radon pond flux from several existing ISL sites. It was determined that the radon flux ranged from 0.07 to 13.8 pCi/m2-sec (see Table 10). From this, it can be seen that the radon flux above some evaporation ponds can be significant (e.g., may exceed 20 pCi/m2-sec).

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[40] 40 C.F.R. § 440.34.(b)(2): "In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in paragraph (a) of this section."

[41] Risk Assessment Revision for40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010; page 26.

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> Again, using actual ISL site data, the total annual radon release from the evaporation ponds was calculated and compared to the reported total radon release from the site. As Table 11 shows, the evaporation pond contribution to the site's total radon release is small (i.e., <1%).

One the one hand, the Risk Assessment states that the radon flux from some evaporation ponds can be significant, on the other hand, the Risk Assessment states that the evaporation ponds total contribution to radon emissions is small. First, the Risk Assessment is only considering emissions at ISL operations, not at conventional mills. That is not made clear in these conclusions. Second, the EPA should not be evaluating radon emissions in comparison to total site radon emissions. A radon emission standard is applicable to a particular source (for example, evaporation pond or tailings pile), not a source in comparison to other possible sources or total sources at a particular uranium recovery operation. So, the radon emissions from a particular evaporation pond—as compared to total emissions from an ISL operation—is irrelevant. Additionally, the EPA has been mandated to regulate radon and reduce radon emissions at uranium recovery operations, which includes all radon emission sources, not just evaporation ponds. The EPA has identified very high levels of radon emissions from other sources at an ISL operations. Therefore, the EPA must also regulate the radon emissions from those other site sources.

45.9. The Evaporation Pond Risk Assessment at Table 2: Radon Flux for Various Radium Concentrations[42] shows the radon flux from three conventional mills and the eight ISL facilities for radium concentrations of 1, 100, and 1,000 pCi/L. The Risk Assessment concludes, "The fluxes at the largest concentration, while below the criteria, are not negligible." However, the largest concentration is not the actual concentration, it is the concentration per 1000 pCi/L. So, a pond with a concentration of 36,700 pCi/L would have a radon flux far in excess of the current 20 pCi/m^2-sec criteria. The Risk Assessment should have, but did not, compare the actual radon flux for the various evaporation ponds at conventional mills.

45.10. Table 2 fails to include, for comparison, the actual radium concentrations for the evaporation ponds at ISL and conventional mills. There is no data in the Subpart W Rulemaking Docket regarding the radium concentration in liquid impoundments at the Sweetwater and White Mesa Mills. So information regarding the actual radon flux from

[42] Id. Page 17.

those mills is completely disregarded by the EPA. Therefore, the EPA has no basis for the assumption that those emissions will be "very low" (what ever that means).

45.11. There is recent data regarding the radium concentration at the impoundments at the White Mesa Mill.[43] The White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report[44] provides data on the Gross Radium Alpha (pCi/L) for the liquids in 4 impoundments.

Table. 1. White Mesa Mill Radium Concentration and Radon Flux for 2013.

Cell	Gross Radium Alpha	Radon Emissions
Cell 1	32,700 pCi/L	228.9 pCi/m^2-sec
Cell 3	81,900 pCi/L	573.3 pCi/m^2-sec
Cell 4A	15,800 pCi/L	110.6 pCi/m^2-sec
Cell 4B	14,600 pCi/L	102.2 pCi/m^2-sec

Cell 1 is a liquid evaporation pond, Cell 4B is being used for the storage of tailings liquids, Cell 4A is almost entirely covered by liquids, and Cell 3 has a liquid pond on top of the more solid tailings. The information for Table 1 is based on the assumption provided by the EPA that a White Mesa liquid impoundment has a radon flux of 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium. Unfortunately, the EPA never required the White Mesa licensee to report on the radium content of the liquids in the tailings cells and calculate the radon flux based on those measurements. This data and the data provided by the Ute Mt. Ute Tribe[45] demonstrates that the radon emissions from the liquid effluents in conventional and nonconventional impoundments at the White Mesa Mill are significant and must be controlled. The data also challenges the long-held assumption that a pond of processing fluids on top of a conventional impoundment serves to limit radon emissions to an insignificant levels.

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[43] http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/tailingswastewater_rpt.htm

[44] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

[45] Non Privileged Records (July-Sept 2014, Part 1), pages 405-416. http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part1.pdf
Non Privileged Records (July-Sept 2014, Part 2) pages 1-3 and 200-246. http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part2.pdf

45.12. The data for White Mesa Mill liquid impoundments does not support the EPA's claim that radon emissions from evaporation ponds "will be expected to be very low" and "the chance of radon emissions is small." In fact, at the White Mesa Mill, these radon emissions are very high. Cell 1, designed to contain and evaporate liquid effluents, is 55 acres. Cell 4B is approximately 40 acres, because it was designed to hold solid tailings. Therefore, no liquid impoundment should be over 40 acres at a conventional mill. The EPA should consider further limits on impoundments specifically designed to hold liquids at conventional mills, given the high radon fluxes from those impoundments.

45.13. The discussion of the attenuation of radon emanation by water (i.e., the amount by which a water cover will decrease the amount of radon emitted from the impoundment) implies that there is "water" on top of a liquid tailings impoundment. That is not the case. Any plain water in a nonconventional fluid impoundment is there due to precipitation or addition by the mill operator. That water does not form a "cover" to existing effluents, it serves to dilute the existing liquids and create a deeper cover over any sediments at the bottom of the pond.

46. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25402, col. 3, ¶ 4 to page 25403, col. 1, ¶ 1) states:

> The benefit incurred by this [1-meter of liquid] requirement is that significantly less radon will be released to the atmosphere. The amount varies from facility to facility based on the size of the nonconventional impoundment, but across existing facilities radon can be expected to be reduced by approximately 24,600 curies, a decline of approximately 93%.

46.1. There is no factual basis for the assumption that maintaining 1-meter of liquid on existing or proposed nonconventional liquid impoundments will result in a decline of approximately 93% of radon emissions.

46.2. The 1986 Nelson and Rogers study that the EPA uses to support this assertion is a study of liquid covers on top of conventional tailings piles. The Nelson and Rogers study is not a study of the radon emissions from nonconventional liquid impoundments. The purpose and function of nonconventional impoundments is to contain liquid 11e.(2) byproduct material. It is not the function of nonconventional impoundments to hold solid wastes and cover them with water or other liquids. A liquid nonconventional impoundment may contain sediments that sink to the bottom of the liquid impoundment or are precipitated out through the addition of barium chloride.

46.3. Nelson and Rogers' conclusion that at least 1-meter of water would serve to greatly attenuate radon emissions from a tailings impoundment applies to conventional tailings piles. The EPA's proposed 1-meter liquid cover requirement only applies to nonconventional impoundments that hold mostly radium-bearing liquids with some

sediments below the liquids. Therefore, the assumptions associated with 1-meter of water on top of a conventional tailings pile do not apply to nonconventional liquid effluent impoundments.

46.4. There is no information in the Evaporation Pond Risk Assessment regarding the depth of existing nonconventional impoundments and how maintaining a 1-meter liquid level would serve decrease the level of radon emissions for those impoundments if less than 1-meter of liquid was maintained; say, 1 or 2 feet.

46.5. Evaporation Pond Risk Assessment estimation of the radon emissions from nonconventional impoundments is based on wind disturbance and the radium concentration of the fluids. It is not based on the depth of the water. The primary factor for the radon emissions is the radium content of the liquid effluents, not the depth of those fluids. The nonconventional impoundments at the White Mesa Mill already emit high levels of radon.

47. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25403, col. 1, ¶ 4 to page 25403, col. 1, ¶ 2 to ¶ 3) states (in part):

> If the evaporated water is not replaced by naturally occurring precipitation, then it would need to be replaced with make-up water supplied by the nonconventional impoundment's operator. The most obvious source of water is what is known as ''process water'' from the extraction of uranium from the subsurface.

47.1. The Proposed Rule only refers to make-up water at a ISL operation and ignores the sources of make-up water at a conventional mill. The liquids at the White Mesa Mill are primarily processing solutions, or raffinates, that come from the processing of the ore in the mill. They do not come from the extraction of uranium from the subsurface. The Mill also disposes of storm-water run off and mill laboratory wastes in Cell 1. The Mill solutions can come directly from the processing circuit or from slimes drains or other dewatering system.

47.2. Although the EPA's primary concern is radon from the decay of radium, processing solutions at conventional uranium mills also include chloride, fluoride, magnesium, ammonia, potassium, sodium, sulfate, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, uranium, vanadium, and zinc. VOCs (acetone, chloroform, chloromethane, methylethyl ketone), and other radiological and non-radiological constituents. These solutions are also very acidic.

47.3. The Proposed Rule does not make clear whether a licensee must maintain 1-meter of liquid on a conventional tailings impoundment that is being used for evaporation of mill solutions. One White Mesa Mill conventional impoundment receives

Mill tailings and is being used for evaporation of processing solutions (Cell 4A), the other just for the evaporation of Mill solutions (Cell 4B). Only Cell 1 and Roberts Pond are dedicated to the containment of Mill solutions and would be considered to be nonconventional impoundments.

47.4. Based on recent White Mesa Mill data on the radium content and radon emissions from the liquid effluent ponds or impoundments(See Section IV. 45.11, above), there is no basis for the assumption that maintaining 1-meter of fluid will significantly reduce radon emissions. In fact, it is the radium laden fluids themselves that are the source of the significant radon emissions. There is not enough clean water available at the mill to continually dilute the fluid impoundments. Other methods, such as dewatering the tailings before placement in the conventional impoundments, and use of barium chloride to remove radium from impoundments that are being used to hold or evaporate fluids (whether a conventional or nonconventional impoundment) must be considered by the EPA.

48. Proposed Rule, at IV. B.3. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Nonconventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids, (page 25403, col. 2, ¶ 2) states (in part):

> We conclude that this proposed requirement is a cost-effective way to significantly reduce radon emissions from nonconventional impoundments, and is therefore appropriate to propose as a GACT standard for nonconventional impoundments.

48.1. As discussed above at 1.1, under Sections 112(d) and (h) of the CAA the EPA cannot establish a design, equipment, work practice, or operational standard, or combination thereof (whether through the application of maximum available technologies or generally available technologies) **in lieu of** an emission standard unless the Administrator finds that it is not feasible to prescribe or enforce an emission standard, meaning that the the application of a measurement methodology is not technologically and economically practicable.

The Proposed Rule does not include such a finding by the Administrator for the radon emissions from nonconventional liquid and tailings solution impoundments at conventional mills and ISL facilities. Commenters do not believe that the Administrator could make such a finding with respect nonconventional liquid impoundments. Also, the Administrator could not make such a finding with respect conventional impoundments that are being used to evaporate mill solutions.

48.2. The Evaporation Pond Risk Assessment provides a methodology for determining the radon emissions from liquid impoundments based on wind turbulence data and the fluid's radium concentration. The Risk Assessment discusses the development of this model and methodology and how to use the model to calculating the radon flux from liquid impoundment. The EPA and the NRC has traditionally used

modeling and calculations as a method for determining compliance with a radionuclide emission or dose standard. Additionally, radon monitoring devices have been floated on liquid impoundments to determine the radon flux, and measurements have been made near the impoundments to determine radon emissions.

48.3. In sum, the EPA cannot rely on a 1-meter liquid standard to control and reduce radon emissions from nonconventional uranium recovery liquid impoundments, because such a stand-alone standard dose not meet the statutory requirements of the CAA. The EPA must establish an emission standard and develop feasible methodologies for demonstrating compliance with that standard. As discussed above, the 1-meter of liquid requirement would likely do little to reduce the high levels of radon emissions at the nonconventional impoundments at the White Mesa Mill. At some facilities, it would require large amounts of uncontaminated water that is not readily available or may be costly.

48.4 There are other generally available technologies that the EPA is not considering. The Evaporation Pond Risk Assessment concluded that the use of barium chloride would reduce the radon emissions.[46] There has been a significant reduction of radon emissions from liquid impoundments at the Smith Ranch-Highlands facility through the treatment of the fluids and placement of berms. However, the EPA is not requiring the use of these effective measures to reduce radon effluents, nor providing an incentive through a radon flux emission standard. The EPA must also include the use of berms to reduce wind turbulence and the use of barium chloride as generally available technologies that can be used to meet a radon flux standard. Without such a standard, licensees will have little incentive to reduce their radon emissions. The White Mesa Mill licensee must be required to use barium chloride to remove the radium and reduce the emissions from their liquid impoundments.

48.5. Considering the very high levels of radon emissions from the liquid impoundments and the pond on the tailings pile at the White Mesa Mill, conventional mills must be required to limit the number of both their conventional and nonconventional impoundments. At a maximum, there must be no more than 3 operating (conventional plus nonconventional) impoundments at any one time. Further, a mill owner should not be permitted to construct and operate a new impoundment until all impoundments that are no longer receiving tailings have a closure plan, reclamation milestones, and demonstrate annual compliance with the 20 pCi/m^2-sec criteria.

48.6. The EPA must also limit the size of new nonconventional liquid impoundments.

48.7. Since 1989 the EPA has not required a licensee to demonstrate compliance with the radon standard for existing nonconventional impoundments. Nor is there a requirement to determine the radon emissions from the liquid ponds on top of the

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[46] Risk Assessment, page v, ¶ 4.

conventional impoundments. Method 115 states that no measurements are required for water covered areas, as radon flux is assumed to be zero.[47] Based on current information regarding the radium content of the liquid ponds on the conventional impoundments, there is no basis for that assumption. So, for decades the radon emissions from conventional mill impoundment have been significantly and egregiously under estimated.

The EPA must amend Method 115 to require a determination, through measurement or calculation, of the radon emissions from liquid ponds, whether nonconventional liquid impoundments, conventional impoundments being used for evaporation of mill solutions, or ponds on top of conventional tailings piles.

48.8. While we are on the subject of compliance with Subpart W with respect evaporation ponds, it would be appropriate to discuss how the EPA and DAQ have enforced the Section 61.252(b)(1) standard that states: "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." Although the EPA now agrees that the limitation of operating impoundments included all operating impoundments that received 11e.(2) byproduct material (liquids and solids), the EPA and DAQ never enforced the 2-impoundment rule. Therefore since 1989 that White Mesa Mill has always had at least 3 operating impoundments.

Leaving aside the question of whether Cell 2 is an "existing" tailings impoundment that should be counted when determining the number of operating impoundments, the White Mesa Mill currently has 5 operating 11e.(2) byproduct material impoundments, Cells 1, 3, 4A, and 4B and Roberts Pond. This is a clear violation of 40 C.F.R. § 61.252(b)(1). Yet, when this issue was brought to the EPA, the EPA determined that, yes, the White Mesa Mill was out of compliance with the 2-impoundment rule, but it didn't matter, since the emissions from the liquid impoundments (now called nonconventional impoundments) do not represent a health hazard. The EPA believed, without providing any documentation to support their assertion, that the radon emissions from Cell 1 and Cell 4B were minimal. However, putting together recent data on the radium content of Cells 1 and 4B[48] and the EPA contractor's statement that there are 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium in a liquid impoundment[49], the radon emissions from Cells 1 and 4B are far higher than those from the solid portions of Cells 2 and 3. The radon flux from Cell 4A, completely covered by liquids, is also higher than those of the solid portion of Cell 3 and of Cell 2. Cell 1 has a radon flux over 10 times

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[47] 40 C.F.R. Part 61, Appendix B, Method 115, Subsection 2.13(a).

[48] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

[49] Risk Assessment Revision for 40 CFR Part 61 Subpart W – Radon Emissions from Operating Mill Tailings: Task 5 – Radon Emission from Evaporation Ponds; S. Cohen and Associates, November 9, 2010; page 26.

the radon flux standard for Cells 2 and 3. Cells 4A and 4B has approximately 5 times that standard.

The EPA's solution to this failure to enforce Section 61.252(b)(1) at the White Mesa Mill is to just change the rule. Now, under the Proposed Rule, those liquid impoundments are defined as nonconventional impoundments, and licensee can have as many as they want and of any size. The EPA is not even honest enough to discuss this egregious regulatory failure in the proposed Rule. There is nary a mention of the White Mesa Mills current Section 61.252(b)(1) compliance status.

The EPA must enforce the current Section 61.252(b)(1) regulatory requirement as it applies to the number of operating impoundments at the White Mesa Mill. The EPA can no longer claim that the emissions from liquid impoundments are minimal and do not present a health risk.

49. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25403, col. 2, ¶ 3 to col. 3, ¶ 1) states (in part):

> As a result, we are proposing GACT standards for heap leach piles. We are proposing that these piles conform to the phased disposal work practice standard specified for conventional impoundments in 40 CFR 61.252(a)(1)(i)(which limits the number of active heap leach piles to two, and limits the size of each one to no more than 40 acres) and that the moisture content of the uranium byproduct material in the heap leach pile be greater than or equal to 30% moisture content.

49.1. As discussed above at 1.1, Section 112(h) of the CAA does not authorize the establishment of, or the promulgation of, a design, equipment, work practice, or operational standard, or combination thereof, **in lieu of** an emission standard, unless the Administrator makes a determination that it is not feasible to prescribe or enforce an emission standard for a specific type of emission source. The Administrator has not made such a finding for heap leach operations. Therefore, the EPA cannot rely solely on the proposed GACT standards to satisfy the statutory requirements applicable to the promulgation of a radon emissions standard for heap leach uranium recovery operations.

49.2. The EPA must promulgate a radon emission standard for uranium heap leach operations, or the Administrator must make a finding that it is not feasible to prescribe or enforce an emission standard. In order to do this, the EPA must evaluate all possible methods for determining the radon emissions from heap leap operations.

49.3. There have not been any heap leach operations for decades, so no generally applicable control technologies have been developed for these types of operations. Therefore, the EPA must identify and consider various types of control technologies to limit the emission of radon from heap leach operations.

50. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25403, col. 3, ¶ 2) states (in part):

> Limiting the size of the operating heap leach pile to 40 acres or less (and the number of operating heap leach piles at any one time to two) has the same effect as it does on conventional impoundments; that is, it limits the area of exposed uranium byproduct material and therefore limits the radon emissions from the heap leach pile. While we believe that the 40 acre limitation is appropriate for heap leach piles, we are requesting comment on what should be the maximum size (area) of a heap leach pile.

50.1. The EPA must provide additional information regarding the life cycle of a heap leach operation and the radon emissions from such operations from all radon emission sources. The Subpart W BID does not provide sufficient information to support the proposed work practice and design standard. For example, there is no evaluation of other radon emission sources at the milling operation, which would include loading, grinding, and other ore handling operations. The EPA does not provide information regarding the potential radon emissions from the time ore is placed on the heap leach pad or impoundment to the time when the final radon barrier is placed on the impoundment.

50.2. The EPA has not provided a legal basis for only considering and limiting the radon emissions from the heap leach pile, rather than controlling the radon emissions from all on sources at a heap leach operation. The CAA directs the EPA to control radon emissions. Therefore, the EPA must regulate all radon sources at a heap leach operation.

50.3. The EPA has not provided any data comparing the potential radon emissions from a 40-acre impoundment to smaller impoundments. Also, the EPA has not provided any information on the number of impoundments that would be emitting radon during the life of an operation and the expected emissions based on different parameters, such as uranium content of the ore. This information would include an evaluation of the radon emissions from impoundments during the placement of ore prior to the use of a leachate. There will be radon emissions during this time. The EPA must also evaluate the radon emissions from a heap leach operation up to the placement of the final radon barrier.

50.4. The EPA must have a radon emission standard that applies to all phases of a heap leach impoundment operation—from the placement of ore on the pile to the placement of a final radon barrier. Further, there must be specific regulation applicable to periods of standby. A licensee should not be permitted to place ore in a heap leach pile and not complete the operational cycle, including placement of the final radon barrier. The radon emissions from a pile that is drying out must also be subject to the radon emission standard.

51. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25403, col. 3, ¶ 3) states (in part):

> However, we request further information on all the chemical mechanisms in place during the leaching operation, and whether the 30% moisture content is sufficient for minimizing radon emissions from the heap leach pile. We also request comment on the amount of time the 30% moisture requirement should be maintained by a facility.

51.1. Section 112(h) of the CAA requires a radon emission standard, not just a work practice or design standard. Experience at a leaching operation will demonstrate whether maintaining 30% moisture content is sufficient to meet the standard. If there is no emission standard, there is no way to determine whether a 30% moisture content is sufficient for minimizing radon emissions.

52. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25404, col. 1, ¶ 1) states (in part):

> We are proposing that the operational life of the heap leach pile be from the time that lixiviant is first placed on the heap leach pile until the time of the final rinse. We believe this incorporates a majority of the time when the heap leach pile is uncovered (no radon barrier has been constructed over the top of the heap) and when the ability for radon to be emitted is the greatest.

52.1. A heap leach pile must be regulated under Subpart W from the time ore is placed on the pile or within the heap leach impoundment through the period when the pile will dry out, prior to placement of the final radon barrier. The CAA demands that the EPA regulate radionuclides, including radon. The EPA has not been directed to regulate radon emissions from uranium industry operations for part of the time, and disregard these emissions when it serves the interests of the uranium industry. Radon will be emitted as soon as the unprocessed ore is brought onto the site, whether for direct placement in the heap leach impoundment or for physical processing, such as grinding, prior to placement on the heap leach impoundment. The radon emissions from the heap leach operation include radon emissions from any conveyor belt, during physical processing of the ore, during the placement of the ore in the impoundment, during chemical processing, during periods when the ore is resting, during the post processing period, during any period when the impoundment dries out to facilitate the final reclamation, during and before placement of an interim cover, and prior to placement of the final radon barrier. There must be a radon emission limits from all radon sources and during all stages of operation. The EPA is not authorized under the CAA to pick and choose certain radon sources and certain times and operational phases where the radon

emissions must be limited and pick and choose the radon sources and operation phases that the EPA will just ignore.

52.2. The EPA has not provided any data and information from heap leach operations that demonstrate that the radon emissions from the heap leach pile will be greatest from "the time that lixiviant is first placed on the heap leach pile until the time of the final rinse." The EPA has provided no information regarding the radon emissions during the period of time that ore is being transported, physically processed, and placed on the heap leach pile. There is no information about how long it will take to place the ore on the pad. Since the ore will be broken up via sorting and grinding, will be fairly dry, and will have the full uranium content, the radon emissions during that period should be higher than during the time the lixiviant is being used to remove uranium.

52.3. As with conventional uranium tailings impoundments, the radon emissions will increase when the impoundment starts to dry out. The EPA has provided no information regarding the length of the period, the radon emission limit, and the available technologies that might be used to control and reduce radon emissions during the time when heap leach piles are drying out.

53. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25404, col. 3, ¶ 1) states (in part):

> Our estimates for costs of monitoring the heap include 100 sensors located within the heap, with a meter on each sensor. We chose 100 sampling stations because heaps are generally the same size as conventional impoundments, and Method 115 prescribed 100 measurements for the tailings area of a conventional impoundment.

53.1. The EPA fails to include a description of possible methods that could be used to measure the radon emissions from the pile in order to demonstrate compliance with a radon emission limit. Such an emission limit is required under Section 112(h) of the CAA, unless the Administrator finds that demonstrating compliance with a specific limit is not feasible. The EPA has not made such a finding. That is why the EPA must discuss all possible methods of demonstrating compliance with a radon emission limit for heap leach piles and other aspects of the operation.

53.2. The EPA claims that "heaps are generally the same size as conventional impoundments" and, therefore, only need 100 sampling locations under Method 115. The reasoning is faulty. Under the current proposed rule, during the operation of a 40-acre "new" conventional impoundment and during the operation of an "existing" impoundment that may be larger than 40 acres, there is no requirement to measure the radon emissions, so a comparison of the sizes is irrelevant. Additionally, if there was an emission standard, most of the impoundment would be covered with water or later have a soil cover, so that the area for 100 sampling locations would be far smaller than 40-acres.

For "existing" impoundments under existing Section 61.252(a) radon emission limit, much of the impoundment is either covered with liquids or with a soil cover. Therefore, over the years the area that was measured using 100 locations was smaller than 40-acres. The EPA has data from the annual Subpart W compliance reports that would provide a picture of the size of the areas where the licensee used 100 sampling locations. However, the EPA failed to provide this important data. Instead, the EPA is making unsubstantiated claims and assumptions.

54. Proposed Rule, at IV. B.4. Rationale for This Proposed Rule, *Proposed GACT Standards for Operating Mill Tailings*, Heap Leach Piles, (page 25404, col. 2, ¶ 2) states:

> We are also aware that there could be a competing argument against regulating the heap leach pile under Subpart W while the lixiviant is being placed on the heap leach pile. While not directly correlative, the process of heap leach could be defined as active ''milling.'' The procedure being carried out on the heap is the extraction of uranium. In this view, the operation is focused on the production of uranium rather than on managing uranium byproduct materials. Therefore, under this view, the heap meets the definition of tailings under 40 CFR 61.251(g) only after the final rinse of the heap solutions occurs and the heap is preparing to close. In this scenario the heap leach pile would close under the requirements at 40 CFR part 192.32 and Subpart W would never apply. We are requesting comments on the relative merits of this interpretation.

54.1. There is no basis for any argument against regulating heap leach piles under Subpart W prior to and during the placement of lixiviant on a heap leach pile. The EPA has been charged with the responsibility to regulate the emission of radionuclides, including radon. The CAA does not state that the EPA is only responsible for limiting the emission of radon from "tailings," or other 11(e)(2) byproduct materials at operating uranium recovery operations and ignoring radon emissions from other uranium recovery radon sources and ignoring radon emissions during certain phases of the operation.

54.2. The EPA must regulate radon emissions from uranium recovery facilities, including heap-leach operations, during all phases of the operation. This includes during the physical processing of the ore; placement of the ore on the heap leach pad, or impoundment; during the leaching process; during the periods when the pile is resting; during periods of standby; during the period when the pile is drying out (when it may or may not have an interim soil cover); and prior to the placement of the final radon barrier. There is no legal, regulatory, or technical justification for failing to regulate the radon emissions during all phases of a heap leach operation when radon is being emitted.

55. Proposed Rule, at V.A. Other Issues Generated by Our Review of Subpart W, *Clarification of the Term "Standby"* (page 25405, col. 2, ¶ 3), states (in part):

> This period of time usually takes place when the price of uranium is such

> that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so. Since the impoundment has not entered the closure period, it could continue to accept tailings at any time; therefore, Subpart W requirements continue to apply to the impoundment. Today we are proposing to add a definition to 40 CFR 61.251 to define "standby" as:
>
> > *Standby* means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

55.1. The EPA must take a harder look at what standby means in terms of the length of time that a facility can remain on standby. For example, the Shootaring Canyon Mill has not operated for over 30 years. During that time, the price of uranium has risen and other operations have commenced or returned to active uranium recovery operations. Therefore, there should be a limit on the length of time a facility can remain on standby, for example, 10 years.

55.2. Another issue related to standby is whether the tailings impoundment can actually be used for the disposal of new tailings in the future. Currently, the Shootaring Canyon Mill is on "standby," but it is not licensed to "operate." The tailings impoundment at Shootaring Canyon cannot be used to dispose of new tailings should the mill ever resume active ore processing. This is because the impoundment does not have a synthetic liner, and the Utah DRC will not allow the impoundment to be used for new tailings. The only reason the Shootaring impoundment has not been reclaimed is that thousands of tons of contaminated soil, unprocessed ore, and buildings and equipment must be placed in the impoundment as part of the mill reclamation.[50] The EPA must consider the actual reality of these standby arrangements when defining "standby."

55.3. It is misleading to characterize "standby" as a period of non-operation, when the facility has not surrendered its operating license. Uranium mill operators don't just "surrender" a mill's operating license. First, the mill operator must reclaim the site to the satisfaction of the NRC or NRC Agreement State and the Department of Energy. Eventually, the NRC or NRC Agreement State terminates the license, and the site is transferred to the Department of Energy under a general license. This process can take decades. Therefore, the EPA must more clearly explain the concept of "standby."

56. Proposed Rule, at V.B. Other Issues Generated by Our Review of Subpart W, *Amending the Definition of "Operation" for a Conventional Impoundment* (page 25405, col. 3, ¶ 2), states (in part):

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[50] http://www.deq.utah.gov/businesses/U/uraniumone/docs/2012/03Mar/DRC-2012-001447.pdf

> To prevent future confusion, we are proposing today to amend the definition of ''operation'' in the Subpart W definitions at 40 CFR 61.251 as follows:
>
> > *Operation* means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

56.1. The EPA must either expand the definition of "operation," or eliminate the definition entirely. Missing from the May Proposed Rule FRN and the background documents is a full discussion of the various phases of uranium recovery operations (conventional, ISL, and heap leach), the radon emissions from all site sources during those phases, and how those radon emissions will or will not be regulated under Subpart W or any other EPA regulation.

56.2. The definition of "operation" does not include the period of time when ore is physically processed, placed on a heap leach pad, and when the lixiviant is being sprayed on the ore. The EPA must either include these operational phases in the definition, of "operation," or develop a different concept for the regulation of radon emissions under Subpart W. There is no legal justification for not regulating the radon emissions from all phases of heap leach operation, starting with the physical processing of the ore prior to placement on the heap leach pad.

56.3. The EPA has never explained, with particularity and specificity, what "the day that final closure begins" actually means. The definition, as proposed, remains conveniently vague. It is clear that over time, the EPA, Utah DAQ, NRC, and the uranium industry have had different opinions about this. Also, as Subpart W has been implemented and enforced since 1989, there is no agreement with respect the applicability of Subpart W. One concern has been that some tailings impoundment may have entered a "closure" period, but 1) the license still permits the disposal of 11e.(2) byproduct material in the impoundment, 2) there is no approved closure plan, and 3) there are no reclamation milestones, as required under 40 C.F.R. § 192.32 and 10 C.F.R. Part 40, Appendix A, Criterion 6A. Examples include "existing" tailings impoundments at the Cotter Mill (Colorado) and the White Mesa Mill. Clearly, the EPA definition of "operation" leaves much room for interpretation. The EPA should have fully discussed these regulatory issues. The regulation must identify that actions that must take place for an impoundment to enter the closure period. This must include full and timely compliance with the regulatory requirements in 40 C.F.R. § 192.32 and 10 C.F.R. Part 40, Appendix A, Criterion 6A, BEFORE closure commences.

56.4. In the proposed definition of "operation," the EPA completely ignores the need for continued demonstration of compliance with a radon emission standard and

continued monitoring of both existing and new impoundments during the times when the impoundment is drying out and prior to the placement of the final radon barrier, whether or not the impoundment in considered "operational." Although the annual and monthly radon emission compliance reports for Cell 2 at the White Mesa Mill were available to the EPA and are important to the Subpart W rulemaking, the EPA failed to place these documents on the Subpart W rulemaking docket. Those documents show that continued monitoring and compliance with the 20 pCi/m^2-sec standard are necessary, so that the licensee will know when radon emissions increase during dewatering and be able to take appropriate corrective actions to reduce these emissions, using generally available technologies, such as removable of windblown tailings and placement of additional clean fill.

56.5. The EPA definition of "operation" does not consider the fact that sometimes uranium mills that are considered "closed," have a closure plan, and have reclamation milestones may construct new impoundments or disposal impoundments at the site to receive liquid wastes or other contaminated soils or wastes from other locations (such as uranium mine waste). The EPA does not discuss these situations, or attempt to include these new impoundments under Subpart W regulations. The EPA must include all newly constructed impoundments under Subpart W regulation, even it they are at sites that are considered "closed."

56.6. In sum, the EPA proposed definition of "operation" will create large gaps in the regulatory oversight of radon emissions from uranium recovery operations. There must be no gaps in regulatory limits on, and control of, radon emissions from uranium recovery facilities. The EPA must not use the definition of "operation" to authorize unregulated emissions of radon from these facilities, as is currently contemplated. The Subpart W radon emission limit or limits must apply during all phases of a uranium recovery operation, up to the time of the placement of the final radon barrier.

57. Proposed Rule, at V.C. Other Issues Generated by Our Review of Subpart W, *Weather Events* (page 25406, col. 1, ¶ 2), states:

> Since impoundments at uranium recovery facilities have been and will continue to be required to comply with the requirements of 40 CFR 192.32(a)(1), they are already required to be designed to prevent failure during extreme weather events. As we stated in Section IV B.2., we believe the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. Therefore, we are proposing to include these requirements in the Subpart W requirements without modification.

57.1. Here, the EPA claims that compliance with 40 C.F.R. § 192.32(a)(1) will prevent failure during extreme weather events and that compliance with Section 192.32(a)(1) will provide a warning system in the event of a leak in the liner system. The

EPA does not provide an engineering assessment in support of these claims, so there is no basis for these claims.

57.2. The conclusion that "the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system" has nothing to do with the challenges to the structural integrity of conventional or nonconventional impoundments in an area subject to the intense forces of extreme weather events, that is, hurricanes and tornadoes. The concern here would not be a "leak in a liner system;" the concern would be the dispersal of liquid and solid wastes from the top and sides of an impoundment caused by the extreme forces of wind and/or water during a hurricane or tornado. The requirements of Section 192.32(a)(1) do not address these challenges.

57.3. Section 264, referenced by Section 192.32(a)(1), requires an impoundment design and liner system that will prevent migration of waste out of the impoundment to adjacent surface soils and ground or surface water; prevent overtopping, over filling, wind and wave action. The primary purpose is the prevent migration of material from the impoundment. However, there is no mention of migration due to extreme high-level winds from hurricanes and tornadoes in Section 264. There is no mention of migration due to intense levels of precipitation in short periods of time from hurricanes and other storm events. The Proposed Rule provides no information regarding the actual engineering designs that would protect the exposed area of a solid or liquid impoundment from any extreme weather event. The EPA provides no information regarding the possible engineering designs and liner systems that would provide assurances that no wind and/or precipitation event—no matter how extreme—would be able to disperse liquids or solids from these impoundments. The dispersal of such contaminants, would contaminate not just "adjacent" surface soils and surface and groundwater, but soils, buildings, homes, persons, natural and domesticated flora and fauna, ground water, surface water, and other aspects of the environment over a wide area.

57.4. The EPA has not provided any information regarding whether any containment system that uses generally available technologies will be able to protect a solids or liquids impoundment from the forces of a tornado or a hurricane, which are able to destroy large swaths of habitations and disperse materials over a large area, and provide assurance that all solids or liquids will remain within the containment system. The EPA has not explained how the exposed liners that are above the level of the contained liquids or solids, will be protected from a tornado or hurricane force winds. Additionally, the EPA has provided no information regarding the costs of any generally available technologies, or other technologies, that could be used to provide reasonable assurances that a containment system will not be compromised by an extreme weather event.

57.5. Having a regulation that states that a containment system must be designed to withstand extreme weathers events, does not mean that it is feasible to do so, particularly when using generally available technologies. At this time Commenters are

not aware of any generally available technologies that would prevent the dispersion of liquids and solids that contain radium and radon or the destruction of the exposed liner system or other parts of the containment structure in an extreme weather event such as a tornado or hurricane.

58. Proposed Rule, at VI.A. Summary of Environmental, Cost and Economic Impacts, *What are the air quality impacts?* (page 25406, col. 3, ¶ 2), states:

> We project that the proposed requirements will maintain or improve air quality surrounding the regulated facilities. The GACT standards being proposed today are based on control technologies and management practices that have been used at uranium recovery facilities for the past twenty or more years. These standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings. The requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources.

58.1. There is no basis for the above statements. The only GACT standards that the EPA proposes is the limit on the size of new impoundments to 40 acres (or continuous disposal, which no uranium mill uses or has proposed using) and compliance with 40 C.F.R. 192.32(a)(1) impoundment construction requirements. There are only 2 impoundments that have been constructed according to these GACT standards, Cells 4A and 4B at the White Mesa Mill. These impoundment were constructed within the last 10 years, not within the past twenty or more years. Currently, both of these impoundments are contain primarily liquids. Since the licensee, under the Proposed Rule, will not be required to actually determine and report the radon emissions from these impoundments, the EPA will not have any data to support the EPA's assertion that the operation of Cells 4A and 4B will maintain or improving air quality.

58.2. The fact is, the operation of Cells 4A and 4B is contributing to an increase in the radon emissions and air quality degradation. Cell 4A is receiving tailings slurry and liquid wastes, and Cell 4B is receiving liquid wastes. According to 2013 data provided to the Utah DRC,[51] the Gross Radium Alpha from Cell 4A and Cell 4B are 15,800 pCi/L and 14,600 pCi/L, respectively. Based on the EPA Risk Assessment estimation of 7.0 pCi/m^2-sec for every 1,000 pCi/L of radium in White Mesa solutions impoundments, Cells 4A and 4B emit 110.6 pCi/m^2-sec and 102.2 pCi/m^2-sec, respectively. This is more than 5 time the current radon flux limit for existing impoundments.

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[51] White Mesa Mill 2013 Annual Tailings Wastewater Monitoring Report; Groundwater Quality Discharge Permit, UGW370004, Energy Fuels Resources (USA) Inc., November 1, 2013. http://www.radiationcontrol.utah.gov/Uranium_Mills/denison/docs/2013/dec/2013AnnualTailingsReportFinal.pdf

58.3. The EPA's claim that "these standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings" has no basis in fact. There is absolutely no regulatory requirement in the Proposed Rule that states or implies that the impoundments must be kept wet or covered with soil. Currently, the exposed tailings at existing impoundments are limited by the presence of liquids or a soil cover over much of the impoundments. Keeping the tailings wet or covered with clean soil helps the licensee meet the radon emission standard. These generally accepted means of controlling radon emissions will not be required under the Proposed Rule, nor will a licensee be required to take any active measures to reduce radon emissions once the tailings impoundment is constructed and the impoundment is in operation. Since there will be no need to keep radon emissions below a specific limit under Subpart W, there is no need to manage the impoundment to keep emissions at the lowest levels.

58.4. There is no basis for the statement that "the requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources." The EPA fails to explain and provide data and information regarding exactly how radon emissions from conventional mills, ISL operations, and heap leach operations will be eliminated or reduced under the proposed Subpart W. The Proposed Rule will have little actual impact on the radon that is emitted from these facilities. The Proposed Rule does not require any monitoring of those emissions to see if emissions are, in fact, eliminated or reduced (reduced from what is not discussed). The Proposed Rule does not require any mitigative measures if radon emissions are not eliminated or reduced.

59. Proposed Rule, at VI.B. Summary of Environmental, Cost and Economic Impacts, *B. What are the cost and economic impacts?* (page 25406, col. 3, to):

59.1. The discussion of the costs and economic impacts of the use of the proposed GACT requirements are misleading and incomplete, because Section 112(h) of the CAA does not authorize the promulgation of a design, equipment, work practice, or operational standard, or combination thereof, unless the Administrator determines that it is not feasible to prescribe or enforce such a limit on the emissions of a hazardous air pollutant. The Administrator has not made such a finding with respect a standard that limits the radon emissions from uranium recovery facilities that are regulated under the Atomic Energy Act and NRC regulations at 10 C.F.R. Part 40. Therefore, any discussion of costs and economic impacts that assume that there will be no specific limits on the emissions of radon from conventional mills, ISL operations, heap leach operations, or any other type of uranium recovery operation is false and misleading.

59.2. Much of the data and information associated with the estimates of costs and economic benefits is based on incomplete and outdated information provided by the EPA in the 2014 EPA BID in support of the Proposed Rule.

59.3. This section (page 25407, col. 1, ¶ 2) discusses the current costs of monitoring for radon at the three "existing" uranium mills and gives an estimate of the

savings to the mill owners if the EPA removes the requirement for radon monitoring and reporting for these impoundments at the White Mesa, Shootaring Canyon, and Sweetwater Mills. The discussion includes an estimate of the cost savings if the radon flux monitoring requirement is removed. The EPA's estimated cost savings is $19,460 for White Mesa. That is based on 2009 estimates and is not based on actual costs. Commenters believe that the EPA underestimates the savings if there is no radon flux monitoring and reporting. First, the White Mesa estimate appears to be based on the monitoring of only one impoundment. As of 2014, the radon flux from Cell 2 and Cell 3 were being monitored. There are other factors that have increased the costs of White Mesa Mill radon monitoring over the past few years: 1) between April 2013 and May 2014, the mill owner has been required to submit monthly compliance reports for Cell 2, because the Cell 2 radon flux for 2012 exceeded the standard; 2) in 2013 the radon flux for Cell 3 taken during the second quarter exceeded the standard, so the mill owner decided to make 2 more quarterly radon flux measurements for one region of the impoundment and average the 3 quarters (even though Method 115 requires 4 quarters for a yearly average); 3) costs to determine why the radon flux for Cell 2 had increased; 4) cost to place additional soil cover on Cell 2 and clean up tailings that had come from Cell 3 and build a barrier; and 5) additional costs associated with the increase in radon emissions when a tailings impoundment is dewatered. Surely, the EPA should give a full accounting of all the wonderful cost savings associated with EPA's removal of the requirement to monitor radon emissions at the "existing" impoundments, EPA's assertion that radon monitoring for new impoundments is not necessary, and EPA's finding that there is no need to control radon emissions from liquid effluents or any other radon emitting sources at conventional mills.

59.4. The EPA should provide a cost savings associated with their disregard of the requirements of Section 112(h) of the CAA and any finding that the Administrator might make that promulgating or maintaining a radon emission standard for conventional mills, ISL operations, or heap leach operations is not feasible. Such a calculation must include the savings on the costs of monitoring any conventional uranium tailings impoundment (existing or new), whether monitoring is done on a weekly, monthly, quarterly, or annual basis; cost of administration and reporting the radon emissions; costs of placing soil on top of a conventional impoundment to reduce the emissions; costs of other corrective actions to reduce emissions to comply with the standard; costs of calculating or measuring emissions from nonconventional or other fluid impoundments; costs of using barium chloride or other method to reduce radon emissions from liquid impoundments; costs of measuring or calculating the radon flux from heap leach piles during all phases of operation; cost for taking corrective actions to reduce radon emissions from heap leach piles; savings by having other regulatory gaps so that radon emissions are not monitored and reported, nor corrective actions taken to assure compliance (for example, when an impoundment is considered non-operational and being dewatered). The EPA must not be shy in giving the public and the uranium industry a full assessment of the many thousands of dollars that uranium mill owners will save because the EPA's disregard of the provisions of the CAA. The EPA must not be shy about the great savings to the uranium industry by not having radon emissions standards, not

knowing what the radon emissions are, and not requiring any corrective actions to assure compliance with such standards.

59.5. In the discussion of the emissions from fluid impoundments, the EPA claims (page 25407, col. 2, ¶ 3) that "as long as approximately one meter of water is maintained in the nonconventional impoundments the effective radon emissions from the ponds are so low that it is difficult to determine if there is any contribution above background radon values." However, recent data regarding the radium content of the White Mesa Mill nonconventional Cell 1 liquid impoundment, conventional Cell 4A (which contains liquid wastes on top of tailings slurry), and conventional Cell 4B (which contains liquid wastes) demonstrate that, even though there may be 1-meter of liquid in these impoundments, the radon values far exceed the background radon values.

59.6. The Proposed Rule states that conventional mill owners will use liquids or soil covers to reduce radon emissions, however the Proposed Rule give no assessment of the economics of the use of those generally available technologies to reduce radon emissions.

59.7. The Proposed Rule fails to examine other costs associated with the essentially unregulated release of radon from uranium recovery operations. These would include economic and health based costs to nearby communities.

60. Proposed Rule, at VI.C. Summary of Environmental, Cost and Economic Impacts, *What are the non-air environmental impacts?* (page 25408, col. 1 to col. 2):

60.1. The EPA has not demonstrated that compliance with the requirements of 40 C.F.R. 192.32(a)(1) and, by reference, 40 C.F.R. 264.221 will protect ground and surface water from contamination from liquid and sold tailings impoundments as a result of extreme weather events (storms, hurricanes, and tornadoes).

60.2. The Proposed Rule does not include any data and information that would support the installation of of nonconventional impoundments without regard to size or number at conventional or ISL uranium recovery operations. The Proposed Rule does not support the assumption that the number and size of these fluid impoundments will not appreciable impact on surface and ground water contamination.

60.3. The Proposed Rule fails to address the assumption that, over the long-term, ground and surface water will be protected by three elements: 1) the existence of a double liner (which will eventually deteriorate), 2) the dewatering of the impoundment (which will be impossible in areas where there is a great amount of precipitation (such as Virginia), and the placement of the final radon barrier that will prevent the infiltration of precipitation during the long-term (also unlikely in areas such as Virginia). The Proposed Rule fails to examine all of the regulatory programs, historical experience, and long-term effectiveness associated with contamination of ground and surface water from lined tailings impoundments at uranium mills.

60.4. The EPA does not provide any data and information about the impacts to ground and surface water from leaks and spills at ISL facilities. There are documents and data available regarding the numerous leaks and spills from these impoundments, which demonstrate that having a double-lined impoundment will not, of itself, be protective of ground and surface water at licensed facilities.

60.5. The Proposed Rule only addresses the double lining of impoundments that contain 11e.(2) byproduct material. The EPA must also address the necessity of using double liners on all liquid impoundments at licensed uranium recovery facilities. The leakage of fluids into ground water has the potential to mobilize uranium that may be in the ground naturally or from previous spills or leakage,

61. Proposed Rule, at VII.B. Statutory and Executive Orders Review, *F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments* (page 25410, col. 2).

61.1. The EPA claims that the proposed action "does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000)." That is supported by the assertion that "the action imposes requirements on owners and operators of specified area sources and not tribal governments." The EPA provides no support for the assumption that Executive Order 13175 (EO) does not apply if the proposed action does not impose requirements on a tribal government or governments and, therefore, does not have tribal implications. However, Section 1(a) of the EO defines policies that have tribal implications and require consultation and coordination with Indian Tribal Governments as "regulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes." The introduction to the EO states that it will "ensure that all Executive departments and agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian communities." An example of an Indian community that will be directly impacted by the Proposed Rule is the White Mesa Band of the Ute Mt. Ute Tribe in San Juan County, Utah. The White Mesa land is adjacent to the White Mesa Mill and the community is the closest community to the mill. The community will be directly and adversely impacted by the provisions in the Proposed Rule.

61.2. Earlier this year the EPA sent letters to 46 tribes, including the Ute Mt. Ute Tribe, requesting input on the Proposed Rule, thereby initiating a consultation process. This letter was signed by Jonathan D. Edwards Director, EPA Radiation Protection Division. Since that time the Ute Mt. Ute Tribe has been actively engaged in the consultation process, as envisioned by the EO.

62. Proposed Rule, at VII.B. Statutory and Executive Orders Review,*G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks*;[52] (page 25410, col. 3).

62.1. The EPA concludes that the Proposed Rule is not subject to Executive Order 13045 because it is based solely on technology performance." Commenters do not agree with that conclusion. The EO Policy states that each federal agency (a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." The proposed rules have clear health and safety implications for children, particularly those in the vicinity of conventional uranium mills. The Proposed Rule, though supposedly a radon emission standard, will not include any radon emission limits for conventional uranium mill radon emissions, including emissions from liquid effluents. The failure of the EPA to require numerical limits on these radon emissions, to require monitoring or other methods of determining the radon emission, to require corrective actions to bring the emissions into compliance, and the failure to limit radon emissions from other sources at uranium recovery operations are not "technical" issues, they are health and safety concerns that directly impact children.

63. Proposed Rule, at VII.B. Statutory and Executive Orders Review, *J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations*, (page 25411, col. 1).

63.1. As part of the Proposed Rule, the EPA "has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population." The population in closest proximity to the White Mesa Mill is a minority, low-income community, as contemplated by Executive Order 12898. The Proposed Rule will in no way increase the level of protection for this population and other affected populations in southeast Utah. The Proposed Rule will eliminate the radon emission standard and compliance requirements for the existing tailings impoundments, will not require compliance with any radon emission standard for new impoundments, and ignores the significant radon emissions from the liquid effluents in 5 impoundments. High levels of radon are being emitted from over 140 acres of processing fluids and other effluents at the White Mesa Mill (Cells 1, 3, 4A, 4B, and Roberts Pond). The Proposed Rule ignores the fact that unregulated radon is emitted from stockpiled ore, contaminated soils, and other radon emission sources at the White Mesa Mill. The failure of the Proposed Rule to establish radon emission standards and actually regulate the radon emissions will have a disproportionately high

[52] http://www.gpo.gov/fdsys/pkg/FR-1997-04-23/pdf/97-10695.pdf

and adverse human health or environmental effect on the minority and low income population in the vicinity of the White Mesa Mill.

64. PART 61—Subpart W. National Emission Standards for Radon Emissions From Operating Mill Tailings (page 25411 to page 25412).

Commenters propose the following changes or additions to the Proposed Rule:

64.1. The proposed rule should define "closure." The definition must include the requirement that closure cannot commence until an approved closure plan (reclamation plan) for the impoundment or mill and appropriate enforceable reclamation milestones are incorporated into the facility license.

Currently, there are impoundments that have supposedly entered the "closure" period, yet there is no approved reclamation plan and no reclamation milestones in the license, as required by 40 C.F.R. § 192.32 and 10 C.F.R. Part 40, Appendix A, Criterion 6A.

64.2. The operational phase of an impoundment should end when the final radon barrier is placed on the tailings impoundment.

There must no longer be long periods when radon emissions from tailings impoundments are not monitored or controlled. Recent data on Cell 2 of the White Mesa Mill demonstrates the necessity of continual radon emission monitoring and corrective actions to being tailings impoundments into compliance with a standard. This should apply to existing and new impoundments. If Cell 2 is no longer subject to the Subpart W emission standard, it enters a decades-long period when there are no applicable emission standards and emissions increase due to dewatering. Considering that the White Mesa Mill licensee does not plan on placing the final radon barrier on the 4 conventional tailings impoundments until final mill closure,[53] the closure period will likely last 40 or more years. The EPA cannot allow the unmonitored and uncontrolled release of radon into the community during the decades to come.

64.3. There is no factual and legal basis for the elimination of the radon emission standard for existing impoundments at 40 C.F.R. § 61.252(a), so that section must remain in the rule.

64.4. The radon emission standard at 40 C.F.R. § 61.252(a), or a more restrictive standard, should apply to both existing and new tailings impoundments.

The 1990 CAA Section 112(h) does not authorize the establishment of a design or work practice standard in lieu of an emission standard for conventional mill tailings

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[53] Reclamation Plan, White Mesa Mill, Blanding, Utah. Radioactive MaterialsLicense No. UT1900479. Revision 5.0. September 2011.
http://www.deq.utah.gov/businesses/E/energyfuels/docs/2011/10Oct/recplan5_0.pdf
http://www.deq.utah.gov/businesses/E/energyfuels/plans/ICTM_2010.htm

impoundments. Further, the most effective methods for reducing the radon emissions include monitoring, reporting, and corrective actions to limit the emissions.

64.5. The EPA must apply the 40 C.F.R. § 61.252(a) radon emission standard to liquid effluent impoundments, whether nonconventional impoundments or water covers on conventional impoundments.

Recent data that shows there are significantly high levels of radon emission levels from liquid effluents at the White Mesa Mill that cannot be ignored. The EPA must establish the emission standard, provide for a method to measure or calculate the liquid effluent radon emissions, the require methods to remove radium from these effluents (for example, barium chloride treatment). The goal should be radium content that is as low as reasonably achievable.

64.6. The EPA must limit the size and number of nonconventional impoundments at ISL operations and conventional mills. There should be no more than 40 acres of nonconventional impoundments. Even with a 40-acre limit, at conventional mills, the total acreage of liquid effluents emitting radon will be much greater due to the water cover on conventional impoundments (up to 100% of the impoundment). The EPA can no longer assume that the radon emissions from these impoundments, at least as conventional mills, are negligible.

64.7. Due to the high levels of radon emissions from liquid effluents at a conventional mill, which increases over time, any new tailings impoundments that are constructed must use the continuous disposal method. This should apply to any new impoundment that was approved, but has yet to be constructed. Tailings impoundments with water covers are not longer acceptable.

V. OTHER EPA REGULATIONS

1. 40 C.F.R. Part 61 Subpart A General Requirements.

1.1. The EPA or Utah Div. of Air Quality should be required to provide an opportunity for public comment on any application to construct a tailings impoundment, pursuant to 40 C.F.R. § 61.07.

1.2. If an impoundment is approved for construction, but is not constructed during a certain time frame (e.g., within 5 years), the authorization expires and a new application must be resubmitted.

2. 40 C.F.R. Part 61 Subpart T Rescission

2.1. The EPA has created a thoughtless, unjustified gap in the regulation of radon from “existing” uranium mill impoundments. The application of a radon emission standard and requirements to monitor, report, and take corrective actions for “existing impoundments” supposedly ends when a mill or impoundment in no longer operational

and the closure period commences. At that time, there is supposed to be a closure plan and enforceable reclamation milestones related to the eventual placement of the final radon barrier, pursuant to the requirements in 40 C.F.R. § 192.32 and 10 C.F.R Part 40, Appendix A, Criterion 6A. Therefore, for "existing impoundments," once closure has commenced, there is an indefinite period of time when the regulations allow for the unmonitored, unreported, and uncontrolled emissions of radon from existing impoundments. However, if a licensee requests that milestones be extended, then the licensee must show again demonstrate annually that the impoundment meets the 20 pCi/m^2-sec emission standard.

The "closure" period commences at the very time when the tailings impoundment is being dewatered actively or through natural evaporation, or a combination of both. The drying out period causes the radon emissions to increase. In 2012, the radon-222 emissions from Cell 2 at the White Mesa Mill were still being reported to the EPA and Utah DAQ, even though the impoundment last received tailings in 2008. The White Mesa Mill license still authorized disposal of tailings in Cell 2, up until the July 23, 2014, order issued by the Utah DRC. It was a good thing that the emissions were being monitored and reported. As a result, the license was required to conduct monthly monitoring and reporting and take corrective actions to bring the impoundment back into compliance with the standard. Additional material was placed on the interim cover, windblown tailings from Cell 3 were cleaned up, and a barrier was placed between Cells 2 and 3. If the licensee had not been complying with the Subpart W requirements for Cell 2, no one would have known about the increase in radon emissions and no corrective actions would have been taken. Now, because Cell 2 has now entered the indefinite closure period, there will be no monitoring, reporting, or corrective actions under Subpart W. There will be no monitoring, reporting, or corrective actions or under Subpart T (National Emission Standards for Radon Emissions From the Disposal of Uranium Mill Tailings), because the EPA rescinded Subpart T in 1994. The period of unregulated radon emissions from the tailings in the closure period (before the placement of the final radon barrier) is indefinite. There is no approved reclamation plan and no enforceable reclamation milestones for Cell 2, and the licensee plans to place the final radon barrier at the end of the operational life of the mill, not at the end of the operational life of Cell 2.

This is what the EPA has planned for Cells 3, 4A, 4B, and any other existing or new tailings impoundment. The EPA is deregulating radon emissions, not regulating radon emissions.

2.2. The EPA must do one of 2 things to fill the regulatory gaps: 1) It must apply the 20 pCi/m^2-sec for both new and existing tailings impoundments throughout the operational and closure periods, or 2) apply the 20 pCi/m^2-sec for new and existing tailings impoundments and reinstate the Subpart T radon emission standard (20 pCi/m^2-sec) for tailings impoundments in operation in 1994 or constructed after 1994.

VII. OTHER ISSUES

1. The Sticky-Wicket

1.1. "Existing enforcement issues seem to be the sticky-wicket." This quote is part of the subject line of EPA staff July 10, 2014, e-mails.[54] The EPA did not want to address this "sticky-wicket" in the context of the Rulemaking. Apparently, the EPA believes that Subpart W compliance and enforcement issues are not at all relevant to this Rulemaking. There is no mention of Subpart W compliance in the Proposed Rule. The EPA failed to include relevant Subpart W compliance reports as part of the Rulemaking Docket, specifically recent compliance reports for the White Mesa Mill.

1.2. Enforcement issues include the fact that the EPA and Utah DAQ never enforced the 40 C.F.R. § 61.252(b)(1) requirement for the White Mesa Mill: "The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time." Since 1989 the EPA and DAQ did not count the liquid impoundments as impoundments "in operation." When the EPA finally acknowledged that liquid impoundments were impoundments "in operation," and that there were more than 2 operational impoundments, the EPA staff informed me that that was all right, because there was really no health and safety concerns. The EPA assumed that there were no health and safety concern, because they assumed, without current data to back up that assumption, that the radon emissions from the liquid effluents (Cells 1, 3, 4A, 4B, and Roberts Pond) are negligible. Based on current data, this is not only untrue, it is egregiously untrue. The radon emissions from impoundments with liquids are greater than 100 pCi/m^2-sec. *See* Section IV. 45.11, above.

1.3. The are enforcement issues related to the implementation of Method 115. *See* Section VII, below.

1.4. The EPA should include a full discussion of the enforcement issues associated with Subpart W since 1989 and make all relevant annual reports and enforcement documents available on the Rulemaking Docket.

2. Method 115, Section 2: Radon-222 Emissions from Uranium Mill Tailings Piles.

2.1. The EPA must take a harder look at Method 115 and how it has been implemented.

2.2. Method 115 should make clear that monthly or quarterly monitoring must include 4 quarters or 12 months of data. Three quarters or 9 months of data cannot be used to demonstrate compliance, as recently happened at the White Mesa Mill.

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[54] EPA staff e-mails. EPA Subpart W Non-Privileged Records, July-Sept. Part 1, pages 337-338. http://www.epa.gov/radiation/docs/neshaps/npr/2014-july-sept-part1.pdf

2.3. The licensee should not be permitted to average the radon flux from various regions of an impoundment: water covered areas, water saturated area, dry top surface areas, and sides. The goal is to have the radon emissions as low as reasonable achievable. If allowed average different regions, one region may have a radon flux higher than

20 pCi/m^2-sec, but not take simple corrective actions to reduce the emissions because the licensee is allowed to average the flux from more than one region.

2.4. The licensee should not be permitted to average regions that have a final radon barrier with regions that do not have a final radon barrier.

2.5. Method 115 should not allow a license to average radon flux from one region that was the result of a single monitoring event with the radon flux from another region that was the result of 3 quarterly monitoring events. In this instance, after the licensee realized that one monitoring event on one impoundment region had an unacceptable radon flux, the licensee conducted 2 more quarterly monitoring events for that region, averaged the 3 quarterly events, then averaged the result with the earlier single event for the other region. So, the White Mesa Mill licensee manipulated the monitoring event process to get a desired result.

2.6. The EPA must delete the provision a Section 2.1.3(a), which states: "Water covered area-no measurements required as radon flux is assumed to be zero." Recent data demonstrates that this is not true and that, in fact, the radon flux from water covered areas can far exceed the radon flux standard.

2.7. The EPA must establish a method for determining radon emissions from liquid effluents; for example, calculation based on a site-specific formula that takes into consideration the meteorological conditions and radium content of the effluent. For conventional mills, this must occur at least quarterly. The EPA must also explore methods for measuring radon emissions from liquid effluents.

2.8. The licensee must not be permitted to average the radon flux from water covered areas with those from water saturated and dry areas.

2.9. The EPA must establish a methodology for accurately determining the radon emissions from heap-leach operations.

2.10. Section 2.1.2 indicates that the radon flux from sides must be determined "except where earthen material is used in dam construction." The EPA must clarify that this must be clean earthen material. If, say, uranium mine waste rock or low-grade ore is used to construct a tailings dam, the radon flux from the sides must be measured.

2.11. If after the radon flux is measured and calculated, and the licensee determines that there has been an exceedance of the standard, that exceedance should be reported immediately to the appropriate agency. The license should not wait until the end of March of the next year and commence monthly monitoring months after the

exceedance is discovered. The 2012/1013 delays between the discovery of an exceedance and the commencement of monthly monitoring at the White Mesa Mill was 9 months. There is no justification for this delay.

2.12. The EPA should move the date for submittal of the annual compliance report to the beginning of January of the following year. If a licensee can submit reports on a monthly basis, it can submit annual reports by the first of each year.

2.13. There should be methods to periodically verify the radon measurements; for example, placement of more than one canister at the measurement locations for comparison.

2.14. The EPA should evaluate other methods of determining radon flux on tailings impoundments. Tests should be done by takings measurements using more than one methodology on a tailings impoundment.

2.15. Method 115 does not include a methodology for determining the radon-220 flux. Since there are radon-220 emissions at the White Mesa Mill.

2.16. The EPA must develop methodologies for measuring radon emissions from heap leach operations and any other source of radon at licensed uranium recovery operations.

3. EPA Radionuclide NESHAPS Guidance

3.1. A guidance document is an important element in any federal regulatory program. After the promulgation of the 1989 Radionuclide NESHAPS, the EPA developed the Guidance on Implementing the Radionuclide NESHAPS, July 1991.[55] The Guidance was a reiteration of the regulations, and did not provide any real guidance to the EPA or implementing state staff, the industry, or the public. The history of the implementation of Subparts B and W in Utah is an example of regulatory confusion and failure of the regulatory agencies and mining and milling industry to comply with the regulations in a timely manner. Questions like what, exactly, is an operational impoundment or when, exactly, the closure period commences were ignored.

3.2. The current Guidance is out of date and inadequate. A new Guidance must be developed and be made available for public comment.

Thank you for providing this opportunity to comment,

Sarah Fields
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[55] http://www.epa.gov/rpdweb00/docs/neshaps/nesh_implement_07_91.pdf

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October 29, 2014

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EPA Docket Center
Docket ID No. EPA-HQ-OAR-2008-0218
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COMMENTS SUBMITTED VIA EMAIL AND/OR UPLOAD TO REGULATIONS.GOV
EXHIBITS SUBMITTED VIA MAIL

Re: Comments on Docket ID No. EPA-HQ-OAR-2008-0218, Environmental Protection Agency, 40 C.F.R. Part 61, Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

Dear Administrator McCarthy:

The Ute Mountain Ute Tribe ("Tribe") submits the following public comments regarding the above-noted Environmental Protection Agency ("EPA") docket on the EPA's 40 C.F.R. Part 61, Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings, Proposed Rule ("Proposed Rule").

The Tribe has organized this document into two major sections. Section I provides the EPA with a quick overview of the Tribe's background and connection with one of the conventional uranium mills (and the only operational conventional uranium mill) regulated under the current 40 C.F.R. Part 61, Subpart W ("Current Subpart W"), the White Mesa Mill ("WMM"), and then provides a relevant factual history for the WMM facility.[1] Section II contains the Tribe's public comments and is organized into five major sections: (A) the EPA violated its trust responsibility to the Tribe and failed to properly consult with the Tribe in the Proposed Rulemaking process; (B) the Proposed Rule is not compliant with Section 112 of the Clean Air Act; (C) the EPA should issue numerical standards for radionuclide emissions from uranium recovery facilities; (D) the EPA has not demonstrated that the Proposed Rule meets the requirements for GACT under Section 112(d)(5) of the Clean Air Act; and (E) if the EPA moves forward with the Proposed Rule, it must correct several specific and critical deficiencies that threaten to effectively de-regulate existing uranium recovery facilities.

[1]During the initial government-to-government consultation meeting between the EPA and the Tribe, some EPA staff suggested that facility-specific comments were inappropriate in a national rulemaking docket. Because the WMM facility is the only operational conventional uranium mill regulated under the Current Subpart W (and is one of nine existing facilities regulated under the Current Subpart W), because the Proposed Rule specifically relies on inaccurate factual findings regarding the WMM facility, and because the WMM facility is not currently compliant with the Clean Air Act, the Tribe asserts that it is appropriate to bring facility-specific facts and discussion into the national rulemaking.

I. TRIBAL BACKGROUND AND RELEVANT FACTUAL HISTORY OF THE WMM

A. BACKGROUND ON THE TRIBAL WHITE MESA COMMUNITY

The Tribe is a federally-recognized Indian tribe with lands located in southwestern Colorado, northwestern New Mexico, and southeastern Utah. There are two Tribal communities on the Ute Mountain Ute Reservation: Towaoc, in southwestern Colorado, and White Mesa, in southeastern Utah. Ute Mountain Ute Tribal Members ("UMU Tribal Members") have lived on and around White Mesa for centuries and intend to do so forever. The community of White Mesa depends on groundwater resources buried deep in the Navajo aquifer for its municipal (domestic) needs. UMU Tribal Members continue traditional practices, which include hunting and gathering and using the land, plants, wildlife, and water in ways that are integral to their culture.

The White Mesa Tribal community is located approximately three miles south of the WMM facility. The WMM is located on Ute aboriginal lands, and its upgradient location from the Tribal community means that contamination from WMM facility operations generally flows through ground and surface water towards the Tribal community. The Tribe is concerned that contamination of surface resources, surface water resources, and groundwater could make aboriginal and Tribal lands uninhabitable for future generations of Tribal members. For the purposes of this rulemaking, the Tribe is concerned that actions taken by the EPA fail to control UMU Tribal member exposure to Radon-222, other radionuclides, and other hazardous air pollutants ("HAPs") from the WMM facility, and could result in changes that expose the Tribe's (groundwater) drinking water supply to contamination.

B. RELEVANT FACTUAL HISTORY AND OVERVIEW OF THE WMM FACILITY

The WMM was originally licensed in 1980 by the Nuclear Regulatory Commission ("NRC") under the Atomic Energy Act, 42 U.S.C. § 2011 *et seq*. The WMM is the only operational conventional uranium mill regulated under the Current Subpart W, and it is one of only nine facilities that are regulated under the Current Subpart W. *See Technical and Regulatory Support to Develop a Rulemaking to Potentially Modify the NESHAP Subpart W Standard for Radon Emissions from Operating Uranium Mills*, 22 (2014) ("Technical and Regulatory Support") (noting that there are three existing conventional uranium mills regulated by Subpart W and one conventional uranium mill that is licensed, but that has not been built); *id.* at 33-4 (noting that there are six existing operating ISL facilities); *id.* at 21 (noting that there are currently no licensed heap leach facilities).

Under its current, Agreement State-issued radioactive materials license and groundwater permit, the WMM is authorized to dispose of 11(e)(2) byproduct material in six tailings impoundments. Exhibit B. This includes five tailings impoundments that comprise the tailings management system and Roberts Pond, a small "wastewater pond" that is authorized to receive liquid 11(e)(2) byproduct material. Placement of 11(e)(2) byproduct material within each of the tailings impoundments has led to analogous chemistry between the impoundments, and the

contents of each impoundment[2] can be characterized as low pH and high conductivity with elevated concentrations of ammonia, nitrate, arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, thallium, uranium, vanadium, and zinc; and elevated levels of chloride, fluoride, magnesium, potassium, sodium, sulfate, and gross radium alpha radiation. *See* Exhibit C.

1. DESCRIPTIONS OF THE WMM'S TAILINGS IMPOUNDMENTS

a. THE "LEGACY IMPOUNDMENTS"— TAILINGS CELLS 1, 2, AND 3

Three of the five tailings cells that comprise the WMM's tailings management system (Tailings Cells 1, 2, and 3) are "legacy impoundments" that have been in place since construction of the facility in the early 1980s. These tailings impoundments were built before the enactment of the 1989 Subpart W and are "existing impoundments" under the Current Subpart W. All three of these existing impoundments have been and are currently licensed to receive tailings.

- Tailings Cell 1, which was licensed in 1981 as a tailings cell, is currently used as an evaporation pond for disposal of 11(e)(2) byproduct material consisting of process water, storm water (including runoff from the Mill yard that contains source material), and contaminated water from groundwater pumping (used in current groundwater remediation efforts). EPA is proposing to designate Tailings Cell 1 as a "non-conventional impoundment."

- Tailings Cell 2, which was licensed in 1980 as a tailings cell, has been used for disposal of solid 11(e)(2) byproduct material. Although Tailings Cell 2 continues to be licensed to receive 11(e)(2) byproduct material, it is unclear whether the WMM owners have disposed of 11(e)(2) byproduct material in Tailings Cell 2 since 2008. *Denison Mines (USA) Corp. Response to the EPA's Request for Information* 18 (June 1, 2009) ("2009 WMM Response") (stating that tailings were not deposited in Tailings Cell 2 for "several years prior to 2008" but that the cell remained open to receive "Mill site trash and other wastes" until 2008). For at least the past 10 years, the WMM owners have claimed that Tailings Cell 2 is in the beginning stages of final closure and that they are using an "interim cover" to control radon emissions from this cell. *See, e.g.*, 2009 WMM Response at 5, 18. In July of 2014, the Agreement State issued a letter to the WMM stating that Tailings Cell 2 is in closure (and that the WMM owners can cease complying with the "existing impoundment" flux standard and Method 115 monitoring under Subpart W). Exhibit D. The Agreement State has not modified either the radioactive materials license or the groundwater permit (which both still authorize disposal of 11(e)(2) byproduct material in Tailings Cell 2). EPA is proposing to designate Tailings Cell 2 as a "conventional impoundment."

[2]Although sample results are not available, Roberts Pond likely shares the same chemistry as the other impoundments, as it also receives liquid 11(e)(2) byproduct material.

- Tailings Cell 3, which was approved in 1982 as a tailings cell, is used for disposal of solid 11(e)(2) byproduct material. This cell is near capacity, but it is still authorized to accept 11(e)(2) byproduct material and still accepts 11(e)(2) byproduct material. Currently, this cell is the only impoundment in the tailings management system that is authorized to receive certain types of 11(e)(2) byproduct material (such as in-situ leachate waste for direct disposal). *See* Exhibit B (Section 10.5 of the Radioactive Materials License). According to verbal communication between the Tribe and the Agreement State (during government-to-government consultation), there are no plans or timelines for the closure of Tailings Cell 3 (contrary to the factual findings of the EPA in the Proposed Rule). EPA is proposing to designate Tailings Cell 3 as a "conventional impoundment."

The liners in Tailings Cells 1, 2, and 3 were installed in the early 1980s, and they were not industry standard at that time. *See* Exhibit E. None of the liner systems in the legacy impoundments meets the requirements of 40 C.F.R. § 264.221(c). *See* Section II(B)(3), *infra*. Although the WMM owner asserts that these cells meet the requirements of 40 C.F.R. § 264.221(a), it is doubtful that any of the liner systems in the legacy impoundments meets even those less stringent requirements. *See id.* The WMM facility has caused contamination of the groundwater aquifer beneath the facility, and the kinds of constituents present in the groundwater contamination plumes strongly indicate that the liners in Tailings Cells 1, 2, and 3 are leaking and causing groundwater contamination underneath the WMM facility. *See id.*

b. THE POST-1989 AND POST-1990 IMPOUNDMENTS—TAILINGS CELLS 4A AND 4B

Two of the five cells that comprise the WMM's tailings management system (Tailings Cells 4A and 4B) were built or re-lined after the enactment of the Current Subpart W.

- Tailings Cell 4A was licensed for use as a tailings impoundment in 1990. The WMM facility owner briefly used Tailings Cell 4A as an evaporation pond (for vanadium raffinate). 2009 WMM Response at 9. The use of this impoundment as an evaporation pond (or subsequent exposure of the liner) caused seam degradation and damage to the liner in the cell, which caused leakage and contamination of soil under the cell. *Id.*; Exhibit F. The Agreement State required the WMM owners to remove the raffinates, raffinate crystals, and radioactive solids from Tailings Cell 4A, to remove contaminated soils from beneath Tailings Cell 4A, and to retrofit the impoundment with a new liner and leak detection system. 2009 WMM Response at 9; Exhibit F. Tailings Cell 4A is now used as a conventional impoundment.

- Tailings Cell 4B was licensed for use in 2010. This impoundment currently receives process water from WMM activities, and it may receive contaminated water from groundwater pumping.

Tailings Cells 4A and 4B may[3] meet the Current Subpart W's 40-acre phased disposal work practice standard limitation. The actual radon emissions from Tailings Cells 4A and 4B are

[3]Some reports indicate that both Tailings Cells 4A and 4B may be slightly more than 40 acres.

unknown (because the Current Subpart W does not require Method 115 monitoring on these impoundments).

Because Tailings Cells 4A and 4B were constructed or retrofitted to meet the design standards of 40 C.F.R. § 264.221(c), the risk of an uncontrolled or undetected groundwater release from these impoundments is much lower than the risk of such a release from the three legacy impoundments.

c. ROBERTS POND

Roberts Pond is a small "wastewater pond" that is authorized to receive liquid 11(e)(2) byproduct material under the WMM facility's groundwater permit. Exhibit B. As such, there are serious questions as to why the Roberts Pond is not licensed as a tailings impoundment and regarded by regulators and the operator as subject to Subpart W's requirements. Roberts Pond is not currently treated as part of the Tailings Management System at the WMM, and it does not meet the requirements of either 40 C.F.R. § 264.221(a) or 40 C.F.R. § 264.221(c). Exhibit G. There is no requirement to maintain a minimum amount of liquid on Roberts Pond, and because the pond is designed for temporary storage of process water, transfers of liquid 11(e)(2) byproduct material in and out of this pond may be frequent. Exhibit B.

2. SUBPART W VIOLATIONS AT THE WMM

The WMM facility is currently violating (or has recently violated) the Current Subpart W. First, as the EPA has acknowledged, the WMM is currently in violation of the phased disposal work practice standard that limits facilities regulated by Subpart W to having only two tailings impoundments in operation at one time. Exhibit H. Because the WMM has at least four impoundments (Tailings Cells 1, 3, 4A, and 4B) in operation, and because it is still unclear whether Tailings Cell 2 and Roberts Pond are in operation, the WMM does not meet the phased disposal work practice standard.

The WMM facility has also recently violated the "existing impoundment" radon flux standard.

- In June of 2012, Method 115 monitoring for Tailings Cell 2 resulted in the average radon flux of 23.1 pCi/(m^2s). Exhibit I. Due to the lack of enforcement efforts and the WMM owner's unwillingness to implement a recommended two-foot random fill cover addition to Tailings Cell 2, radon emissions exceeded the 20 pCi/(m^2s) flux standard for at least 15 months (and possibly as long as 27 months) until September of 2013. *Id.*
- In June and September of 2013, Method 115 monitoring efforts resulted in the average radon flux of 22.7 pCi/(m^2s) and 28.4 pCi/(m^2s) on Tailings Cell 3. Exhibit J. The WMM owner attempted to demonstrate an averaged quarterly compliance with the 20 pCi/(m^2s) flux standard by conducting Method 115 monitoring in December when the temperature dropped to 32 degrees Fahrenheit and it rained (both of which are known parameters that affect the surface of activated charcoal employed under Method 115 and compromise the accuracy of the radon flux measurements).

3. GROUNDWATER CONTAMINATION

The WMM facility has caused significant contamination of the perched (shallow) aquifer located below the facility. Since 1999, the Agreement State has opened three separate dockets to address co-located contamination of the perched aquifer. These three spatially-related contamination plumes in the perched aquifer contain a mixture of contaminants and decreasing pH trends that the Agreement State has previously identified as "primary" or "smoking gun" indicators of tailings cell leakage. *See* Exhibit K. This means that the Agreement State has firm and compelling evidence that chemicals and radioactive material are leaking from one or more of the legacy impoundments (Tailings Cells 1, 2, and 3) into the perched aquifer.

The groundwater contamination present at the WMM facility raises serious questions about whether the liners in the legacy impoundments meet even the less stringent requirements of 40 C.F.R. § 264.221(a). *See* 40 C.F.R. § 264.221(a) (requiring that: "[t]he liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment"); Exhibit E; Exhibit F.

4. INADEQUATE RECLAMATION PLANS

The approved Reclamation Plan (Reclamation Plan 3.2b) for the WMM facility does not meet the requirements of either 40 C.F.R. § 192.32(a) or 10 C.F.R. Part 40, Appendix A, Criterion 6A. Reclamation Plan 3.2(b), attached as Exhibit L, does not have a Tailings Closure Plan with a schedule for key radon closure milestones and the emplacement of a permanent radon barrier constructed to achieve compliance with the 20 pCi/(m^2s) flux standard, as required under 40 C.F.R. § 192.32(a). Similarly, Reclamation Plan 3.2(b) does not have any deadline for the completion of a final radon barrier or a schedule of interim milestones under 10 C.F.R. Part 40, Appendix A, Criterion 6A. Instead, Reclamation Plan 3.2(b) is designed to allow the WMM owner to wait until *facility* closure (which may be decades in the future) to undertake all the work necessary to place the permanent radon barrier (and the other components of the final cap) on the tailings impoundments. Importantly, Reclamation Plan 3.2(b) does not contain the design of the permanent radon barrier that will reduce radon emissions under 20 pCi/(m^2s) (which means that, although the Agreement State issued the July 2014 letter (Exhibit D) stating that Tailings Cell 2 is closed for Subpart W purposes, the current Reclamation Plan allows the WMM facility to keep Tailings Cell 2 without a permanent radon barrier until final closure and reclamation of the entire WMM facility).

Since at least 2007, the Agreement State has been working with the WMM owner on new versions of the facility Reclamation Plan. The newer, unapproved versions of the plan contain more detail on some of the milestones to place the permanent radon barrier. *See* Exhibit M at 55 (review of interrogatories from the Agreement State consultant, noting that the timelines for dewatering the tailings impoundments are not sufficiently defined). However, even the newer versions of the plan still allow the WMM owner to wait until facility closure to place the permanent radon barrier. *See* Exhibit N. The newer, unapproved versions of the plan may require the WMM owners to begin designing the permanent radon barrier and final cap for the tailings impoundment, but the newer versions of the plan still allow the WMM facility to keep

Tailings Cell 2 without a permanent radon barrier until final closure and reclamation of the entire WMM facility.

II. COMMENTS

A. THE EPA VIOLATED ITS TRUST RESPONSIBILITY TO THE TRIBE AND FAILED TO PROPERLY CONSULT WITH THE TRIBE IN THE PROPOSED RULEMAKING PROCESS

The EPA, like all agencies of the United States government, has a trust responsibility to Indian Tribes. *See, e.g., EPA Policy for the Administration of Environmental Programs on Indian Reservations*, 3 (1984) ("1984 Policy") (recognizing that this trust responsibility derives from the historical relationship between the federal government and Indian Tribes as expressed in certain treaties and Federal Indian law). In carrying out that trust responsibility, the EPA plays an important role in protecting the health of Tribal members and communities and in protecting the Indian Trust Assets and the environment on Indian reservations. *See id.*; *EPA Policy on Consultation and Coordination with Indian Tribes*, 3 (2011) ("Consultation Policy"). The EPA's trust responsibility is not limited to the EPA's work to protect human health and the environment by regulating Tribal or on-reservation activities. Instead, the EPA has consistently acknowledged that its trust responsibility applies whenever the EPA's actions in carrying out its responsibilities may affect reservations and in situations where state and local governments and other federal agencies are involved in resolving issues of environmental concern. 1984 Policy at 3; Consultation Policy at 1. The EPA has acknowledged that it has a role to protect tribal communities that potentially experience disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards. *EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples*, 5 (2014). The EPA has also acknowledged that this trust responsibility applies to rulemaking activities. Consultation Policy at 5 (acknowledging that activities involving regulations or rules are normally appropriate for consultation).

In the Subpart W rule revision process, the EPA has failed to properly exercise its trust responsibility to the Tribe. The Tribe has engaged the EPA (at both the Region 8 level and at the National EPA office level) for many years about the Tribe's concerns with the operation and regulation of the WMM facility. The Tribe has exhaustively documented its concerns to the EPA. In particular, the Tribe has exhaustively documented its concern that the WMM has been allowed to operate in violation of the Subpart W phased disposal work practice standard, that the legacy impoundments at the WMM may be contaminating the groundwater underneath the facility, and that the management of the legacy impoundments has resulted (and may continue to result) in Radon-222 emissions above 20 $pCi/(m^2s)$.

Despite the Tribe's significant effort to engage the EPA during the Subpart W rule revision process, and despite the fact that the Tribe's White Mesa community is located less than three miles from the only operational conventional uranium mill regulated under Subpart W, the EPA made no effort to seek Tribal input during the rulemaking. The EPA did not inform the Tribe at any point during the rulemaking process of how the EPA was approaching the rule revision, which parts of the rule the EPA was considering revising, or how the EPA was treating

the disproportionate impact that the WMM places on the White Mesa community. The EPA refused to consult with the Tribe regarding the rulemaking (despite a clear Tribal request for government-to-government consultation before the Proposed Rule was released for public comment).

The Proposed Rule, published in May of 2014, fails to address important Tribal concerns about the WMM. The Proposed Rule contains wildly inaccurate information regarding the current status and operations at the WMM facility (but did not contain any information submitted to the EPA by the Tribe), and the EPA used the inaccurate information to make important and harmful decisions in the rulemaking. The EPA also purported to exercise significant agency discretion to make determinations that may effectively de-regulate facilities like the WMM even though the EPA also had the discretion to set stricter regulations to ensure the protection of human health and the environment near facilities regulated under Subpart W. Although the EPA acknowledged that the disproportionately high Native American populations at certain facilities (including the WMM) existed, the EPA refused to address environmental justice issues associated with the rulemaking. Finally, the Proposed Rule does not acknowledge the close proximity of the WMM to the Tribe's White Mesa Community or any of the documented environmental impacts from the WMM on surrounding lands and resources used by UMU Tribal members. The EPA failed to analyze the impact that the Proposed Rule would have to the UMU Tribal Members and to the environment and Indian Trust Assets in White Mesa.

The Tribe understands that the EPA has statutory restrictions and rulemaking processes that constrain the manner in which the EPA undertakes a rulemaking like the revision to Subpart W. However, those statutory restrictions and rulemaking processes do not obviate the need for the EPA to properly exercise its trust responsibility to protect human health and the environment in White Mesa or for the EPA to consult with the Tribe about the Subpart W rule in a manner that allows the Tribe to give meaningful input into the EPA's rulemaking process. It is a violation of the EPA's trust responsibility and the EPA's duty to consult with the Tribes to, as the EPA has done to the Tribe in this rulemaking, refuse to meaningfully consult or answer questions about the rulemaking after repeated consultation requests, and to force the Tribe to give input during a public comment process.

The Tribe notes here that, if the EPA had properly consulted with the Tribe during the rulemaking process, the Tribe would have identified several key issues in these comments (such as the absurdity of using the current, weight-based threshold to distinguish between major and area sources of radionuclides, the need to undertake a source category listing effort that included all HAPs (including radionuclides other than Radon-222 and non-radionuclide HAPs) at uranium recovery facilities, and the need to set numerical radon flux limits and develop better enforcement mechanisms) early in the process.

B. THE PROPOSED RULE IS NOT COMPLIANT WITH SECTION 112 OF THE CLEAN AIR ACT

The EPA's proposed rulemaking to revise the Current Subpart W under Section 112(q)[4] and establish GACT standards for uranium recovery facilities under Section 112(d)(5) raises serious questions and concerns about the EPA's interpretation and exercise of its statutory authority under these provisions in light of the plain language of the statutes and the EPA's prior regulatory determinations regarding listing of source categories and establishing GACT standards for other area sources. The EPA has not complied with the requirements of Section 112 and has not taken the requisite preliminary actions and evaluations to support establishing revised standards for uranium recovery facilities. The EPA's current proposal is flawed and premature, and the EPA must undertake significant work under Section 112 and completely redo its Subpart W revision work in a manner that is compliant with the Clean Air Act.

1. THE EPA HAS NOT ADEQUATELY EXPLAINED ITS DETERMINATION THAT IT IS "APPROPRIATE" TO REVISE SUBPART W

In the Proposed Rule, the EPA explains that it "is conducting this review of Subpart W under CAA section 112(q)(1) to determine what revisions, if any, are appropriate." *Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings*, 79 Fed. Reg. 25,388, 25,390 (May 2, 2014). Section 112(q) addresses NESHAP standards, such as the Current Subpart W, that were in effect before the date of enactment of the Clean Air Act Amendments, and states that "[e]ach such standard shall be reviewed and, **if appropriate, revised, to comply with the requirements of subsection (d) of this section**…." (emphasis added). However, the EPA has not adequately explained in the Proposed Rule why EPA finds it "appropriate" to revise the pre-1990 Subpart W, what legal or interpretative standard EPA is using to inform its interpretation of what is or is not "appropriate" within the meaning and context of Section 112(q), and against what standard or baseline EPA is measuring the appropriateness of its revisions.

2. THE EPA HAS NOT ADEQUATELY EXPLAINED HOW THE PROPOSED RULE COMPLIES WITH SECTION 112(d) WITHOUT FIRST LISTING URANIUM RECOVERY FACILITIES AS A SOURCE CATEGORY OR SUBCATEGORY UNDER SECTION 112(c)

In the Proposed Rule, the EPA has not adequately explained how its proposed revisions to Subpart W specifically satisfy Section 112(q) and "comply with the requirements of subsection (d)" of Section 112. The plain language of Section 112(d)(1) authorizes the EPA to establish standards "for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section." The EPA has not explained how this language authorizes it to establish standards for sources, such as uranium recovery facilities, for which the EPA has not listed a source category or subcategory under Section 112(c).

[4]In these comments, all references to 40 U.S.C. § 7412 and the relevant sub-sections of this statute will be displayed as "Section 112" or with the appropriate sub-section marker (e.g., "Section 112(d)(5)).

a. THE EPA HAS NOT ESTABLISHED A SOURCE CATEGORY FOR URANIUM RECOVERY FACILITIES AND MUST DO SO PRIOR TO REVISING THE CURRENT SUBPART W

The EPA has not established a source category for uranium recovery facilities or any other sources of radionuclides under Section 112(c). Although the Proposed Rule suggests that the adoption of the Current Subpart W in 1989 established uranium recovery facilities as a source category, the EPA made an administrative decision in 1992 not to establish a source category for sources of radionuclides when it published its *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990*, explaining that it was "inappropriate" to list such sources until EPA decided how to differentiate between major and area sources of radionuclides on some basis other than weight-based thresholds. 57 Fed. Reg. 31,576, 31,585 (July 16, 1992). The EPA determined that it could not differentiate between major and area sources of radionuclides on the basis of weight-based thresholds because such sources "cannot be differentiated based on the 9.07/22.7 Mg/yr (10/25 tpy) threshold in Section 112(a) or any existing lesser quantity emission rates." *Id.*

In its current proposal to establish GACT standards for unlisted uranium recovery facilities, the EPA states that uranium recovery facilities are area sources based on the statutory weight-based thresholds of 10 tons per year (single radionuclide)/25 tons per year (all radionuclides/HAPs) ("10/25 tpy Threshold"). The EPA does not address its prior determination not to list a source category for sources of radionuclides and offers no explanation of how it reconciles its prior listing determination and its unresolved differentiation of major and area sources of radionuclides with its current proposal to establish GACT standards for uranium recovery facilities as area sources under Section 112(d)(5). By relying on the statutory 10/25 tpy Threshold for differentiating uranium recovery facilities as area rather than major sources and proposing a GACT NESHAP, the EPA is ignoring its prior regulatory determination in adopting the *Initial List of Categories of Sources under Section 112(c)(1)* and is taking regulatory action contrary to the plain language of Section 112(d)(5). The fact that there are no sources of radionuclides that would be major under the statutory 10/25 tpy Threshold does not relieve the EPA from its obligation to establish a source category in accordance with Section 112(c) before proposing new emission standards for such sources under Section 112.

The EPA has not pointed to any language in Section 112 that supports an interpretation that the Current Subpart W (promulgated under Section 112 prior to its amendment by the Clean Air Act Amendments of 1990) somehow establishes a source category for such sources as contemplated by Section 112(c) or relieves the EPA from its obligation to establish a source category for such sources under Section 112(c) if it chooses to impose a revised radon NESHAP on those sources under the authority of Section 112(d)(5). Accordingly, the EPA must undertake the work to list uranium recovery facilities as a source category or subcategory prior to undertaking revisions to the pre-1990, Current Subpart W.

b. TO PROPERLY ESTABLISH URANIUM RECOVERY FACILITIES AS A SOURCE CATEGORY, THE EPA MUST FIRST DEVELOP CRITERIA TO DIFFERENTIATE BETWEEN MAJOR AND AREA SOURCES OF RADIONUCLIDES AND DETERMINE ALL HAPS PRESENT AT URANIUM RECOVERY FACILITIES

In Section II(B)(2)(a), *supra*, the Tribe has concluded that, in the absence of identifying a provision in the Clean Air Act that allows the EPA to revise the Current Subpart W without first listing uranium recovery facilities as a source category, the EPA must undertake that source category listing as a prerequisite to revising the Current Subpart W. In this Section, the Tribe will detail why it is so important that the EPA undertake that source category work.

i. The EPA Must Set Forth a Reasonable Distinction Between Major and Area Sources of Radionuclides to Properly Set Forth a Source Category for Uranium Recovery Facilities

The EPA has authority under Section 112(a)(1) to use different criteria than the 10/25 tpy Threshold to differentiate between major and area sources of radionuclides. *See* Technical and Regulatory Support at 62. The EPA is capable of differentiating between major and area sources of radionuclides on some basis other than weight-based thresholds, but it has chosen not to act. Radionuclides have long been regulated on the basis of dosage in units of curies (Ci) under many other regulatory programs. For example, even prior to 1990, in its proposed and final rules establishing "Reportable Quantity Adjustment – Radionuclides" under CERCLA, the EPA determined that CERCLA's statutory reportable quantity ("RQ") of one pound was not appropriate for radionuclides "because releases of much less than one pound of radionuclides may present a substantial threat to public health or welfare or the environment." *Reportable Quantity Adjustment—Radionuclides*, 52 Fed. Reg. 8,172 (March 16, 1987); *Reportable Quantity Adjustment – Radionuclides*, 54 Fed. Reg. 22,524 (May 24, 1989). Instead, the EPA defined the RQs for over 700 radionuclides in units of the Curie (Ci). *Id.*

In the Proposed Rule, because the EPA has never acted to differentiate major and area sources of radionuclides, but has nonetheless moved ahead to revise a pre-1990 NESHAP using a post-1990, technology-based Clean Air Act construct, the EPA has effectively proposed to make a determination that maximum achievable control technology (MACT) should not be imposed under Section 112 on sources of radionuclides (including uranium recovery facilities) unless they emit 10 tons of radionuclides per year or 25 tons per year of a combination of radionuclides and other HAPs. That conclusion is absurd. Ten tons of radionuclides exceed the amount of radioactive material released over a short period of time in a nuclear reactor disaster[5], and no facility emitting that many radionuclides on an annual basis could ever exist without killing humans and destroying the environment.

Instead of forging ahead with a Proposed Rule that continues to allow an absurd delineation between major and area sources of radionuclides, the EPA should have taken the opportunity to create a real and reasonable division between major and area sources of

[5]For example, in the 1986 Chernobyl accident, between 6 and 8 tons of radioactive material was released. IAEA 2011. *Radioactive particles in the Environment: Sources, Particle Characterization and Analytical Techniques.* Page 7; Kindap, Tayfun et al. 2008. *Potential Threats from a Likely Nuclear Power Plant Accident: A Climatological Trajectory Analysis and Tracer Study.* Water, Air, & Soil Pollution**.** Page 1.

radionuclides as a precursor to (or as a part of) the process to establish uranium recovery facilities as a source category. The EPA has recognized this deficiency since at least 1992 and cannot avoid the necessity of setting forth different criteria if it uses Section 112(d) to revise a pre-1990 standard. The Tribe strongly believes that any reasonable analysis of how major and area sources of radionuclides should be differentiated would conclude that uranium recovery facilities processing and disposing the magnitude of nuclear source and by-product materials handled at the WMM in open–air facilities constitute major sources of radionuclide emissions.

ii. The EPA Must Consider All Radionuclides and All Other HAPs Emitted at Uranium Recovery Facilities to Support a Source Category Listing

When the EPA undertakes the proper source category listing work for uranium recovery facilities, the EPA will need to consider all radionuclides and all other HAPs emitted at uranium recovery facilities—from impoundments and all other sources—to support a source category listing for uranium recovery facilities. In the Proposed Rule, the EPA states that it has no data or information that shows any HAPs other than Radon-222 being emitted from the impoundments at uranium recovery facilities. 79 Fed. Reg. at 25,390. However, there is no indication that the EPA requested information from the regulated uranium recovery facilities on radionuclides (other than Radon-222) and HAPs that may be emitted by such facilities, whether from impoundments or other sources at such facilities.

During the government-to-government consultation process, the Tribe provided the EPA initial information demonstrating the presence of radionuclides (other than Radon-222) and non-radionuclide HAPs at the WMM. Exhibit A (Question 7 Supplement). The Tribe also provided the EPA initial information on sources of radionuclides (other than the impoundments) at the WMM that are not regulated under the Current Subpart W. *Id.* The Tribe tried to undertake additional investigation on this issue and was surprised to find that the National Emissions Inventory data for HAPs at the WMM is woefully inadequate and does not represent HAPs that the Tribe had already identified as being present at the facility. *See* Exhibit O. Accordingly, the EPA must undertake a much more thorough review (and undertake an appropriate investigation) to acquire the necessary data on *all* radionuclides and HAPs from uranium recovery facilities before establishing a category of area sources and developing standards.

3. THE EPA HAS NOT ADEQUATELY EXPLAINED HOW THE EPA DERIVES AUTHORITY UNDER SECTION 112(d)(5) TO ESTABLISH GACT STANDARDS FOR URANIUM RECOVERY FACILITIES WITHOUT FIRST LISTING URANIUM RECOVERY FACILITIES AS AN AREA SOURCE CATEGORY OR SUBCATEGORY UNDER SECTION 112(c)

The EPA has not adequately explained how it derives authority under section 112(d)(5) to establish GACT standards for uranium recovery facilities. Section 112(d)(5) states:

> **With respect only to categories and subcategories of area sources listed pursuant to subsection (c) of this section**, the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f) of this section, elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants. (Emphasis added.)

The plain statutory language seems to preclude the EPA from promulgating GACT standards for area sources for which no category or subcategory has been listed under Section 112(c). That is exactly how the EPA reads Section 112(d)(5) in promulgating GACT standards for other area sources. The EPA has taken the position that its authority under "section 112(d)(5) applies only to those categories and subcategories of area sources listed pursuant to section 112(c)" and has described this statutory limitation as a "critical aspect" and a "condition precedent" for issuing GACT standards for area sources. *National Emission Standards for Hazardous Air Pollutants for Area Sources*, 72 Fed. Reg. 38,864, 38,880 (July 16, 2007).

The EPA's own interpretation of Section 112(d)(5) requires EPA to first list area sources under Section 112(c) before it can consider promulgating GACT standards for such sources. If source category listing under Section 112(c) is a condition precedent to promulgation of GACT standards for area sources under Section 112(d)(5), the EPA's proposed rulemaking to establish such standards is premature and out of order. The EPA offers no explanation or justification in the Proposed Rule for its divergence from the language of the statute and its prior interpretations of its authority under Section 112(d)(5).

The only conclusion that can be drawn from the EPA's prior actions and interpretations of Sections 112(c) and 112(d)(5) is that the EPA has no authority to promulgate GACT standards under Section 112(d)(5) for "uranium recovery facilities" at this time.

4. THE EPA HAS NOT DEMONSTRATED THAT THE PROPOSED RULE WILL REDUCE EMISSIONS OF HAZARDOUS AIR POLLUTANTS

The EPA has not demonstrated that the Proposed Rule meets Section 112(d)(5)'s requirement that standards promulgated by the EPA "provide for the use of generally available technologies and management practices by such sources **to reduce emissions of hazardous air pollutants**." (Emphasis added). The EPA has not explained or shown how its proposed GACT standards would satisfy the statutory requirement of reducing emissions of hazardous air pollutants at uranium recovery facilities. The EPA has not explained what interpretative

standard EPA is using or would propose to use to inform its interpretation that a proposed GACT is reducing emissions of hazardous air pollutants, and the EPA has not offered any standard or baseline level against which it would measure a reduction.

C. THE EPA SHOULD ISSUE NUMERICAL STANDARDS FOR RADIONUCLIDE EMISSIONS FROM URANIUM RECOVERY FACILITIES

The EPA should establish a numerical standard for radon emissions. Section 112(d)(2)(D) allows the EPA to establish a "design, equipment, work practice, or operational standard" under Section 112(h)(1) if it is "not feasible… to prescribe or enforce an emission standard." When the EPA decides to issue work practice standards, Section 112(h)(4) requires that "any standard… shall be promulgated in terms of an emission standard whenever it is feasible to promulgate and enforce a standard in such terms." The hazardous air pollutant program under Section 112 is aimed at requiring numerical emission standards wherever possible. With respect to uranium recovery facilities, it is feasible to establish and enforce numerical emission standards (as evidenced by the current existence of numerical radon flux standards for "existing impoundments"). Therefore, the EPA should require uranium recovery facilities to monitor their emissions and meet numerical emission standards.

Legislative history shows Congress strongly favored numerical emission standards. Congress provided the EPA with the authority to issue work practice standards instead of numerical emission standards only where numerical standards are not feasible to establish or enforce. Sections 112(h)(1), 112(h)(4). Otherwise, Congress intended that the requirement for numerical emission standards remain unchanged. *See* Environmental and Natural Resources Policy Division of the Congressional Research Service, *A Legislative History of the Clean Air Act Amendments of 1990* (1993)("Legislative History") at 8,522. As explained in Senate Report 101-228:

> Generally, the requirements of section 112 of the Clean Air Act, both current law and as amended by the bill, are implemented by the promulgation of numerical emissions standards… However, in some cases regulation in this form would not be effective or appropriate for significant source categories. For instance, emissions of asbestos fibers from construction or demolition sites cannot be controlled or even measured by focusing on a point source of emissions. To assure that adequate control is, nevertheless, achieved, it is in some cases possible to prescribe the use of specific equipment or procedures in the design of a facility or conduct of an activity.

Legislative History at 8,522. *See also Adamo Wrecking Co. v. United States,* 434 U.S. 275, 283 (1978). Additionally, the EPA cannot replace a numerical emission standard with a work practice standard simply because there is a lack of data available. *See Sierra Club v. EPA*, 479 F.3d 875, 884 (D.C. Cir. 2007). Radionuclide and other HAP emissions at uranium recovery facilities can be measured and should be controlled by numerical standards.

Even if the EPA chooses to regulate uranium recovery facilities using GACT standards, EPA can and should issue a numerical emission standard as GACT for uranium recovery facilities. When regulating other area sources using GACT, the EPA has established numerical

emission standards as GACT on several occasions. *See, e.g.*, *National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*, 74 Fed. Reg. 63,236, 63,238 (Dec. 2, 2009); *National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources*, 73 Fed. Reg. 226, 230 (Jan. 2, 2008). When regulating uranium recovery facilities, the EPA has used a numerical emission standard (the 20 pCi/(m^2s) radon flux standard) for pre-1989 impoundments, and continuing to use a numerical emission standard for operating uranium mill impoundments continues to be feasible.

Even if the EPA chooses to issue work practice standards for uranium recovery facilities, it should ensure that the work practice standards achieve the same or greater level of emissions reduction as a numerical emission standard would. Legislative history indicates that Congress intended the degree of protection achieved by work practice standards to be the same as the degree of protection achieved by numerical emission standards. Legislative History at 8,522-23. The work practice standards that the EPA is now proposing to adopt as GACT have resulted in emissions that were higher than what the numerical emission standard allowed. The EPA should not establish a work practice standard that allows higher emission levels than a numerical standard would permit.

D. THE EPA HAS NOT DEMONSTRATED THAT THE PROPOSED RULE MEETS THE REQUIREMENTS FOR GACT UNDER SECTION 112(d)(5)

In Section II(B), *supra*, the Tribe has urged the EPA to undertake fundamental changes to its approach to the revision of Subpart W and to undertake important work to properly list uranium recovery facilities as a category under Section 112(c) (and in doing so, to develop a new criteria under Section 112(a)(1) for determining a reasonable delineation between major and area sources of radionuclides and to include all HAPs present at uranium recovery facilities). In this Section, the Tribe asserts that, even if the EPA is unwilling to undertake the source category listing work, the EPA still must undertake additional analysis and must identify different generally available control technologies for Subpart W.

Under Section 112(d)(5), when the EPA determines what constitutes GACT for a particular area source category, it generally pursues three lines of inquiry: an assessment of technologies and work practice standards that are generally available to facilities in the area source category; an assessment of standards for major sources in the same industrial sector or technologies used in area and major sources in related source categories; and an assessment of the cost and economic impacts of the technologies and work practice standards. *See, e.g.*, 79 Fed. Reg. at 25,390. In this Proposed Rulemaking, the EPA's GACT development is deficient because the EPA failed to properly assess existing technologies and work practice standards at uranium recovery facilities, because the EPA did not assess standards for major sources in the same industrial sector or for area or major sources in related source categories, and because the EPA did not properly conduct or weight its considerations of costs for implementing GACT under Subpart W.

1. THE EPA FAILED TO PROPERLY (OR ACTUALLY) ASSESS TECHNOLOGIES AND WORK PRACTICE STANDARDS THAT ARE GENERALLY AVAILABLE TO URANIUM MILLS

When the EPA determines GACT under Section 112(d)(5), it assesses the technologies and work practice standards that are generally available to facilities in the area source category. 79 Fed. Reg. at 25,390. When assessing these technologies and work practice standards, it is important that EPA actually investigate whether those technologies and work practice standards are actually controlling or reducing HAP emissions, as required by Section 112(d)(5). In the documents supporting the proposed rulemaking, the EPA has not sufficiently demonstrated that it actually assessed whether the technologies and work practice standards used at facilities regulated by the Current Subpart W are actually controlling or reducing HAP emissions. Instead, the EPA appears to have cobbled together site-specific information that is either wildly inaccurate or out-of-date and unrepresentative of current conditions at these facilities, assumed that those facilities are properly controlling radon emissions through current technologies and work practices, and then assumed that certain individual control technologies or work practices can be used independently to continue to reduce radon emissions from uranium recovery facilities.

a. THE SITE-SPECIFIC INFORMATION IN THE PROPOSED RULE AND ASSOCIATED DOCUMENTS IS WILDLY INACCURATE OR OUT-OF-DATE AND UNREPRESENTATIVE OF CURRENT CONDITIONS AT FACILITIES REGULATED BY SUBPART W

The first deficiency in the EPA's assessment of technologies and work practice standards is that the information collected by the EPA on existing conditions at facilities regulated by Subpart W is either wildly inaccurate or out of date and unrepresentative of current conditions at the specific sites. For example in the Technical and Regulatory Support document, the EPA provided a table of the annual radon flux testing results from Tailings Cells 2 and 3 at the WMM between 1997 to 2005 and used that table to support the assertion that "these data consistently demonstrate that the radon flux from the White Mesa Mill's tailings cells are below the criteria." Technical and Regulatory Support at 26. Because this data stopped in 2005, it did not show that both of these tailings cells have approached or violated the numerical flux limit imposed by the current "existing impoundment" standard in recent years (especially as the WMM has begun dewatering activities on those impoundments). *See* Section II(B)(2), *supra*; Exhibits I, J. This section of the Technical and Regulatory Support document (and the rest of the documents supporting the Proposed Rule) also conveniently failed to address the fact that the WMM is currently violating the phased disposal work practice standard by having as many as six tailings impoundments in operation (when the work practice standard limit is two), *see* Exhibit H, and the fact that the WMM currently has open groundwater enforcement dockets with the State of Utah because of several, co-extensive plumes of groundwater contamination that strongly indicate leakage from the tailings cells into the shallow groundwater aquifer, *see* Exhibit K. This section of the Technical and Regulatory Support document also conveniently failed to mention that the table of radon emissions from Tailings Cells 2 and 3 at the WMM did not include emissions data from the four other tailings impoundments (Tailings Cells 1, 4A, 4B, and Roberts Pond) at the WMM facility.

The EPA's inclusion of wildly inaccurate or incomplete information about the WMM, and the EPA's subsequent use of that information to indicate that the technologies and work practices used at the WMM are good technologies to adopt to control radon emissions, completely undermine the GACT analysis underlying the Proposed Rule.

b. THE EPA DID NOT ACTUALLY ASSESS WHETHER TECHNOLOGIES AND WORK PRACTICE STANDARDS ARE EFFECTIVELY CONTROLLING OR REDUCING RADON EMISSIONS

The second—and perhaps most important—deficiency in the EPA's assessment of technologies and work practice standards is that the EPA did not actually assess whether most of the technologies and work practices under the Current Subpart W are working to control radon emissions. For example, in its development of GACT, the EPA did not actually assess whether the phased disposal work practice standard is working to control emissions at the only conventional uranium mill currently utilizing this work practice (the WMM). If the EPA had assessed whether the phased disposal work practice standard is working, it would have found the following:

- EPA cannot determine whether the 40-acre limitation on tailings impoundments is working to control radon emissions from the WMM because the current phased disposal work practice standard does not require the WMM to monitor the emissions from the impoundments subject to the 40-acre limitation (and there is no emissions data available to determine whether the phased disposal work practice limitations are working).
- EPA cannot determine whether the phased disposal work practice standard's limitation of having only two impoundments in operation at any time is working to control radon emissions because this limitation has never been enforced at the WMM, and the WMM has never been in compliance with this limitation.

Similarly, the EPA did not actually review or verify that the use of a 1 meter water cover was actually controlling radon emissions from non-conventional impoundments (especially from impoundments like Tailings Cell 1 at the WMM that have a large surface area and a high radium content), that continuous disposal was actually working at any existing facility, or that the liner requirements of 40 C.F.R. § 264.221 were actually working at facilities regulated under Subpart W to prevent groundwater contamination.

Finally, the EPA did not review or even consider the use of a numerical flux standard and a monitoring requirement to control radon emissions at a regulated facility. Technical and Regulatory Support page 65 (addressing the issue of continued monitoring by simply concluding that other work practice standards were sufficient to limit radon emissions). The EPA's failure to even consider this approach to controlling radon emissions is disturbing, especially since this is the only regulatory mechanism that has been effective to detect exceedances and to control radon emissions from the large, pre-1989 conventional impoundments at the WMM.

c. THE EPA DID NOT ASSESS WHETHER EXISTING TECHNOLOGIES AND WORK PRACTICE STANDARDS COULD BE USED INDEPENDENTLY OF EACH OTHER

The third deficiency in the EPA's assessment of technologies and work practice standards is that the EPA did not assess whether the existing technologies and work practice standards could be used independently of each other. Under the Current Subpart W, all tailings impoundments are subject to either the "existing impoundment" flux standard and measurement requirements or to a phased or continuous disposal work practice standard. In the Proposed Rule, the EPA has developed a GACT that removes non-conventional impoundments from the phased disposal and continuous disposal work practice standards (which are designed to control radon emissions through limiting the source of radon) and instead places those impoundments under a new 1 meter water cover work practice standard. However, the EPA has not sufficiently documented or explained which existing facility has demonstrated that the 1 meter water cover can control that facility's radon emissions without the use of additional work practice standards (such as additional limits on the area and total number of impoundments). The EPA also failed to address how the new work practice standard—which allows for unlimited size and number of operational non-conventional impoundments—will affect radon emissions at facility closure and reclamation (when the liquid in the non-conventional impoundments will be removed, and when the solid tailings in the non-conventional impoundments will be exposed—potentially creating significant radon emissions from the facility during the reclamation and closure process).

This deficiency is a critical deficiency under Section 112(d)(5) because the EPA has not sufficiently demonstrated that the removal of the "existing impoundment" standard and the removal of area and operational cell limitations from non-conventional impoundments will reduce HAP emissions at uranium recovery facilities. The Tribe asserts here that, because the EPA is removing a current work practice standard that limits the total number of operational impoundments, and because the EPA is removing the area limitation for non-conventional impoundments, the Proposed Rule will allow uranium recovery facilities to actually increase overall facility radon emissions.

2. THE EPA DID NOT ASSESS MACT USED AT MAJOR SOURCES OR TECHNOLOGIES AVAILABLE FOR RELATED SOURCE CATEGORIES

When the EPA determines GACT under 112(d)(5), it may also look beyond the particular area source category when setting GACT standards and evaluate technologies and work practices used for major sources in the same industrial sector and for area and major sources in related source categories. 79 Fed. Reg. at 25,390. The EPA did not look at the MACT standards used for major sources in the same industrial sector because the EPA has not sufficiently delineated between area and major sources in this industrial sector and has not defined this source category. In addition, because the EPA has failed to consider MACT standards for this industrial sector and because there are a limited number of facilities regulated by Subpart W, the EPA should have looked at technologies and work practices used for area and major sources in other, related source categories.

In the Proposed Rule, the EPA acknowledged that, in determining GACT, the EPA considers standards applicable to major sources in the same industrial sector. 79 Fed. Reg. at

25,390. The EPA seems to assert that it was not necessary for the EPA to look at standards applicable to major sources in the uranium recovery facility category because there are no major sources in the source category. *Id.* The EPA's reasoning here is flawed. The EPA has the discretion and the responsibility to set a more reasonable criteria for differentiating between major and area sources of uranium recovery facilities, and—as explained in Section II(B)(3), *supra*—the EPA does not have discretion to use GACT in the absence of a Section 112(c) source category listing. The EPA's failure to undertake the appropriate work to delineate between major and area sources or to set an appropriate source category for uranium recovery facilities under Section 112(c) does not excuse the EPA from its responsibility to consider the standards applicable to major sources (which, if this source category were listed, would be the MACT standards applicable to uranium recovery facilities).

In the Proposed Rule, the EPA acknowledged that in appropriate circumstances, the EPA may also consider technologies and work practices used for area and major sources in other, related source categories. 79 Fed. Reg. at 25,390. The Tribe believes that the Subpart W revision did constitute appropriate circumstances to consider related source categories for at least two reasons. First, there are a limited number of sources in the Subpart W "category." *See* Section I(B), *supra*. Second, and more importantly, some of the sources regulated under Subpart W are currently out of compliance with Subpart W. For example, the WMM currently is out of compliance with the phased disposal work practice standards, and the WMM has recently violated the "existing impoundment" standards. It is inappropriate for the EPA to use out-of-compliance facilities like the WMM (that are not currently controlling radon or other HAP emissions) to develop GACT.

For those reasons, the current development of GACT is flawed, and the EPA should have looked at control technologies and work practices in other, related industries to develop GACT for uranium recovery facilities.

3. THE EPA'S COST AND ECONOMIC ANALYSIS IS FATALLY FLAWED

When the EPA determines GACT under Section 112(d)(5), the EPA considers the costs and economic impacts of available control technologies and management practices on the regulated area source category. 79 Fed. Reg. at 25,390. The EPA's cost and economic analysis in the Proposed Rule is fatally flawed because the EPA improperly weighted the cost and economic analysis, because the EPA failed to include all available technologies and work practices in its analysis, and because the EPA failed to properly evaluate the cost of compliance for existing facilities.

a. THE EPA'S COST AND ECONOMIC ANALYSIS IS IMPROPERLY WEIGHTED

When Congress created the provisions of Section 112 to distinguish between major and area sources of HAPs, it envisioned the EPA defining area sources as small facilities (such as automobiles, dry cleaners, small combustion units, wood stoves, services stations, print shops, and metal plating operations). Legislative History at 8,471, 8,491, 3,177. The cost and economic impact considerations that the EPA undertakes under a GACT analysis are permitted because Congress thought it was important for these smaller, area sources to be able to comply

with the GACT standards. In accordance with this, the EPA has emphasized that the use of GACT (and taking into account costs and economic impacts) is appropriate when the area source is already well-controlled for HAP emissions, *see* 74 Fed. Reg. at 63,242, but has applied stricter (and even MACT standards) in other GACT rulemakings, *see National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines*, 74 Fed. Reg. 9,698, 9,709-10 (March 5, 2009) (determining that the cost of implementing MACT technologies to reduce HAP emissions from area sources was "reasonable and justified").

The facts present in the Proposed Rule for conventional uranium mills do not match Congressional intent in considering cost and economic impacts to small businesses. None of the businesses that currently own conventional mills are classified as "small businesses" under the Regulatory Flexibility Act.[6] Conventional uranium mills are not small facilities, and the emissions from conventional uranium mills can be significant. In addition, some uranium recovery facilities (such as the WMM) are not well-controlled for HAP emissions and have been allowed to operate in violation of the Current Subpart W for many years. Accordingly, even if the EPA used GACT to develop revisions to Subpart W, the EPA should not have given cost considerations substantial weight when setting GACT standards for uranium recovery facilities.

b. THE EPA DID NOT EVALUATE THE COST AND ECONOMIC IMPACT OF ALL CONTROL TECHNOLOGIES

When the EPA determines GACT under Section 112(d)(5), it is supposed to consider a variety of available control technologies and management practices (which may include technologies and practices available to area and major sources within the source category and available to area and major sources in the same industrial sector). The EPA is permitted to consider costs and economic impacts *in determining* which technologies and practices are appropriate to adopt as GACT in a particular source category.

In the Proposed Rule, the EPA did not conduct a cost and economic impacts study to help determine which technologies and practices are appropriate to adopt as GACT for uranium recovery facilities. Instead, the EPA did an incomplete evaluation of the available technologies in only this particular "category" (uranium recovery facilities), chose which technologies and practices it wanted to continue, add, or modify, and *then* conducted an economic impacts study on how the implementation of the already-chosen technologies and standards would impact the owners of uranium recovery facilities. This resulted in an incomplete consideration of certain technologies, such as the use of the numerical flux standard and the Method 115 Radon Flux Monitoring (where EPA evaluated the cost of *eliminating* the monitoring requirement, but did not analyze the cost of *adding* the numerical flux standard limit and the Method 115 Radon Flux Monitoring to ensure that the other work practice standards effectively control radon emissions[7]). Technical and Regulatory Support at 91-3. The EPA should have identified a broader category

[6]The Proposed Rule and the Technical and Regulatory Support document disagree on whether the WMM facility owner is a small business under the Regulatory Flexibility Act.

[7]The Tribe notes here that the cost of Method 115 radon flux monitoring at the WMM was only $19,460. The cost of extending Method 115 radon flux monitoring to all conventional impoundments would likely be a relatively low-cost way to ensure that there is a way to determine: (1) whether any single conventional impoundment has a radon flux exceeding 20 pCi/(m^2s); and (2) the overall radon emissions from a single uranium recovery facility.

of possible technologies and work practice standards available for use at uranium recovery facilities, conducted the cost and economic impact analysis for all of the technologies, and then developed the GACT based on an informed review of the effectiveness of the technologies in reducing radon emissions and the cost-effectiveness of the technologies and standards.

c. THE EPA'S COST AND ECONOMIC IMPACT ANALYSIS FAILED TO CAPTURE THE COST OF COMPLIANCE FOR EXISTING FACILITIES

In the Proposed Rule, the EPA's cost and economic impact analysis focused on how the revisions to Subpart W contained in the proposed rule would impact uranium recovery facilities. 79 Fed. Reg. at 25,406. However, the EPA's approach to this analysis, especially regarding the cost of compliance for conventional uranium mills, failed to capture the cost of compliance for existing facilities.

The EPA's economic impact analysis for conventional uranium mills used the Piñon Ridge Mill (a mill that has been licensed but that has not been built) as the base economic cost for conventional mills. Technical and Regulatory Support at 76. This means that the EPA's calculation of the cost of implementing the identified GACT technologies and work practices was calculated based on the construction of a new facility, and not on the costs and economic impacts that would be imposed on an existing facility. Thus, while the EPA's cost and economic impact analysis is useful for determining how the proposed GACT would impact the construction of a new conventional uranium mill, it does not address how the proposed GACT will impact existing facilities (other than to calculate the cost reduction associated with the elimination of Method 115 monitoring).

Especially because there are very few facilities regulated under Subpart W, and especially since some of these facilities—like the WMM—are currently allowed to operate without paying the cost of compliance with the Current Subpart W, the EPA should have conducted additional cost and economic impact analysis[8] regarding the cost and economic impact of implementing the proposed GACT at existing facilities. It is imperative that, in such an economic analysis, the EPA acknowledge that certain facilities (such as the WMM) are out of compliance with the Current Subpart W and that the EPA conduct a comparative analysis between the cost of compliance with the Current Subpart W (which might, for example, include the cost of closing or re-lining tailings impoundments to meet current work practice standards) and the cost of compliance with the Proposed Rule (which might, for example, include the cost of closing or re-lining tailings impoundments to meet the proposed work practice standards)[9].

[8]The Tribe notes here that the environmental analysis should also have taken into consideration the fact that the WMM is out of compliance with the Current Subpart W.

[9]The Tribe notes here that only comparing the current cost of operating an out-of-compliance facility to the cost of compliance with the proposed GACT will not give the EPA an acceptable or accurate picture of the real compliance costs of the GACT measures.

E. IF THE EPA MOVES FORWARD WITH THE PROPOSED RULE, IT MUST CORRECT SEVERAL SPECIFIC AND CRITICAL DEFICIENCIES THAT THREATEN TO EFFECTIVELY DE-REGULATE EXISTING URANIUM RECOVERY FACILITIES

In Section II(B), *supra*, the Tribe has urged the EPA to undertake fundamental changes to its approach to the revision of Subpart W and to undertake important work to properly list uranium recovery facilities as a category under Section 112(c) (and in doing so, to develop a new criteria under Section 112(a)(1) for determining a reasonable delineation between major and area sources of radionuclides and to include all HAPs present at uranium recovery facilities). In Section II(D), *supra*, the Tribe has commented that, even if the EPA is unwilling to undertake the source category listing work, the EPA must undertake additional analysis and must identify different GACT for Subpart W. In this Section, the Tribe identifies specific and critical deficiencies in the Proposed Rule that the EPA must address to ensure that radon emissions are controlled at the WMM.

1. PRE-1989 "EXISTING IMPOUNDMENTS" AND THE PROPOSED REMOVAL OF EMISSION LIMITS AND MONITORING REQUIREMENTS

The first specific and critical deficiency in the Proposed Rule is the EPA's removal of the standard that applies to pre-1989 "existing impoundments" (which currently sets a numerical radon flux standard of 20 pCi/(m^2s) and requires regular monitoring of the impoundments). In the Proposed Rule, the EPA determined that the "existing impoundment" standard was no longer necessary because there are no more pre-1989 "existing impoundments" that cannot meet one of the work practice standards. However, the WMM facility still has at least one (and possibly two) pre-1989 conventional impoundments that: (a) cannot meet a work practice standard; (b) will not enter final closure in 2014 (or in the near future); and (c) have recently exceeded the 20 pCi/(m^2s) radon flux standard limit.

In the Proposed Rule and the Technical and Regulatory Support document, the EPA has acknowledged that Tailings Cell 3 at the WMM is an existing operating conventional impoundment that cannot meet the existing work practice standards (for either phased or continuous disposal) because it exceeds 40 acres. 79 Fed. Reg. at 25,395. However, the EPA states that it has information that Tailings Cell 3 will be closed in 2014. *Id.* That information is inaccurate. The WMM is still authorized to dispose of uranium byproduct material in Tailings Cell 3, and in fact, Tailings Cell 3 is currently the only tailings impoundment at the WMM that is licensed to receive certain kinds of uranium byproduct material (such as in-situ leachate waste). There are no plans to move Tailings Cell 3 into final closure in 2014 or in the near future.

In the Technical and Regulatory Support document, the EPA appears to acknowledge that Tailings Cell 2 at the WMM cannot meet the existing work practice standards (for either phased or continuous disposal) because it exceeds 40 acres. Technical and Regulatory Support at 27 (recognizing that Tailings Cell 2 has 67 acres of surface area). In both the Proposed Rule and the Technical and Regulatory Support document, the EPA appears to assume that Tailings Cell 2 is in final closure (and is not in operation). Technical and Regulatory Support at 53. However, the WMM is still authorized (in both the current radioactive materials license and in the groundwater

permit issued by the Agreement State) to dispose of 11(e)(2) byproduct material in Tailings Cell 2. Section I(B)(1), *supra*. Although the Agreement State may have attempted to move Tailings Cell 2 into final closure under Subpart W in its July 2014 Letter, the Agreement State has not ensured that the WMM has an approved reclamation plan that meets the requirements of 10 C.F.R. Part 40, Appendix A, Criterion 6A (or the tailings closure plan requirements set forth in 40 C.F.R. § 192.32(a)). *See* section II(E)(5), *infra*. This means that, although the Agreement State has very recently issued a letter relieving the WMM of monitoring responsibilities and compliance with Subpart W, it is not clear that Tailings Cell 2 should have been (or should be) moved out of Subpart W's monitoring and flux standard controls at this time. *See id.*

Both Tailings Cells 2 and 3 at the WMM have recently exceeded the 20 pCi/(m^2s) radon flux standard imposed under the "existing impoundment" standard. *See* Section II(B)(3), *supra*. These recent events demonstrate that the WMM owner's use of "interim covers" on Tailings Cells 2 and 3 is insufficient to control radon emissions from these large, pre-1989 impoundments. These recent violations or measurements in exceedance of the 20 pCi/(m^2s) flux standard also provide compelling illustrations for why it is premature for the EPA to remove the flux standards and monitoring requirements that apply to pre-1989 tailings impoundments under the current Subpart W.

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- Do not eliminate the "existing impoundment" standard contained in 40 C.F.R. § 61.252(a) of the Current Subpart W. Continue to require an annual average radon flux measurement of no more than 20 pCi/(m^2s) of radon-222 and continue to determine compliance through the use of Method 115 monitoring.
- Develop enforcement provisions for the "existing impoundment" standard in 40 C.F.R. § 61.252(a) of the Current Subpart W, including strict timelines for addressing violations of the 20 pCi/(m^2s) radon flux standard and standard response measures for violations of the "existing impoundment" flux standard.

2. NON-CONVENTIONAL IMPOUNDMENTS AND THE PROPOSED USE OF A 1 METER WATER COVER AS THE SOLE WORK PRACTICE STANDARD TO CONTROL RADON EMISSIONS

The second specific and critical deficiency in the Proposed Rule is the EPA's proposal to remove the current work practice standards from non-conventional impoundments (which either control the radon source by limiting the size and number of operational impoundments or limit the acreage of uncovered tailings) and to place a new work practice standard (requiring a minimum 1 meter liquid cover) on those impoundments. This 1 meter liquid cover work practice standard will not control radon emissions to 20 pCi/(m^2s) in at least one (and possibly two) existing non-conventional impoundments at the WMM.

The EPA's basis for proposing the use of only the 1 meter water cover is the EPA's finding that the practice of keeping 1 meter of liquid on existing non-conventional

impoundments "has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero." 79 Fed. Reg. at 25,398. However, the EPA's own technical analysis does not support the EPA's finding and instead supports a finding that the radon flux above some non-conventional impoundments can be significant (exceeding 20 pCi/(m^2s)), especially in cases where the radium concentrations in the impoundments are high and during the transfer of radium-laden water between tailings impoundments or during enhanced evaporation sprays. *See* Exhibit A (Question Supplement 22). The calculated radon emissions from non-conventional impoundments at the WMM demonstrate that the radon flux above those impoundments has not been, and cannot be, controlled through the imposition of a 1 meter liquid cover.

Tailings Cell 1 at the WMM is a 55-acre tailings impoundment that currently is licensed to receive process water, laboratory waste, stormwater laden with source and by-product material, and pumped (contaminated) groundwater. *Id.* This cell has received 11(e)(2) byproduct material for more than 30 years and is filled to a significant depth with solid or suspended 11(e)(2) byproduct material and raffinate crystals. *Id.* This tailings impoundment has a high radium concentration, and according to the Tribe's preliminary calculations, which account for advection due to wind turbulence, yields an annual average radon flux of 114.8 pCi/(m^2s). *Id.* Without wind turbulence, the Tribe's initial calculations determined a conservative radon flux calculation of 327 pCi/(m^2s). *Id.* The Tribe believes that additional work assessing the radon flux from this cell (taking into account wind turbulence, spraying activities, and the presence of radium in submerged solid tailings at the bottom of the cell) will likely yield even higher annual radon flux numbers. *Id.*

Roberts Pond at the WMM is a "wastewater pond" that is used to store and transfer process water, spill/overflow water, and other wastewater fluids at the WMM facility. This "wastewater pond" is used to temporarily store liquid 11(e)(2) byproduct material, and the applicable groundwater permit requires regular removal of excess wastewater from Roberts Pond into other tailings impoundments. The Tribe believes that additional work assessing the radon flux from Roberts Pond and from the transfers of liquid from Roberts Pond into other tailings impoundments will likely yield significant radon flux numbers.

This site-specific analysis at the WMM demonstrates that the placement of 1 meter liquid cover (especially if that liquid is radium-laden process water from conventional milling activities) will not sufficiently control radon emissions from non-conventional impoundments to near zero, and it may allow some non-conventional impoundments to exist with average annual radon flux numbers that grossly exceed the 20 pCi/(m^2s) numerical flux standard. This means that, if the EPA removes other work practice standards (such as the phased disposal work practice standard that currently limits the WMM to having two impoundments in operation) and allows uranium recovery facilities to have an unlimited number of non-conventional impoundments with no limits on the size or area of the non-conventional impoundments, the Proposed Rule will actually allow a marked increase in radon emissions from uranium recovery facilities (and not the reduction in emissions required under Section 112(d)(5), *see* Section II(B)(4), *supra*).

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- For non-conventional impoundments, set forth a numerical standard of no more than 20 pCi/(m^2s) of radon-222.
- Develop a method for calculating emissions from each non-conventional impoundment using site-specific and impoundment-specific data (including, but not limited to, the radium content of the tailings impoundment, wind speed, transfer of liquids between cells, spraying activities, and the presence of solid tailings in the non-conventional impoundments).
- Require uranium recovery facilities to calculate emissions from each non-conventional impoundment on at least an annual basis.
- Develop enforcement provisions for the non-conventional impoundment standard, including strict timelines for addressing violations of the non-conventional impoundment standard and standard response measures for violations of the flux standard.
- Place a limit on both the area of each non-conventional impoundment and the total number of non-conventional impoundments in operation at one time.

3. TRANSITION BETWEEN CONVENTIONAL AND NON-CONVENTIONAL IMPOUNDMENTS AND DEMONSTRATING COMPLIANCE WITH WORK PRACTICE STANDARDS

The third specific and critical deficiency in the Proposed Rule is that it does not sufficiently address whether (or under what circumstances) a uranium recovery facility owner may transition an impoundment between "conventional" and "non-conventional" status or how each uranium recovery facility will demonstrate compliance with the work practice standards on conventional and non-conventional impoundments. Because the WMM has already transitioned its tailings impoundments between evaporation ponds (non-conventional impoundments) and solid tailings cells (conventional impoundments) in the past, and because the WMM is currently in violation of the phased disposal work practice standard, it is important that the final Subpart W rule address both these issues.

a. TRANSITIONING IMPOUNDMENTS BETWEEN CONVENTIONAL AND NON-CONVENTIONAL STATUS (OR BETWEEN NON-CONVENTIONAL AND CONVENTIONAL STATUS)

The Proposed Rule does not address whether a uranium recovery facility owner can transition an impoundment between conventional and non-conventional status (or between non-conventional and conventional status). However, the Proposed Rule acknowledges that the WMM has a practice of operating tailings impoundments as evaporation ponds before transitioning those impoundments to hold solid uranium byproduct material (and the Proposed Rule may be interpreted to allow such a transition). 79 Fed. Reg. at 25,394 (recognizing that Cell 4A is "currently operating as a conventional impoundment and Cell 4B is being used as an evaporation pond"). In addition, the definition of non-conventional impoundment in the Proposed Rule could be interpreted to allow uranium recovery facility owners to transition a

conventional impoundment into a non-conventional impoundment by placing a 1 meter water cover on the conventional impoundment.

The EPA should not allow uranium recovery facilities to transition an impoundment between conventional and non-conventional status (or between non-conventional and conventional status). First, conventional and non-conventional impoundments may now have different design requirements. Because the EPA has removed the work practice standards that would require closure of non-conventional impoundments before the entire facility is closed and reclaimed, the active life for the design of non-conventional impoundments will now need to be the entire life of the uranium recovery facility. *See* 40 C.F.R. § 264.221(c). In addition, because the EPA has delineated between conventional and non-conventional impoundments by looking at whether the impoundments are left in place (or removed) at facility closure, it may become difficult to transition impoundments between conventional and non-conventional status without modifying the NRC or Agreement State-approved reclamation plan that addresses what happens to the impoundments at facility closure.

Second, past experience transitioning an impoundment between non-conventional and conventional status resulted in the breach of a tailings impoundment liner and in soil contamination beneath the liner. The WMM has already transitioned a tailings impoundment (Tailings Cell 4A) from a non-conventional to conventional status. However, the WMM's use of Tailings Cell 4A as a non-conventional impoundment (and subsequent exposure of the Tailings Cell 4A liner to sunlight) damaged the liner in Tailings Cell 4A and ultimately led to the re-lining of Tailings Cell 4A before it could be used as a conventional impoundment. Section I(B)(1)(b), *supra*. While the re-lining of Tailings Cell 4A ultimately ensured that it had an adequate liner and leak detection system installed before Tailings Cell 4A could go into operation as a conventional impoundment, the problems with the transition of the cell from an evaporation pond to a solid tailings disposal cell highlight issues that could arise in the future if the EPA allows uranium recovery facilities to transition tailings impoundments from non-conventional to conventional status.

Third, the EPA cannot not allow uranium recovery facilities to transition tailings impoundments from conventional to non-conventional status without creating an increased risk to groundwater, human health, and the environment. Because there is no limit to the number of non-conventional impoundments allowed at each uranium recovery facility or on the acreage of each non-conventional impoundment, the Proposed Rule could allow uranium recovery facility owners to cover conventional impoundments with liquid to avoid the cost of complying with the work practice standards that apply to conventional impoundments (which would increase the overall emissions from one uranium recovery facility, the likelihood of groundwater contamination from the impoundment, and the risk to human health and the environment).

b. PROCESS FOR TRANSITIONING IMPOUNDMENTS BETWEEN NON-CONVENTIONAL AND CONVENTIONAL STATUS

The Proposed Rule also does not address how a uranium recovery facility owner can transition an impoundment between non-conventional and conventional status or what approval processes will be required for such a transition. At the July 10, 2014 government-to-government

consultation meeting, EPA staff stated that this transition process would be controlled during the construction and/or modification approval process required by 40 C.F.R. §§ 61.07-.09. *See also* 79 Fed. Reg. at 25,399. However, without additional language in the text of the Subpart W regulations requiring uranium recovery facilities to seek modification approval from the EPA to transition an impoundment between non-conventional and conventional status, it is difficult to determine whether the EPA would require a 40 C.F.R. § 61 approval for such a transition. *See* 40 C.F.R. § 61.15 (defining "modification" as a change that results in an *increase* in the emissions of a hazardous air pollutant).

c. COMPLIANCE WITH BIFURCATED WORK PRACTICE STANDARDS FOR CONVENTIONAL AND NON-CONVENTIONAL IMPOUNDMENTS

The Proposed Rule does not address how a uranium recovery facility will demonstrate compliance with the work practices standards for both conventional and non-conventional impoundments. There are no recordkeeping or compliance demonstration provisions that cover how a uranium recovery facility demonstrates compliance with the work practice standards for conventional impoundments, and there are no recordkeeping or compliance provisions that cover how the EPA will determine how many total impoundments (conventional and non-conventional) there are at each uranium recovery facility. Without such requirements, it will be very difficult for the EPA to enforce the work practice standards at uranium recovery facilities. Because the EPA acknowledged the WMM's continuing violation of the Current Subpart W work practice standards only after the Tribe sought answers from state and federal regulatory agencies[10], and because the EPA and the State of Utah agencies have all refused to take any enforcement action against the WMM owner for this violation, the Tribe believes that it is necessary to have clear recordkeeping and compliance demonstration provisions for the new, more complicated set of bifurcated work practice standards for conventional and non-conventional impoundments.

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- Add a provision to the Proposed Rule clarifying that uranium recovery facilities may not transition an impoundment between conventional and non-conventional (or between non-conventional and conventional) status[11].

[10]The Tribe notes here that the EPA did not identify any issues with Roberts Pond during the rulemaking process, but that the EPA acknowledged in the July 10, 2014 government-to-government consultation that Roberts Pond meets the definition of a non-conventional impoundment under the Proposed Rule.

[11]If the EPA does allow uranium recovery facilities to transition impoundments from non-conventional to conventional status, it must conduct additional analysis on what risks that transition period presents (especially given the history of re-lining with Tailings Cell 4A at the WMM) and must set forth a specific process for approving the transition (which may include, but is not limited to, specifying that transitioning an impoundment between non-conventional and conventional status under Subpart W is a "modification" that triggers approval under 40 C.F.R. § 61.07). The EPA will also need to develop additional recordkeeping and compliance demonstration provisions so the EPA can appropriately monitor ongoing compliance with work practice standards for both conventional and non-conventional impoundments. The Tribe reiterates here that the EPA cannot allow uranium recovery facilities to transition impoundments from conventional to non-conventional status.

- Add both a recordkeeping requirement and a compliance demonstration provision that will help the EPA determine compliance with conventional impoundment work practice standards (which should include, but is not limited to, an annual statement of which work practice standard is being used for Subpart W compliance and an annual inventory and inspection of either the number of conventional impoundments (phased disposal) or the acreage of uncovered tailings (continuous disposal)).
- Add both a recordkeeping requirement and a compliance demonstration provision that will help the EPA determine compliance with both the conventional and non-conventional work practice standards (which should include, but is not limited to, an annual inventory and inspection of all impoundments).

4. INSUFFICIENT CROSS-REFERENCES TO IMPOUNDMENT DESIGN REQUIREMENTS

The fourth specific and critical deficiency in the Proposed Rule is that the EPA's cross-citations to the tailings impoundment design requirements of 40 C.F.R. § 192.32(a)(1) may not, as currently drafted, require all uranium recovery facilities to conform to important design standards (such as the double liner and leak detection system requirements discussed in the Proposed Rule).

In the Proposed Rule, the EPA recognizes that the use of water to control radon emissions from tailings impoundments can result in the pollution of groundwater and surface water, and the EPA reaffirms its commitment that "EPA cannot allow a situation where the reduction of radon emissions comes at the expense of increased pollution of the ground or surface water." 79 Fed. Reg. at 25,393. The EPA then proposes to ensure the protection of groundwater and surface water by requiring that all impoundments (conventional and non-conventional) meet the robust liner requirements contained in 40 C.F.R. § 264.221(c) and other requirements contained in 40 C.F.R. § 264.221. 79 Fed. Reg. at 25,393, 25,408. The Tribe agrees with the EPA that all tailings impoundments (conventional and non-conventional) should meet the liner requirements contained in 40 C.F.R. § 264.221(c) and other requirements contained in 40 C.F.R. § 264.221 to protect water resources.

The problem with the Proposed Rule is that the EPA's use of cross-referencing to impose the liner requirements does not actually impose the requirement that all tailings impoundments meet the liner requirements contained in 40 C.F.R. § 264.221(c). The Proposed Rule cross-references 40 C.F.R. § 192.32(a)(1), which contains an internal cross reference to 40 C.F.R. § 264.221. Importantly, 40 C.F.R. § 264.221 contains *several* sets of design requirements for surface impoundments, including the design requirements set forth in 40 C.F.R. § 264.221(a) (which apply much less robust requirements to surface impoundments constructed before 1990[12]) and provisions for exemption or using alternative design or operating practices, *see* 40 C.F.R. §§ 264.221(b), (d). This means that the current cross-reference to 40 C.F.R. § 192.32(a)(1) will not

[12]The 40 C.F.R. § 264.221(a) design requirements also contain an exemption for "existing portions" of the pre-1990 surface impoundments, which the EPA has already removed in its Subpart W cross-reference. The Tribe notes here that confusion over the "existing portions" exemption, along with the confusion over which portion of 40 C.F.R. § 264.221 will apply to tailings impoundments under Subpart W, supports the Tribe's suggestion that the EPA develop tailings impoundment design requirements under Subpart W instead of using cross-referencing.

actually require uranium recovery facilities with tailings impoundments constructed prior to 1990 to meet the stricter liner requirements of 40 C.F.R. § 264.221(c).

This cross referencing problem will make a significant difference in whether the Proposed Rule actually protects groundwater resources at the WMM facility. At the WMM, the three (pre-1990) legacy tailings impoundments cannot meet the requirements of 40 C.F.R. § 264.221(c) because those impoundments do not have double-liner systems (or leak detection systems placed between the liners). The WMM owner claims that these three impoundments comply with Subpart W because the impoundments were constructed before 1990 and because the impoundments meet the less stringent requirements of 40 C.F.R. § 264.221(a)[13]. 2009 WMM Response at 15. This means that, if the EPA does not specifically cross-reference the liner requirements of 40 C.F.R. § 264.221(c), it is unlikely that the State of Utah (as an Agreement State or as a state with delegated Clean Air Act authority) will require the WMM to re-line the pre-1990 impoundments to meet the more robust requirements of 40 C.F.R. § 264.221(c).[14]

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(D) of these Comments, the EPA revise the Proposed Rule as follows:

- Revise the cross-citation in the Proposed Rule to clarify that all tailings impoundments (conventional and non-conventional) must meet the liner requirements of 40 C.F.R. § 264.221(c), as well as other relevant portions of 40 C.F.R. § 264.221 (such as subsections g, h).[15]
- Develop provisions to ensure compliance with the requirement to meet the relevant portions of 40 C.F.R. § 264.221 (including 40 C.F.R. § 264.221(c)), including strict timelines for inspecting all tailings impoundments for compliance with the liner requirement provisions.
- (If there are no limits imposed on the life of non-conventional impoundments), develop additional, periodic inspection provisions to ensure that non-conventional impoundments can meet the requirements in 40 C.F.R. § 264.221(c) that require the liner to prevent the migration of hazardous constituents into the liner during the active life and the post-closure care period.

[13]The Tribe does not agree that the liners in Tailings Cells 1, 2, and 3 meet the requirements of 40 C.F.R. § 264.221(a). *See* Section I(B)(3), *supra*; Exhibit K (containing information that these liners are not designed to prevent—and have not prevented—the migration of waste into the adjacent subsurface soil or groundwater).

[14]The Tribe notes here that, during the July 10th, 2014 government-to-government consultation between the Tribe and the EPA regarding the Subpart W rulemaking, the EPA told the Ute Mountain Ute Tribal Council almost 20 times that the revised rule would require the WMM to close Tailings Cells 1, 2, and 3. The EPA also told the Tribal Council that several other concerns about the application of the Proposed Rule to Tailings Cells 1, 2, and 3 at White Mesa were irrelevant or could be ignored because the liner requirements in 40 C.F.R. § 264.221(c) would require the WMM to close or re-line those tailings impoundments.

[15]The Tribe notes here that, in this Section, it is requesting that the EPA specifically cross-reference 40 C.F.R. § 264.221(c) (or to develop liner requirements into the text of Subpart W). The Tribe is *not* requesting that the EPA remove the cross reference to 40 C.F.R. § 192.32(a). *See* Section II(E)(5), *infra* for further discussion of the cross-reference to 40 C.F.R. § 192.32(a).

5. CLOSURE AND END OF SUBPART W JURISDICTION

The fifth specific and critical deficiency in the Proposed Rule is that the lack of a clear definition of "closure" (and the end of Subpart W jurisdiction) under the rule, along with the EPA's "clarification" removing the internal cross reference to 40 C.F.R. § 192.32(a), may result in the creation of a regulatory void for reducing radon emissions at uranium recovery facilities. Under the Current Subpart W, the EPA is responsible for enforcing 40 C.F.R. § 61.252(c), which requires that all mill owners or operators comply with the provisions of 40 C.F.R. § 192.32(a). Importantly, one of the provisions in 40 C.F.R. § 192.32(a)—40 C.F.R. § 192.32(a)(3)(i)—is a significant provision that sets forth requirements for transitioning impoundments out of Subpart W jurisdiction and constructing a permanent radon barrier "as expeditiously as practicable considering technological feasibility" and in accordance with a written tailings closure plan that contains milestones for the placement of the final radon barrier. In the Proposed Rule, the EPA has decided to narrow its jurisdiction to enforce 40 C.F.R. § 192.32(a) to the impoundment design and construction requirements in 40 C.F.R. § 192.32(a)(1) and to leave all other enforcement of important provisions contained in 40 C.F.R. § 192.32(a) to the NRC or Agreement State. 79 Fed. Reg. at 25,406.

The EPA has not sufficiently analyzed or explained its decision to drastically reduce the EPA's role in regulating a radionuclide under the Clean Air Act. The Tribe is concerned that the EPA has abdicated the agency's regulatory role in ensuring that radon emissions are controlled as tailings impoundments move out of operational status under Subpart W and as permanent radon barriers are put in place. *See* Legislative History at 1,276 (where Representative Wyden observed that "even when pursuing apparently the same standard of protecting the public health, EPA has tended to set better, more protective standards and has had better enforcement efforts and mechanisms than NRC," and then cautioned the EPA "to not abdicate the agency's regulatory role here lightly."). The Tribe finds the EPA's proposed abdication in enforcing 40 C.F.R. § 192.32(a)'s closure requirements particularly problematic in light of the circumstances present at the WMM, where the Agreement State has not ensured that the closure requirements contained in 40 C.F.R. § 192.32(a) are in place when a tailings impoundment is put into final closure under Subpart W, and the Agreement State's failure to do so poses a significant risk that there will be a radon flux exceeding the 20 pCi/(m^2s) numerical flux standard limit during the closure period.

Tailings Cell 2 at the WMM is one of the pre-1989 "existing impoundments" that has been in operation for more than 30 years. Tailings Cell 2 has been nearly full for more than 10 years, although the Agreement State has authorized (and currently authorizes) the WMM to place 11(e)(2) byproduct material in Tailings Cell 2. *See* Section I(B)(1)(a), *supra*. In 2012, when Method 115 monitoring on Tailings Cell 2 showed that Tailings Cell 2 violated the 20 pCi/(m^2s) numerical flux standard, the WMM owner blamed the violation of Subpart W on the Agreement State (saying that the dewatering of the cell was to blame for the increased radon flux standard). *See* Exhibit I. The WMM owner did not heed the advice of its own consultants to place two feet of random fill cover on Tailings Cell 2 (which might have controlled emissions during the dewatering process) and instead placed less cover on some areas of Tailings Cell 2 that had very high radon flux readings. *Id.* The WMM did not demonstrate compliance with the 20 pCi/(m^2s) numerical limit until September of 2013.

On July 23, 2014, the Agreement State sent a letter to the WMM facility owner that clarified that Tailings Cell 2 is not in operation and that Tailings Cell 2 is in closure for Subpart W purposes. However, the Agreement State had not first ensured that the reclamation plan for the WMM contained a tailings closure plan meeting either the requirements of 40 C.F.R. § 192.32(a) or 10 C.F.R. Part 40, Appendix A, Criterion 6A. The currently-approved reclamation plan does not contain important interim milestones, such as windblown tailings retrieval from Tailings Cell 2, or a plan or timeline for interim stabilization (including dewatering). *See* Section I(B)(4), *supra*; Exhibit L. The currently-approved reclamation plan has no final design for a permanent radon barrier that will reduce radon emissions under 20 pCi/(m^2s) for Tailings Cell 2 (or for any tailings impoundment at the WMM facility). *See* Section I(B)(4), *supra*; Exhibit L. The currently-approved reclamation plan has no timeline for the design or placement of the final radon barrier and requires the placement of the final radon barrier on all tailings impoundments only upon closure and reclamation of the facility. *See* Section I(B)(4), *supra*; Exhibit L. This means that Tailings Cell 2 will likely remain open with only an "interim cover" for many years or decades until final closure of the entire WMM facility. Based on the past behavior of both the Agreement State and the WMM facility owners, the Tribe anticipates that the radon flux from Tailings Cell 2 will continue to exceed 20 pCi/(m^2s) unless the EPA uses its better enforcement efforts and mechanisms, along with the Agreement State, to require the WMM facility owner to construct a permanent radon barrier as required under 40 C.F.R. § 192.32(a).

Accordingly, the Tribe requests that, even if the EPA is unwilling to undertake the revision work outlined in Sections II(B)-(C) of these Comments, the EPA revise the Proposed Rule as follows:

- Do not eliminate the requirement in Subpart W that all uranium recovery facilities comply with 40 C.F.R. § 192.32(a).[16]
- Develop additional language for the 40 C.F.R. § 192.32(a) compliance requirement that sets forth a pre-closure process where the EPA can verify that a tailings closure plan meeting the requirements of 40 C.F.R. § 192.32(a) is in place. Redefine "closure" under Subpart W to occur after that pre-closure verification process.
- Conduct additional analysis within Subpart W and Subpart T to address instances like Tailings Cell 2 at the WMM where the Agreement State is unwilling to ensure (or incapable of ensuring) compliance with both 40 C.F.R. § 192.32(a) and 10 C.F.R. Part 40, Appendix A, Criterion 6A.

SUMMARY AND CONCLUSION

As described in detail in these comments, the EPA must completely redo its rulemaking process because of the following deficiencies in the Proposed Rule:

[16] *See* Section II(E)(4), *supra* for a discussion regarding the need to specifically cross-reference the applicable sections of 40 C.F.R. § 264.221 to ensure that the double-liner requirements of 40 C.F.R. § 264.221(c) (and not the less restrictive double-liner requirements of 40 C.F.R. § 264.221(a)) are required on all tailings impoundments regulated under Subpart W. Here, the Tribe is requesting that the EPA retain authority to enforce the closure provisions of 40 C.F.R. § 192.32(a).

- Section 112 requires the EPA to list uranium recovery facilities as a source category or subcategory prior to establishing revised standards under Section 112(d). To properly list uranium recovery facilities as a source category or subcategory under Section 112(c), the EPA must first set forth a reasonable distinction between major and area sources of radionuclides, and the EPA must consider all radionuclides and all other HAPs emitted at uranium recovery facilities.
- The EPA has no authority to promulgate GACT standards under Section 112(d)(5) for "uranium recovery facilities" because the EPA has not listed "uranium recovery facilities" as an area source category under Section 112(c).
- The EPA has not demonstrated that the proposed rule will reduce emissions of HAPs at uranium recovery facilities (as required under Section 112(d)(5)).
- The EPA has not issued a numerical standard for radionuclide emissions from uranium recovery facilities.
- The Proposed Rule does not meet the requirements for GACT under Section 112(d)(5) because the EPA failed to properly address existing technologies and work practice standards at uranium recovery facilities, because the EPA did not assess standards for major sources in the same industrial sector or for area and major sources in related source categories, and because the EPA did not properly conduct or weight its consideration of costs for implementing GACT under Subpart W.

Alternatively, if the EPA moves forward with the Proposed Rule, it still must correct several specific and critical deficiencies in the Proposed Rule that threaten to effectively de-regulate existing uranium recovery facilities. Section II(E) provides information and specific requests for those revisions to the Proposed Rule.

The Tribe appreciates your time and attention to these comments. If you have any questions, please do not hesitate to contact Special Counsel H. Michael Keller at (801) 237-0287, Associate General Counsel Celene Hawkins at (970) 564-5642, or Environmental Programs Director Scott Clow at (970) 564-5432.

Sincerely

/s/ Celene Hawkins
Celene Hawkins
Associate General Counsel
Ute Mountain Ute Tribe

H. Michael Keller
Special Counsel
Ute Mountain Ute Tribe
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Attachments: Exhibits A-O Submitted VIA MAIL

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Part III

Environmental Protection Agency

40 CFR Part 61
Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

[EPA–HQ–OAR–2008–0218; FRL–9816–2]

RIN 2060–AP26

Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to revise certain portions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for radon emissions from operating uranium mill tailings. The proposed revisions are based on EPA's determination as to what constitutes generally available control technology or management practices (GACT) for this area source category. We are also proposing to add new definitions to this rule, revise existing definitions and clarify that the rule applies to uranium recovery facilities that extract uranium through the in-situ leach method and the heap leach method.

DATES: Comments must be received on or before July 31, 2014.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2008–0218, by one of the following methods:

- *www.regulations.gov*: Follow the on-line instructions for submitting comments.
- *Email: a-and-r-docket@epa.gov*.
- *Fax:* 202–566–9744.
- *Mail:* Air and Radiation Docket, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave. NW., Washington, DC 20460.
- *Hand Delivery:* EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2008–0218. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. The *www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to EPA without going through *www.regulations.gov* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*.

Docket: All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Office of Air and Radiation Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1792.

FOR FURTHER INFORMATION CONTACT: Reid J. Rosnick, Office of Radiation and Indoor Air, Radiation Protection Division, Mailcode 6608J, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: 202–343–9290; fax number: 202–343–2304; email address: *rosnick.reid@epa.gov.*

SUPPLEMENTARY INFORMATION:

Outline. The information in this preamble is organized as follows:

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A. Does this action apply to me?
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C. Acronyms and Abbreviations
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A. What is the statutory authority for the proposed standards?
B. What criteria did EPA use in developing the proposed GACT standards for these area sources?
C. What source category is affected by the proposed standards?
D. What are the production operations, emission sources, and available controls?
E. What are the existing requirements under Subpart W?
F. How did we gather information for this proposed rule?
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III. Summary of the Proposed Requirements
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H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use
I. National Technology Transfer Advancement Act
J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by the proposed standards include:

Category	NAICS code [1]	Examples of regulated entities
Industry:		
Uranium Ores Mining and/or Beneficiating	212291	Area source facilities that extract or concentrate uranium from any ore processed primarily for its source material content.
Leaching of Uranium, Radium or Vanadium Ores	212291	Area source facilities that extract or concentrate uranium from any ore processed primarily for its source material content.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed action. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA regional representative as listed in 40 CFR 61.04 of subpart A (General Provisions).

B. What should I consider as I prepare my comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through *www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

Make sure to submit your comments by the comment period deadline identified.

C. Acronyms and Abbreviations

We use many acronyms and abbreviations in this document. These include:

AEA—Atomic Energy Act
ALARA—As low as reasonably achievable
BID—Background information document
CAA—Clean Air Act
CAAA—Clean Air Act Amendments of 1990
CCAT—Colorado Citizens Against Toxic Waste
CFR—Code of Federal Regulations
Ci—Curie, a unit of radioactivity equal to the amount of a radioactive isotope that decays at the rate of 3.7×10^{10} disintegrations per second.
DOE—U.S. Department of Energy
EIA—economic impact analysis
EO—Executive Order
EPA—U.S. Environmental Protection Agency
FR—Federal Register
GACT—Generally Available Control Technology
gpm—Gallons Per Minute
HAP—Hazardous Air Pollutant
ICRP—International Commission on Radiological Protection
ISL—In-situ leach uranium recovery, also known as in-situ recovery (ISR)
LCF—Latent Cancer Fatality—Death resulting from cancer that became active after a latent period following exposure to radiation
NAAQS—National Ambient Air Quality Standards
NCRP—National Council on Radiation Protection and Measurements
mrem—millirem, 1×10^{-3} rem
MACT—Maximum Achievable Control Technology
NESHAP—National Emission Standard for Hazardous Air Pollutants
NRC—U.S. Nuclear Regulatory Commission
OMB—Office of Management and Budget
pCi—picocurie, 1×10^{-12} curie
Ra-226—Radium-226
Rn-222—Radon-222
Radon flux—A term applied to the amount of radon crossing a unit area per unit time, as in picocuries per square centimeter per second ($pCi/m^2/sec$).
RCRA—Resource Conservation and Recovery Act
Subpart W—National Emission Standards for Radon Emissions from Operating Mill Tailings at 40 CFR 61.250–61.256
TEDE—Total Effective Dose Equivalent
UMTRCA—Uranium Mill Tailings Radiation Control Act of 1978
U.S.C.—United States Code

D. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this proposed action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/.* The TTN provides information and technology exchange in various areas of air pollution control.

E. When would a public hearing occur?

If anyone contacts EPA requesting to speak at a public hearing concerning this proposed rule by July 1, 2014, we will hold a public hearing. If you are interested in attending the public hearing, contact Mr. Anthony Nesky at (202) 343–9597 to verify that a hearing will be held and if you wish to speak. If a public hearing is held, we will announce the date, time and venue on our Web site at *http://www.epa.gov/radiation.*

II. Background Information for Proposed Area Source Standards

A. What is the statutory authority for the proposed standards?

Section 112(q)(1) of the Clean Air Act (CAA) requires that National Emission Standards for Hazardous Air Pollutants (NESHAP) ''in effect before the date of enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990] . . . shall be reviewed and, if appropriate, revised, to comply with the requirements of subsection (d) of . . . section [112].'' EPA promulgated 40 CFR part 61, Subpart W, ''National Emission Standards for Radon Emissions From Operating Mill Tailings,'' (''Subpart W'') on December 15, 1989.[1] EPA is conducting this review of Subpart W under CAA section 112(q)(1) to determine what revisions, if any, are appropriate.

Section 112(d) of the CAA requires EPA to establish emission standards for major and area source categories that are listed for regulation under CAA section 112(c). A major source is any stationary source that emits or has the potential to emit 10 tons per year (tpy) or more of any single hazardous air pollutant (HAP) or 25 tpy or more of any combination of HAP. An area source is a stationary source of HAP that is not a major source. For the purposes of Subpart W, the HAP at issue is radon-222 (hereafter referred to as ''radon''). We presently have no data or information that shows any other HAPs being emitted from these impoundments. Calculations of radon emissions from operating uranium recovery facilities have shown that facilities regulated under Subpart W are area sources (EPA–HQ–OAR–2008–0218–0001, 0002).

Section 112(q)(1) does not dictate how EPA must conduct its review of those NESHAPs issued prior to 1990. Rather, it provides that the Agency must review, and if appropriate, revise the standards to comply with the requirements of section 112(d). Determining what revisions, if any, are appropriate for these NESHAPs is best assessed through a case-by-case consideration of each NESHAP. As explained below, in this case, we have reviewed Subpart W and are revising the standards consistent with section 112(d)(5), which provides EPA authority to issue standards for area sources.

Under CAA section 112(d)(5), the Administrator may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.'' Under section 112(d)(5), the Administrator has the discretion to use generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT) under section 112(d)(2) and (d)(3), which is required for major sources. Pursuant to section 112(d)(5), we are proposing revisions to Subpart W to reflect GACT.

B. What criteria did EPA use in developing the proposed GACT standards for these area sources?

Additional information on generally available control technologies or management practices (GACT) is found in the Senate report on the legislation (Senate Report Number 101–228, December 20, 1989), which describes GACT as:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that may include small businesses.

Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources[2] in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

C. What source category is affected by the proposed standards?

As defined by EPA pursuant to the CAA, the source category for Subpart W is ''facilities licensed [by the U.S. Nuclear Regulatory Commission (NRC)] to manage uranium byproduct material during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings.'' 40 CFR 61.250. Subpart W defines ''uranium byproduct material or tailings'' as ''the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.''[3] 40 CFR 61.251(g). For clarity, in this proposed rule we refer to this source category by the term ''uranium recovery facilities'' and we are proposing to add this phrase to the definitions section of the rule. Use of this term encompasses the existing universe of facilities whose HAP emissions are currently regulated under Subpart W. Uranium recovery facilities process uranium ore to extract uranium. The HAP emissions from any type of uranium recovery facility that manages uranium byproduct material or tailings is subject to regulation under Subpart W. This currently includes three types of uranium recovery facilities: (1) Conventional uranium mills; (2) in-situ leach recovery facilities; and (3) heap leach facilities. Subpart W requirements specifically apply to the affected sources at the uranium recovery facilities that are used to manage or contain the uranium byproduct material or tailings. Common names for these structures may include, but are not limited to, impoundments, tailings impoundments, evaporation or holding ponds, and heap leach piles. However, the name itself is not important for determining whether Subpart W requirements apply to that structure; rather, applicability is based

[1] On April 26, 2007, Colorado Citizens Against Toxic Waste and Rocky Mountain Clean Air Action filed a lawsuit against EPA (EPA–HQ–OAR–2008–0218–0013) for EPA's alleged failure to review and, if appropriate, revise NESHAP Subpart W under CAA section 112(q)(1). A settlement agreement was entered into between the parties in November 2009(EPA–HQ–OAR–2008–0218–0019).

[2] None of the sources in this source category are major sources.

[3] Pursuant to the Atomic Energy Act of 1954, as amended, the Nuclear Regulatory Commission defines ''source material'' as ''(1) Uranium or thorium or any combination of uranium or thorium in any chemical or physical form; or (2) Ores that contain, by weight, one-twentieth of one percent (0.05 percent), or more, of uranium or thorium, or any combination of uranium or thorium.'' (10 CFR 20.1003) For a uranium recovery facility licensed by the Nuclear Regulatory Commission under 10 CFR Part 40, ''byproduct material'' means the ''tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes.'' (10 CFR 20.1003 and 40.4)

on the use of these structures to manage or contain uranium byproduct material.

D. What are the production operations, emission sources, and available controls?

As noted above, uranium recovery and processing currently occurs by one of three methods: (1) Conventional milling; (2) in-situ leach (ISL); and (3) heap leach. Below we present a brief explanation of the various uranium recovery methods and the usual structures that contain uranium byproduct materials.

(1) Conventional Mills

Conventional milling is one of the two primary recovery methods that are currently used to extract uranium from uranium-bearing ore. Conventional mills are typically located in areas of low population density. Only one conventional mill in the United States is currently operating; all others are in standby, in decommissioning (closure) or have been decommissioned.

A conventional uranium mill is a chemical plant that extracts uranium using the following process:

(A) Trucks deliver uranium ore to the mill, where it is crushed before the uranium is extracted through a leaching process. In most cases, sulfuric acid is the leaching agent, but alkaline solutions can also be used to leach the uranium from the ore. The process generally extracts 90 to 95 percent of the uranium from the ore.

(B) The mill then concentrates the extracted uranium to produce a uranium oxide material which is called ''yellowcake'' because of its yellowish color.[4]

(C) Finally, the yellowcake is transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

(D) The extraction process in (A) and (B) above produces both solid and liquid wastes (i.e., uranium byproduct material, or ''tailings'') which are transported from the extraction location to an on-site tailings impoundment or a pond for temporary storage.

Uranium byproduct material/tailings are typically created in slurry form during the crushing, leaching and concentration processes and are then deposited in an impoundment or ''mill tailings pile'' which must be carefully monitored and controlled. This is because the mill tailings contain heavy metal ore constituents, including radium. The radium decays to produce radon, which may then be released to the environment. Because radon is a radioactive gas which may be inhaled into the respiratory tract, EPA has determined that exposure to radon and its daughter products contributes to an increased risk of lung cancer.[5]

The holding or evaporation ponds at this type of facility hold liquids containing byproduct material from which HAP emissions are also regulated under Subpart W. These ponds are discussed in more detail in the next section.

(2) In-Situ Leach/Recovery

In-situ leach or recovery sites (ISL/ISR, in this document we will use ISL) represent the majority of the uranium recovery operations that currently exist. The research and development projects and associated pilot projects of the 1980s demonstrated ISL as a viable uranium recovery technique where site conditions (e.g., geology) are amenable to its use. Economically, this technology produces a better return on the investment dollar (EPA–HQ–OAR–2008–0218–0087); therefore, the cost to produce uranium is more favorable to investors. Due to this, the trend in uranium production has been toward the ISL process.

In-situ leaching is defined as the underground leaching or recovery of uranium from the host rock (typically sandstone) by chemicals, followed by recovery of uranium at the surface. Leaching, or more correctly the re-mobilization of uranium into solution, is accomplished through the underground injection of a lixiviant (described below) into the host rock (i.e., ore body) through wells that are connected to the ore formation. A lixiviant is a chemical solution used to extract (or leach) uranium from underground ore bodies.

The injection of a lixiviant essentially reverses the geochemical reactions that resulted in the formation of the uranium deposit. The lixiviant assures that the dissolved uranium, as well as other metals, remains in the solution while it is collected from the ore zone by recovery wells, which pump the solution to the surface. At the surface, the uranium is recovered in an ion-exchange column and further processed into yellowcake. The yellowcake is packaged and transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

Two types of lixiviant solutions can be used, loosely defined as ''acid'' or ''alkaline'' systems. In the U.S., the geology and geochemistry of the majority of the uranium ore bodies favors the use of alkaline lixiviants such as bicarbonate-carbonate lixiviant and oxygen. Other factors in the choice of the lixiviant are the uranium recovery efficiencies, operating costs, and the ability to achieve satisfactory ground-water restoration.

After processing, lixiviant is recharged (more carbonate/bicarbonate or dissolved carbon dioxide is added to the solution) and pumped back down into the formation for reuse in extracting more uranium. However, a small amount of this liquid is held back from reinjection to maintain a proper hydraulic gradient[6] within the wellfield. The amount of liquid held back is a function of the characteristics of the formation properties (e.g., permeability, hydraulic conductivity, transmissivity). This excess liquid is sent to an impoundment (often called an evaporation pond or holding pond) on site or injected into a deep well for disposal. These impoundments, since they contain uranium byproduct material, are subject to the requirements of Subpart W.[7] With respect to the lixiviant reinjected into the wellfield, there is a possibility of the lixiviant spreading beyond the zone of the uranium deposit (excursion), and this produces a threat of ground-water contamination. The operator of the ISL facility remediates any excursion by pumping large amounts of water in or out of the formation (at various wells) to contain the excursion, and this water (often containing byproduct material either before or after injection into or withdrawal from the formation) is often stored in the evaporation or holding ponds.[8] Although the excursion control operation itself is not regulated under Subpart W, the ponds that contain byproduct material are regulated under that subpart, since they are a potential source of radon emissions. After the ore body has been depleted, restoration of the formation (attempting to return the formation back to its original geochemical and geophysical

[4] The term ''yellowcake'' is still commonly used to refer to this material, although in addition to yellow the uranium oxide material can also be black or grey in color.

[5] *http://www.epa.gov/radon/risk_assessment.html.*

[6] The hydraulic gradient determines which direction water in the formation will flow, which in this case limits the amount of water that migrates away from the ore zone.

[7] As described later in this preamble, the design requirements for these impoundments are derived from the RCRA requirements for impoundments.

[8] By controlling the hydraulic gradient of the formation the operator controls the direction of flow of water, containing the water within specified limits of the formation.

properties) is accomplished by flushing the host rock with water and sometimes additional chemicals. Since small amounts of uranium are still contained in the returning water, the restoration fluids are also considered byproduct material, and are usually sent to evaporation ponds for disposition.

(3) Heap Leaching

In addition to conventional uranium milling and ISL, some facilities may use an extraction method known as heap leaching. In some instances uranium ore is of such low grade, or the geology of the ore body is such that it is not cost-effective to remove the uranium via conventional milling or through ISL.[9] In this case a heap leaching method may be utilized.

No such facilities currently operate to recover uranium in the U.S. However, there are plans for at least one facility to open in the U.S. within the next few years.

Heap leach operations involve the following process:

A. Small pieces of ore are placed in a large pile, or ''heap,'' on an impervious geosynthetic liner with perforated pipes under the heap. For the purposes of Subpart W the impervious pad will meet the requirements for design and construction of impoundments found at 40 CFR 192.32(a).

B. An acidic solution is then sprayed [10] over the ore to dissolve the uranium it contains.

C. The uranium-rich solution drains into the perforated pipes, where it is collected and transferred to an ion-exchange system.

D. The heap is ''rested,'' meaning that there is a temporary cessation of application of acidic solution to allow for oxidation of the ore before leaching begins again.

E. The ion-exchange system extracts the uranium from solution where it is later processed into a yellowcake.[11]

F. Once the uranium has been extracted, the remaining solution still contains small amounts of uranium byproduct material (the extraction process is not 100% effective), and this solution is either piped to the heap leach pile to be reused or piped to an evaporation or holding pond. In the evaporation pond it is subject to the Subpart W requirements.

G. The yellowcake is transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

H. Finally, there is a final drain down of the heap solutions, as well as a possible rinsing of the heap. These solutions will contain byproduct material and will be piped to evaporation or holding ponds, where they become subject to the Subpart W requirements. The heap leach pile will be closed in place according to the requirements of 40 CFR 192.32.

Today we are proposing to regulate the HAP emissions from heap leach uranium extraction under Subpart W, in addition to conventional impoundments and evaporation ponds, which are already regulated under this Subpart. Our rationale (explained in greater detail in Section IV.D.4.) is that from the moment uranium extraction takes place in the heap, uranium byproduct material is left behind. Therefore the byproduct material must be managed with the same design as a conventional impoundment, with a liner and leak detection system prescribed at 40 CFR 192.32(a), and an effective method of limiting radon emissions while the heap leach pile is being used to extract uranium.

As described above, there may also be holding or evaporation ponds at this type of facility. In many cases these ponds hold liquids containing byproduct material. The byproduct material is contained in the liquids used to leach uranium from the ore in the heap leach pile as well as draining the heap leach pile in preparation for closure. The HAP emissions from these fluids are currently regulated under Subpart W.

E. What are the existing requirements under Subpart W?

Subpart W was promulgated on December 15, 1989 (54 FR 51654). At the time of promulgation the predominant form of uranium recovery was through the use of conventional mills. There are two separate standards required in Subpart W. The first standard is for ''existing'' impoundments, e.g., those in existence and licensed by the NRC (or it's Agreement States) on or prior to December 15, 1989. Owners or operators of existing tailings impoundments must ensure that emissions from those impoundments do not exceed a radon (Rn-222) flux standard of 20 picocuries per meter squared per second (pCi/m^2/sec). As stated at the time of promulgation: ''This rule will have the practical effect of requiring the mill owners to keep their piles wet or covered.''[12] Keeping the piles (impoundments) wet or covered with soil would reduce radon emissions to a level that would meet the standard. This is still considered an effective method to reduce radon emissions at all uranium tailings impoundments.

The method for monitoring for compliance with the radon flux standard was prescribed as Method 115, found at 40 CFR part 61, Appendix B. The owners or operators of existing impoundments must report to EPA the results of the compliance testing for any calendar year by no later than March 31 of the following year.

There is currently one existing operating mill with impoundments that pre-date December 15, 1989, and two mills that are currently in standby mode.

The second standard applies to ''new'' impoundments designed and/or constructed after December 15, 1989. The requirements applicable to new impoundments are work practice standards that regulate either the size and number of impoundments, or the amount of tailings that may remain uncovered at any time. 40 CFR 61.252(b) states that no new tailings impoundment can be built after December 15, 1989, unless it is designed, constructed and operated to meet one of the following two work practices:

1. Phased disposal in lined impoundments that are no more than 40 acres in area, and meet the requirements of 40 CFR 192.32(a) as determined by the NRC. The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time.

2. Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.

The basis of the work practice standards is to (1) limit the size of the impoundment, which limits the radon source; or (2) utilize the continuous disposal system, which prohibits large accumulations of uncovered tailings, limiting the amount of radon released.

The work practice standards described above were promulgated after EPA considered a number of factors that influence the emissions of Rn-222 from tailings impoundments, including the climate and the size of the impoundment. For example, for a given concentration of Ra-226 in the tailings, and a given grain size of the tailings, the moisture content of the tailings will control the radon emission rate; the higher the moisture content the lower the emission rate. In the arid and semi-arid areas of the country where most impoundments are located or proposed, the annual evaporation rate is quite high. As a result, the exposed tailings

[9] The ore grade is so low that it is not practical to invest large sums of capital to extract the uranium. Heap leach is a much more passive and relatively inexpensive system.

[10] Other technology includes drip systems, sometimes used at gold extraction heaps, and flooding of the heap leach pile.

[11] It is our understanding that either ion-exchange or solvent extraction techniques can be used to recover uranium at heap leach facilities. The decision to use one type or the other depends largely on the quality of the ore at a particular site.

[12] See 54 FR 51689.

(absent controls like sprinkling) dry rapidly. In previous assessments, we explicitly took the fact of rapid drying into account by using a Rn-222 flux rate of 1 pCi/m²/s per pCi/g Ra-226 to estimate the Rn-222 source term from the dry areas of the impoundments. (**Note:** The estimated source terms from the ponded (areas completely covered by liquid) and saturated areas of the impoundments are considered to be zero, reflecting the complete attenuation of the Rn-222).

Another factor we considered was the area of the impoundment, which has a direct linear relationship with the Rn-222 source term, more so than the depth or volume of the impoundment. Again, assuming the same Ra-226 concentration and grain sizes in the tailings, a 100-acre dry impoundment will emit 10 times the radon of a 10-acre dry impoundment. This linear relationship between size and Rn-222 source term is one of the main reasons that Subpart W imposed size restrictions on all future impoundments (40 acres per impoundment if phased disposal is chosen and 10 acres total uncovered if continuous disposal is chosen).

Subpart W also mandates that all tailings impoundments at uranium recovery facilities comply with the requirements at 40 CFR 192.32(a). EPA explained the reason for adding this requirement in the preamble as follows:

''EPA recognizes that in the case of a tailings pile which is not synthetically or clay lined (the clay lining can be the result of natural conditions at the site) water placed on the tailings in an amount necessary to reduce radon levels, can result in ground water contamination. In addition, in certain situations the water can run off and contaminate surface water. EPA cannot allow a situation where the reduction of radon emissions comes at the expense of increased pollution of the ground or surface water. Therefore, all piles will be required to meet the requirements of 40 CFR 192.32(a) which protects water supplies from contamination. Under the current rules, existing piles are exempt from these provisions, this rule will end that exemption.''

54 FR 51654, 51680 (December 15, 1989). Therefore, all impoundments are required to meet the requirements at 40 CFR 192.32(a).

Section 192.32(a) includes a cross-reference to the surface impoundment design and construction requirements of hazardous waste surface impoundments regulated under the Resource Conservation and Recovery Act (RCRA), found at 40 CFR 264.221. Those requirements state that the impoundment shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life of the impoundment. Briefly, 40 CFR 264.221(c) requires that the liner system must include:

1. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into the liner during the active life of the unit.

2. A composite bottom liner consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life of the unit. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least three feet of compacted soil material with a hydraulic conductivity of no more than 1 x 10^{-7} cm/sec.

3. A leachate collection and removal system between the liners, which acts as a leak detection system. This system must be capable of detecting, collecting and removing hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to the waste or liquids in the impoundment.

There are other requirements for the design and operation of the impoundment, and these include construction specifications, slope requirements, sump and liquid removal requirements.[13]

F. How did we gather information for this proposed rule?

This section describes the information we used as the basis for making the determination to revise Subpart W. We collected this information using various methods. We performed literature searches, where appropriate, of the engineering methods used by existing uranium recovery facilities in the United States as well as the rest of the world. We used this information to determine whether the technology used to contain uranium byproduct material had advanced since the time of the original promulgation of Subpart W. We reviewed and compiled a list of existing and proposed uranium recovery facilities and the containment technologies being used, as well as those proposed to be used. We compared and contrasted those technologies with the engineering requirements of hazardous waste surface impoundments regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA), which are used as the design basis for existing uranium byproduct material impoundments.

We collected information on existing uranium mills and in-situ leach facilities by issuing information collection requests authorized under section 114(a) of the CAA to seven uranium recovery facilities. At the time, this represented 100% of existing facilities. Since then, Cotter Corp. has closed its Cañon City facility. These requests required uranium recovery companies to provide detailed information about the uranium mill and/or in-situ leaching facility, as well as the number, sizes and types of affected sources (tailings impoundments, evaporation ponds and collection ponds) that now or in the past held uranium byproduct material. We requested information on the history of operation since 1975, ownership changes, whether the operation was in standby mode and whether plans existed for new facilities or reactivated operations were expected.[14] We also reviewed the regulatory history of Subpart W and the radon measurement methods used to determine compliance with the existing standards. Below is a synopsis of the information we collected and our analyses.

1. Pre-1989 Conventional Mill Impoundments

We have been able to identify three facilities, either operating or on standby,[15] that have been in operation since before the promulgation of Subpart W in 1989. These existing facilities must ensure that emissions from their operational, pre-1989 impoundments[16] not exceed a radon (Rn-222) flux standard of 20 pCi/m²/sec. The method for monitoring for compliance with the radon flux standard was prescribed as Method 115, found at 40 CFR part 61, Appendix B. These facilities must also meet the requirements in 40 CFR 61.252(c), which cross-references the requirements of 40 CFR 192.32(a)

The White Mesa Conventional Mill in Blanding, Utah, has one pre-1989 impoundment (known by the company as Cell 3) that is currently in operation and near capacity but is still authorized and continues to receive tailings. The

[13] For detailed information on the design and operating requirements, refer to 40 CFR Part 264 Subpart K—Surface Impoundments.

[14] Section 114(a) letters and responses can be found at *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html.*

[15] ''Standby'' is when a facility impoundment is licensed for the continued placement of tailings/byproduct material but is currently not receiving tailings/byproduct material. See Section V.A. for a discussion of this definition that we are proposing to add to Subpart W.

[16] In this preamble when we use the generic term ''impoundment,'' we are using the term as described by industry.

company is now pumping any residual free solution out of the cell and contouring the sands. It will then be determined whether any more solids need to be added to the cell to fill it to the specified final elevation. It is expected to close in the near future (EPA–HQ–OAR–2008–0218–0069). The mill also uses an impoundment constructed before 1989 as an evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

The Sweetwater conventional mill is located 42 miles northwest of Rawlins, Wyoming. The mill operated for a short time in the 1980s and is currently in standby status. Annual radon values collected by the facility indicate that there is little measurable radon flux from the mill tailings that are currently in the lined impoundment. This monitoring program remains active at the facility. According to company records, of the 37 acres of tailings, approximately 28.3 acres of tailings are covered with soil; the remainder of the tailings are continuously covered with water. The dry tailings have an earthen cover that is maintained as needed. During each monitoring event one hundred radon flux measurements are taken on the tailings continuously covered by soil, as required by Method 115 for compliance with Subpart W. The mean radon flux for the exposed tailings over the past 21 years was 3.5 pCi/m ^{2}/sec. The radon flux for the entire tailings impoundment was calculated to be 6.01 pCi/m ^{2}/sec. The calculated radon flux from the entire tailings impoundment surface is thus approximately 30% of the 20.0 pCi/m ^{2}/sec standard (EPA–HQ–OAR–2008–0218–0087).

The Shootaring Canyon project is a conventional mill located about 3 miles north of Ticaboo, Utah, in Garfield County. The approximately 1,900-acre site includes an ore pad, a small milling building, and a tailings impoundment system that is partially constructed. The mill operated for a very short period of time. Shootaring Canyon did pre-date the standard, but the mill was shut down prior to the promulgation of the standard. The impoundment is in a standby status and has an active license administered by the Utah Department of Environmental Quality, Division of Radiation Control. The future plans for this uranium recovery operation are unknown. Current activities at this remote site consist of intermittent environmental monitoring by consultants to the parent company (EPA–HQ–OAR–2008–0218–0087).

The Shootaring Canyon mill operated for approximately 30 days. Tailings were deposited in a portion of the upper impoundment. A lower impoundment was conceptually designed but has not been built. Milling operations in 1982 produced 25,000 cubic yards of tailings, deposited in a 2,508 m ^{2} (0.62 acres) area. The tailings are dry except for moisture associated with occasional precipitation events; consequently, there are no beaches.[17] The tailings have a soil cover that is maintained by the operating company. Radon sampling for the 2010 year took place in April. Again, one hundred radon flux measurements were collected. The average radon flux from this sampling event was 11.9 pCi/m ^{2}-sec.

A fourth mill is Cotter Corporation in Cañon City, Colorado. The mill no longer exists, and the pre-1989 impoundments are in closure.

2. 1989–Present Conventional Mill Impoundments

There currently is only one operating conventional mill with an impoundment that was constructed after December 15, 1989. The White Mesa conventional mill in Utah has two impoundments (Cell 4A and Cell 4B: Cell 4A is currently operating as a conventional impoundment and Cell 4B is being used as an evaporation pond) designed and constructed after 1989. The facility uses the phased disposal work practice.

There are several conventional mills in the planning and/or permitting stage and conventional impoundments at these mills will be required to utilize one of the current work practice standards.

3. In-Situ Leach Facilities

After 1989 the price of uranium began to fall, and the uranium mining and milling industry essentially collapsed, with very few operations remaining in business. However, several years ago the price of uranium began to rise so that it became profitable once more for companies to consider uranium recovery. ISL has become the preferred choice for uranium extraction where suitable geologic conditions exist.

Currently there are five ISL facilities in operation: (1) The Alta Mesa project in Brooks County, Texas; (2) the Crow Butte Operation in Dawes County, Nebraska; (3) the Hobson/La Palangana Operation in South Texas; (4) the Willow Creek (formerly Christensen Ranch/Irigaray Ranch) Operation in Wyoming; and (5) the Smith Ranch-Highland Operation in Converse County, Wyoming.[18] These facilities use or have used evaporation ponds to hold back liquids containing uranium byproduct material from reinjection to maintain a proper hydraulic gradient within the wellfield.[19] These ponds are subject to the Subpart W requirements and range in size from less than an acre to up to 40 acres. Based on the information provided to us the ponds meet the requirements of 40 CFR 61.252(c).

There are approximately 11 additional ISL facilities in various stages of licensing or on standby. It is anticipated that there could be approximately another 20–30 license applications over the next 5–10 years.[20]

4. Heap Leach Facilities

As stated earlier, there are currently no operating heap leach facilities in the United States. We are aware of two or three potential future operations. The project most advanced in the application process is the Sheep Mountain facility in Wyoming. Energy Fuels has announced its intent to submit a license application to the NRC in March 2014. One or two other as yet to be determined operations may be located in Lander County, Nevada and/or a site in New Mexico.[21]

5. Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989

In performing our analysis we considered the information we received from all the existing conventional impoundments. We also looked at the compliance history of the existing conventional impoundments. After this review we considered two specific questions: (1) Are any of the conventional impoundments using any novel methods to reduce radon emissions? (2) Is there now any reason to believe that any of the existing conventional impoundments could not comply with the management practices for new conventional impoundments, in which case would we need to continue to make the distinction between conventional impoundments constructed before or after December 15, 1989? We arrived at the following

[17] The term ''beaches'' refers to portions of the tailings impoundment where the tailings are wet but not saturated or covered with liquids.

[18] Source: U.S. Energy Information Administration, *http://www.eia.gov/uranium/production/quarterly/html/qupd_tbl4.html.*

[19] The Alta Mesa operation uses deep well injection rather than evaporation ponds.

[20] Source: *http://www.nrc.gov/materials/uranium-recovery/license-apps/ur-projects-list-public.pdf.*

[21] *http://www.nrc.gov/materials/uranium-recovery/license-apps/ur-projects-list-public.pdf.*

conclusions: First, we are not aware of any conventional impoundment that uses any new or different technologies to reduce radon emissions. Conventional impoundment operators continue to use the standard method of reducing radon emissions by limiting the size of the impoundment and covering tailings with soil or keeping tailings wet. These are very effective methods for limiting the amount of radon released to the environment.

Second, we believe that only one existing operating conventional impoundment designed and in operation before December 15, 1989, could not meet the work practice standards. This impoundment is Cell 3 at the White Mesa mill, which is expected to close in 2014 (Personal communication between EPA staff and Utah Department of Environmental Quality staff, May 16, 2013, EPA–HQ–2008–0218–0081). We were very clear in our 1989 rulemaking that all conventional mill impoundments must meet the requirements of 40 CFR 192.32(a), which, in addition to requiring ground-water monitoring, also required the use of liner systems to ensure there would be no leakage from the impoundment into the ground water. We did this by removing the exemption for existing piles from the 40 CFR 192.32(a) requirements (54 FR 51680). However, we did not require those existing impoundments to meet either the phased disposal or continuous disposal work practice standards, which limit the exposed area and/or number of conventional impoundments, thereby limiting the potential for radon emissions. This is because at the time of promulgation of the rule, conventional impoundments existed that were larger in area than the maximum work practice standard of 40 acres used for the phased disposal work practice, or 10 acres for the continuous disposal requirement. This area limitation was important in reducing the amount of exposed tailings that were available to emit radon. However, we recognized that by instituting a radon flux standard we would require owners and operators to limit radon emissions from these preexisting impoundments (usually by placing water or soil on exposed portions of the impoundments). The presumption was that conventional impoundments constructed before this date could otherwise be left in a dry and uncovered state, which would allow for unfettered release of radon. The flux standard was promulgated to have the practical effect of requiring owners and operators of these old impoundments to keep their tailings either wet or covered with soil, thereby reducing the amount of radon that could be emitted (54 FR 51680).

We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a). We also have information that the new conventional impoundments operating at the White Mesa mill will utilize the phased work practice standard of limiting conventional impoundments to no more than two, each 40 acres or less in area. We also have information that Cell 3 at the White Mesa facility will be closed in 2014, and the phased disposal work method will be used for the remaining cells. (Personal communication between EPA staff and staff of Utah Department of Environmental Quality, May 16, 2013 (EPA–HQ–2008–0218–0081). As a result, we find there would be no conventional impoundment designed or constructed before December 15, 1989 that could not meet a work practice standard. Since the conventional impoundments in existence prior to December 15, 1989 appear to meet the work practice standards, we are proposing to eliminate the distinction of whether the conventional impoundment was constructed before or after December 15, 1989. We are also proposing that all conventional impoundments (including those in existence prior to December 15, 1989) must meet the requirements of one of the two work practice standards, and that the flux standard of 20 pCi/m^2/sec will no longer be required for the impoundments in existence prior to December 15, 1989.

G. How does this action relate to other EPA standards?

Under the CAA, EPA promulgated Subpart W, which includes standards and other requirements for controlling radon emissions from operating mill tailings at uranium recovery facilities. Under our authority in the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), we have also issued standards that are more broadly applicable to uranium and thorium byproduct materials at active and inactive uranium recovery facilities. NRC (or Agreement States [22]) and DOE implement and enforce these standards at these uranium recovery facilities as directed by UMTRCA. These standards, located in 40 CFR part 192, address the radiological and non-radiological hazards of uranium and thorium byproduct materials in ground water and soil, in addition to air. For the non-radiological hazards, UMTRCA directed us to promulgate standards consistent with those used by EPA to regulate non-radiological hazardous materials under RCRA. Therefore, our part 192 standards incorporate the ground-water protection requirements applied to hazardous waste management units under RCRA and specify the placement of uranium or thorium byproduct materials in impoundments constructed in accordance with RCRA requirements. Radon emissions from non-operational impoundments (i.e., those with final covers) are limited in 40 CFR part 192 to the emissions levels of 20 pCi/m^2/sec. We are currently preparing a regulatory proposal to update provisions of 40 CFR part 192, with emphasis on ground-water protection for ISL facilities. As explained in previous sections, Subpart W currently contains reference to some of the part 192 standards.

H. Why did we conduct an updated risk assessment?

While not required by or conducted as part of our GACT analysis, one of the tasks we performed for our own purposes was to update the risk analysis we performed when we promulgated Subpart W in 1989. We performed a comparison between the 1989 risk assessment and current risk assessment approaches, focusing on the adequacy and the appropriateness of the original assessments. We did this for informational purposes only and not for or as part of our GACT analysis. Instead, we prepared this updated risk assessment because we wanted to demonstrate that even using updated risk analysis procedures (i.e. using procedures updated from those used in the 1980s), the existing radon flux standard appears to be protective of the public health and the environment. We did this by using the information we collected to perform new risk assessments for existing facilities, as well as two idealized ''generic'' sites, one located in the eastern half of the United States and one located in the southwest United States. (These two model sites do not exist. They are idealized using representative features

[22] An Agreement State is a State that has entered into an agreement with the Nuclear Regulatory Commission under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021)and has authority to regulate byproduct materials (as defined in section 11e.(2)of the Atomic Energy Act)and the disposal of low-level radioactive waste under such agreement.

of mills in differing climate and geography). This information has been collected into one document [23] that has been placed in the docket (EPA–HQ–OAR–2008–0218–0087) for this proposed rulemaking.

As part of this work, we evaluated various computer models that could be used to calculate the doses and risks due to the operation of conventional and ISL uranium recovery facilities, and selected CAP88 V 3.0 for use in this analysis. CAP88 V 3.0 was developed in 1988 from the AIRDOS, RADRISK, and DARTAB computer programs, which had been developed for the EPA at the Oak Ridge National Laboratory (ORNL).

CAP88 V 3.0, which stands for ''Clean Air Act Assessment Package-1988 version 3.0,'' is used to demonstrate compliance with the NESHAP requirements applicable to radionuclides. CAP88 V 3.0 calculates the doses and risk to a designated receptor as well as to the surrounding population. Exposure pathways evaluated by CAP88 V 3.0 are: inhalation, air immersion, ingestion of vegetables, meat, and milk, and ground surface exposure. CAP88 V 3.0 uses a modified Gaussian plume equation to estimate the average dispersion of radionuclides released from up to six emitting sources. The sources may be either elevated stacks, such as a smokestack, or uniform area sources, such as the surface of a uranium byproduct material impoundment. Plume rise can be calculated assuming either a momentum or buoyant-driven plume.

At several sites analyzed in this evaluation only site-wide releases of radon were available to us. This assessment was limited by the level of detail provided by owners and operators of uranium recovery facilities. In instances where more specific site data were available, site-wide radon releases were used as a bounding estimate. Assessments are done for a circular grid of distances and directions for a radius of up to 80 kilometers (50 miles) around the facility. The Gaussian plume model produces results that agree with experimental data as well as any comparable model, is fairly easy to work with, and is consistent with the random nature of turbulence. A description of CAP88 V 3.0 and the computer models upon which it is based is provided in the CAP88 V 3.0 Users Manual.[24]

The uranium recovery facilities that we analyzed included three existing conventional mills (Cotter, White Mesa and Sweetwater), five operating ISL operations (the Alta Mesa project in Brooks County, Texas; the Crow Butte Operation in Dawes County, Nebraska; the Hobson/La Palangana Operation in South Texas; the Willow Creek (formerly Christensen Ranch/Irigaray Ranch) Operation in Wyoming; and the Smith Ranch-Highland Operation in Converse County, Wyoming), and two generic sites assumed for the location of conventional mills (we chose conventional mills because we believe they have the potential for greater radon emissions). One generic site was modeled in the southwest United States (Western Generic) while the other was assumed to be located in the eastern United States (Eastern Generic).[25] An Eastern generic site was selected for the second generic site to accommodate the recognition that a number of uranium recovery facilities are expected to apply for construction licenses in the future, and to determine potential risks in geographic areas of the U.S. that customarily have not hosted uranium recovery facilities. For this assessment the conventional mills we were most interested in were the White Mesa mill and the Sweetwater mill. (The Shootaring Canyon mill was not analyzed, because the impoundment is very small and is soil covered, and the Cotter facility is now in closure). These conventional mills are either in operation or standby and are subject to the flux standard of 20 pCi/m^2/sec. The risk analyses performed for these two mills showed that the maximum lifetime cancer risks from radon emissions from the White Mesa impoundments were 1.1×10^{-4} while the maximum lifetime cancer risks from radon associated with the impoundments at the Sweetwater mill were 2.4×10^{-5}. As we indicated in our original 1989 risk assessment, in protecting public health, EPA strives to provide the maximum feasible protection by limiting lifetime cancer risk from radon exposure to approximately 1 in 10,000 (i.e., 10^{-4}).[26] The analyses also estimated that the total cancer risk to the populations surrounding all ten modeled uranium sites (i.e., total cancer fatalities) is between 0.0015 and 0.0026 fatal cancers per year, or approximately 1 case every 385 to 667 years for the 4 million persons living within 80 km of the uranium recovery facilities. Similarly, the total cancer incidence for all ten modeled sites is between 0.0021 and 0.0036 cancers per year, or approximately 1 case every 278 to 476 years. The analyses are described in more detail in the background document generated for this proposal.[27] As stated above, we performed this risk assessment for informational purposes only. The risk assessment was not required or considered during our analysis for proposing GACT standards for uranium recovery facilities (e.g., conventional impoundments, non-conventional impoundments or heap leach piles).

III. Summary of the Proposed Requirements

We are proposing to revise Subpart W to include requirements we have identified that are generally available for controlling radon emissions in a cost-effective manner, and are not currently included in Subpart W. Specifically, we are proposing to require that non-conventional impoundments and heap leach piles must maintain minimum liquid levels to control their radon emissions from these affected sources.

Additionally, we are revising Subpart W to propose GACT standards for the affected sources at conventional uranium mills, ISL facilities and heap leach facilities. Given the evolution of uranium recovery facilities over the last 20 years, we believe it is appropriate to revise Subpart W to tailor the requirements of the rule to the different types of facilities in existence at this time. We are therefore proposing to revise Subpart W to add appropriate definitions, standards and other requirements that are applicable to HAP emissions at these uranium recovery facilities.

Our experience with ensuring that uranium recovery facilities are in compliance with Subpart W also leads us to propose three more changes. First, we are proposing to remove certain monitoring requirements that we believe are no longer necessary for demonstrating compliance with the proposed GACT standards. Second, we are proposing to revise certain definitions so that owners and operators clearly understand when Subpart W applies to their facility. Third, we are proposing to clarify what specific liner

[23] Technical and Regulatory Support to Develop a Rulemaking to Potentially Modify the NESHAP Subpart W Standard for Radon Emissions from Operating Uranium Mills (40 CFR 61.250).

[24] *http://www.epa.gov/radiation/assessment/CAP88 V 3.0/index.html.*

[25] There is a potential in the future for uranium recovery in areas like south-central Virginia.

[26] See 54 FR 51656

[27] All risks are presented as LCF risks. If it is desired to estimate the morbidity risk, simply multiply the LCF risk by 1.39. For a more detailed analysis of cancer mortality and morbidity, please see the Background Information Document, Docket number EPA–HQ–OAR–0218–0087.

requirements must be met under Subpart W.[28]

Taken altogether, the proposed revisions to Subpart W are appropriate for updating, clarifying and strengthening the management of radon emissions from the uranium byproduct material generated at uranium recovery facilities.

A. What are the affected sources?

Today we are proposing to revise Subpart W to include requirements for affected sources at three types of operating uranium recovery facilities: (1) Conventional uranium mills; (2) ISL facilities; and (3) heap leach facilities. The affected sources at these uranium recovery facilities include conventional impoundments, non-conventional impoundments where tailings are contained in ponds and covered by liquids (examples of these affected sources are evaporation or holding ponds that may exist at conventional mills, ISL facilities and heap leach facilities), and heap leach piles. The proposed GACT standards and the rationale for these proposed standards are discussed below and in Section IV. We request comment on all aspects of these proposed requirements.

B. What are the proposed requirements?

1. Conventional Impoundments

In the 1989 promulgation of Subpart W we created two work practice standards, phased disposal and continuous disposal, for uranium tailings impoundments designed and constructed after December 15, 1989. The work practice standards, which limit the exposed area and/or number of conventional impoundments at a uranium recovery facility, require that these impoundments be no larger than 40 acres (for phased disposal) or 10 uncovered acres (for continuous disposal). We also limited the number of conventional impoundments operating at any one time to two. We took this approach because we recognized that the radon emissions from very large conventional impoundments could impose unacceptable health effects if the piles were left dry and uncovered. The 1989 promulgation also included the requirements in 40 CFR 192.32(a), which include design and construction requirements for the impoundments as well as requirements for prevention and mitigation of ground-water contamination.

As discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed. We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a)(1). The existing cell 3 at the White Mesa mill will undergo closure in 2014 and will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard. Therefore, there is no reason not to subject these older impoundments to the work practice standards required for impoundments designed or constructed after December 15, 1989. By incorporating these impoundments under the work practices provision of Subpart W, it is no longer necessary to require radon flux monitoring, and we are proposing to eliminate that requirement.

The proposed elimination of the monitoring requirement in 40 CFR 61.253 applies only to those facilities currently subject to the radon flux standard in 40 CFR 61.252(a), which applies to only the three conventional impoundments in existence prior to the original promulgation of Subpart W on December 15, 1989. While we are proposing to eliminate the radon monitoring requirement for these three impoundments under Subpart W, this action does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements of their operating license issued by the NRC or its Agreement States. These requirements are found at 10 CFR Part 40, Appendix A, Criterion 8 and 8A. Additionally, NRC, through its Regulatory Guide 4.14, may also recommend incorporation of radionuclide air monitoring at operating facility boundaries.

Further, when the impoundments formally close they are subject to the radon monitoring requirements of 40 CFR 192.32(a)(3), also under the NRC licensing requirements.

From a cost standpoint, by not requiring radon monitoring we expect that for all three sites the total annual average cost savings would be $29,200, with a range from about $21,000 to $37,000. More details on economic costs can be found in Section IV.B of this preamble.

For the proposed rule we also evaluated the requirements of 40 CFR 192.32(a) as they pertain to the Subpart W standards. The requirements of 40 CFR 192.32(a) are included in the NRC's regulations and are reviewed for compliance by NRC during the licensing process for a uranium recovery facility. We determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for design and operation of surface impoundments at 40 CFR 264.221, are the only requirements necessary for EPA to incorporate for Subpart W, as they are effective methods of containing tailings and protecting ground water while also limiting radon emissions. This liner requirement, described earlier in this preamble, remains in use for the permitting of hazardous waste land disposal units under RCRA. The requirements at 40 CFR 192.32(a)(1) contain safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. We are therefore proposing to retain the two work practice standards and the requirements of 40 CFR 192.32(a)(1) as GACT for conventional impoundments because these methods for limiting radon emissions while also protecting ground water have proven effective for these types of impoundments.

2. Non-Conventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids

Today we are proposing a GACT standard specifically for non-conventional impoundments where uranium byproduct materials are contained in ponds and covered by liquids. Common names for these structures may include, but are not limited to, impoundments and evaporation or holding ponds. These affected sources may be found at any of the three types of uranium recovery facilities.

These units meet the existing applicability criteria in 40 CFR 61.250 to classify them for regulation under Subpart W. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct material, either in solid form or dissolved in solution, and therefore their emissions are regulated under Subpart W. As defined at 40 CFR 61.251(g), uranium byproduct material or tailings means the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.

[28] Under its CAA authority, EPA requires facilities subject to Subpart W to build impoundments in a manner that complies with the requirements found in 40 CFR 192. As a matter of convenience, EPA cross-references the part 192 requirements in Subpart W instead of copying them directly into Subpart W. This cross-referencing convention is often used in rulemakings.

Therefore, emissions for the ponds at uranium recovery facilities that contain either uranium byproduct material in solid form or radionuclides dissolved in liquids are regulated under Subpart W. Today we are again stating that determination and proposing a GACT standard specifically for these impoundments.

Evaporation or holding ponds, while sometimes smaller in area than conventional impoundments, perform a basic task. They hold uranium byproduct material until it can be disposed. Our survey of existing ponds shows that they contain liquids, and, as such, this general practice has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero. Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions. We have found that as long as approximately one meter of liquid is maintained in the pond, the effective radon emissions from the pond are so low that it is difficult to determine whether there is any contribution above background radon values. EPA has stated in the *Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Background Information Document* (August, 1986):

''Recent technical assessments of radon emission rates from tailings indicate that radon emissions from tailings covered with less than one meter of water, or merely saturated with water, are about 2% of emissions from dry tailings. Tailings covered with more than one meter of water are estimated to have a zero emissions rate. The Agency believes this calculated difference between 0% and 2% is negligible. The Agency used an emission rate of zero for all tailings covered with water or saturated with water in estimating radon emissions.''

Therefore, we are proposing as GACT that these impoundments meet the design and construction requirements of 40 CFR 192.32(a)(1), with no size/area restriction, and that during the active life of the pond at least one meter of liquid be maintained in the pond.

We are also proposing that no monitoring be required for this type of impoundment. We have received information and collected data that show there is no acceptable radon flux test method for a pond holding a large amount of liquid. (Method 115 does not work because a solid surface is needed to place the large area activated carbon canisters used in the Method). Further, even if there was an acceptable method, we recognize that radon emissions from the pond would be expected to be very low because the liquid acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for most of the radon produced by the solids or from solution to migrate to the water surface and cross the water/air interface before decaying(EPA–HQ–OAR–2008–0218–0087). It therefore appears that monitoring at these ponds is not necessary for demonstrating compliance with the proposed standards. We do, however, ask for comment and supporting information on three issues: (1) Whether these impoundments need to be monitored with regard to their radon emissions, and why; (2) whether these impoundments need to be monitored to ensure at least one meter of liquid is maintained in the pond at all times, and (3) if these impoundments do need monitoring, what methods could a facility use (for example, what types of radon collection devices, or methods to measure liquid levels) at evaporation or holding ponds.

3. Heap Leach Piles

The final impoundment category for which we are proposing GACT standards is heap leach piles. We are proposing to require that heap leach piles meet the phased disposal work practice standard set out in Section III B. 1. of this preamble (which limits an owner/operator to no more than two operating heap leach piles of no more than 40 acres each at any time) and the design and construction requirements at 40 CFR 192.32(a)(1) as GACT. We are also requiring heap leach piles to maintain minimum moisture content of 30% so that the byproduct material in the heap leach pile does not dry out, which would increase radon emissions from the heap leach pile.

As noted earlier in the preamble, there are currently no operating uranium heap leach facilities in the United States. We are aware that the one currently proposed heap leach facility will use the design and operating requirements at 40 CFR 192.32(a)(1) for the design of its heap. Since this requirement will be used at the only example we have for a heap leach pile, it (design and operating requirements at 40 CFR 192.32(a)(1)), along with the phased disposal work practice standard (limiting the number and size of heap leach piles), will be the standards that we propose as GACT for heap leach piles. The premise is that the operator of a heap would not want to lose any of the uranium-bearing solution; thus, it is cost effective to maintain a good liner system so that there will be no leakage and ground water will be protected. Also, use of the phased disposal work practice standard will limit the amount of exposed uranium byproduct material that would be available to emit radon. If we assume that uranium ore (found in the heap leach pile) and the resultant leftover byproduct material after processing emit radon at the same rate as uranium byproduct material in a conventional impoundment (a conservative estimate), we can also assume that the radon emissions will be nearly the same as two 40 acre conventional impoundments.

We recognize that owners and operators of conventional impoundments also limit the amount of radon emitted by keeping the tailings in the impoundments covered, either with soil or liquids. At the same time, however, we recognize that keeping the uranium byproduct material in the heap in a saturated or near-saturated state (in order to reduce radon emissions) is not a practical solution as it would be at a conventional tailings impoundment. In the definitions at 40 CFR 61.251(c) we have defined ''dewatered'' tailings as those where the water content of the tailings does not exceed 30% by weight. We are proposing today to require operating heaps to maintain moisture content of greater than 30% so that the byproduct material in the heap is not allowed to become dewatered which would allow more radon emissions. We are specifically asking for comment on the amount of liquid that should be required in the heap, and whether the 30% figure is a realistic objective. We are also asking for comments on precisely where in the heap leach pile this requirement must be met. The heap leach pile may not be evenly saturated during the uranium extraction process. The sprayer/drip system commonly used on the top of heap leach piles usually results in a semi-saturated moisture condition at the top of the pile, since flow of the lixiviant is not uniformly spread across the top of the pile. As downward flow continues, the internal areas of the pile become saturated. We are requesting information and comment on where specifically in the pile the 30% moisture content should apply.

C. What are the monitoring requirements?

As the rule currently exists, only mills with existing conventional impoundments in operation on or prior to December 15, 1989, are currently required to monitor to ensure compliance with the radon flux standard. The reason for this is because at the time of promulgation of the 1989 rule, EPA stated that no flux monitoring would be required for new impoundments because the proposed

work practice standards would be effective in reducing radon emissions from operating impoundments by limiting the amount of tailings exposed (54 FR 51681). Since we have now determined that existing older conventional impoundments can meet one of the two work practice standards, we are proposing to eliminate the radon flux monitoring requirement.

In reviewing Subpart W we looked into whether we should extend radon monitoring to all affected sources constructed and operated after 1989 so that the monitoring requirement would apply to all conventional impoundments, non-conventional impoundments and heap leach piles containing uranium byproduct materials. We also reviewed how this requirement would apply to facilities where Method 115 is not applicable, such as at impoundments totally covered by liquids. We concluded that the original work practice standards (now proposed as GACT) continue to be an effective practice for the limiting of radon emissions from conventional impoundments and from heap leach piles. We also concluded that by maintaining an effective water cover on non-conventional impoundments the radon emissions from those impoundments are so low as to be difficult to differentiate from background radon levels at uranium recovery facilities. Therefore, we are proposing today that it is not necessary to require radon monitoring for any affected sources regulated under Subpart W. We seek comment on our conclusion that radon monitoring is not necessary for any of these sources as well as on any available cost-effective options for monitoring radon at non-conventional impoundments totally covered by liquids.

D. What are the notification, recordkeeping and reporting requirements?

New and existing affected sources are required to comply with the existing requirements of the General Provisions (40 CFR part 61, subpart A). The General Provisions include specific requirements for notifications, recordkeeping and reporting, including provisions for notification of construction and/or modification and startup as required by 40 CFR 61.07, 61.08 and 61.09.

Today we are also proposing that all affected sources will be required to maintain certain records pertaining to the design, construction and operation of the impoundments, both including conventional impoundments, and nonconventional impoundments, and heap leach piles. We are proposing that these records be retained at the facility and contain information demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1), including but not limited to, all tests performed that prove the liner is compatible with the material(s) being placed on the liner. For nonconventional impoundments we are proposing that this requirement would also include records showing compliance with the continuous one meter of liquid in the impoundment; [29] for heap leach piles, we are proposing that this requirement would include records showing that the 30% moisture content of the pile is continuously maintained. Documents showing that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1) are already required as part of the pre-construction application submitted under 40 CFR 61.07, so these records should already be available. Records showing compliance with the one meter liquid cover requirement for nonconventional impoundments and records showing compliance with the 30% moisture level required in heap leach piles can be created and stored during the daily inspections of the tailings and waste retention systems required by the NRC (and Agreement States) under the inspection requirements of 10 CFR 40, Appendix A, Criterion 8A.

Because we are proposing new record-keeping requirements for uranium recovery facilities, we are required by the Paperwork Reduction Act (PRA) to prepare an estimate of the burden of such record-keeping on the regulated entity, in both cost and hours necessary to comply with the requirements. We have submitted the Information Collection Request (ICR) containing this burden estimate and other supporting documentation to the Office of Management and Budget (OMB). See Section VII.B for more discussion of the PRA and ICR.

We believe the record-keeping requirements proposed today will not create a significant burden for operators of uranium recovery facilities. As described earlier, we are proposing to require retention of three types of records: (1) Records demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1) (e.g. the design and liner testing information); (2) records showing that one meter of water is maintained to cover the byproduct material stored in nonconventional impoundments; and (3) records showing that heap leach piles maintain a moisture content of at least 30%.

Documents demonstrating that the affected sources comply with section 192.32(a)(1) requirements are necessary for the facility to obtain regulatory approval from NRC (or an NRC Agreement State) and EPA to construct and operate the affected sources (this includes any revisions during the period of operations). Therefore, these records will exist independent of Subpart W requirements and will not need to be continually updated as a result of this record-keeping requirement in Subpart W; however, we are proposing to include this record-keeping requirement in Subpart W to require that the records be maintained at the facility during its operational lifetime (in some cases the records might be stored at a location away from the facility, such as corporate offices). This might necessitate creating copies of the original records and providing a location for storing them at the facility.

Keeping a record to provide confirmation that water to a depth of one meter is maintained above the byproduct material stored in nonconventional impoundments should also be relatively straightforward. This would involve placement of a measuring device or devices in or at the edge of the impoundment to allow observation of the water level relative to the level of byproduct material in the impoundment. Such devices need not be highly technical and might consist of, for example, measuring sticks with easily-observable markings placed at various locations, or marking the sides of the impoundment to illustrate different water depths. As noted earlier, NRC and Agreement State licenses require operators to inspect the facility on a daily basis. Limited effort should be necessary to make observations of water depth and record the information in inspection log books that are already kept on site and available to inspectors.

Similarly, daily inspections would provide a mechanism for recording moisture content of heap leach piles. However, because no heap leach facilities are currently operating, there is more uncertainty about exactly how the operator will determine that the heap has maintained a 30% moisture content. As discussed in more detail in Section IV.E.4 of this preamble, soil moisture probes are readily available and could be used for this purpose. Such probes could be either left in the heap leach pile, placed at locations that provide a

[29] The one meter liquid requirement pertains to having one meter of liquid cover any and all solid byproduct material. We do not anticipate a large quantity of solid byproduct material in these nonconventional impoundments (EPA–HQ–OAR–2008–0218–0088).

representative estimate for the heap as a whole, or facility personnel could use handheld probes to collect readings. The facility might also employ mass-balance estimates to provide a further check on the data collected.

We estimate the burden in hours and cost for uranium recovery facilities to comply with the proposed recordkeeping requirements are as follows:

TABLE 1—BURDEN HOURS AND COSTS FOR PROPOSED RECORDKEEPING REQUIREMENTS

[Annual figures except where noted]

Activity	Hours	Costs
Maintaining Records for the section 192.32(a)(1) requirements	*20	*$1,360
Verifying the one meter liquid requirement for nonconventional impoundments	288	12,958
Verifying the 30% moisture content at heap leach piles using multiple soil probes	2,068	86,548

* These figures represent a one-time cost to the facility.

Burden levels for heap leach piles are most uncertain because they depend on the chosen method of measurement (e.g., purchasing and maintaining multiple probes or a smaller number of handheld units) as well as the personnel training involved (e.g., a person using a handheld unit will likely need more training than someone who is simply recording readings from already-placed probes). We request comment on our estimates of burden, as well as suggestions of methods that could readily and efficiently be used to collect the required information. More discussion of the ICR and opportunities for comment may be found in Section VII.B.

E. When must I comply with these proposed standards?

All existing affected sources subject to this proposed rule would be required to comply with the rule requirements upon the date of publication of the final rule in the **Federal Register**. To our knowledge, there is no existing operating uranium recovery facility that would be required to modify its affected sources to meet the requirements of the final rule; however, we request any information regarding affected sources that would not meet these requirements. New sources would be required to comply with these rule requirements upon the date of publication of the final rule in the **Federal Register** or upon startup of the facility, whichever is later.

IV. Rationale for This Proposed Rule

A. How did we determine GACT?

As provided in CAA section 112(d)(5), we are proposing standards representing GACT for this area source category. In developing the proposed GACT standards, we evaluated the control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities.

As noted in Section II.F., for this proposal we solicited information on the available controls and management practices for this area source category using written facility surveys (surveys authorized by section 114(a) of the CAA), reviews of published literature, and reviews of existing facilities (EPA–HQ–OAR–0218–0066). We also held discussions with trade association and industry representatives and other stakeholders at various public meetings.[30] Our determination of GACT is based on this information. We also considered costs and economic impacts in determining GACT (See Section VI.).

We identified two general management practices that reduce radon emissions from affected sources. These general management practices are currently being used at all existing uranium recovery facilities. First, limiting the area of exposed tailings in conventional impoundments limits the amount of radon that can be emitted. The work practice standards currently included in Subpart W require owners and operators of affected sources to implement this management practice by either limiting the number and area of existing, operating impoundments or covering dewatered tailings to allow for no more than 10 acres of exposed tailings. This is an existing requirement of Subpart W and of the NRC licensing requirements; hence, owners and operators of uranium recovery facilities are already incurring the costs associated with limiting the area of conventional impoundments (and as proposed, heap leach piles) to 40 acres or less (as well as no more than two conventional impoundments in operation at any one time), or limiting the area of exposed tailings to no more than 10 acres.

Second, covering uranium byproduct materials with liquids is a general management practice that is an effective method for limiting radon emissions. This general management practice is often used at nonconventional impoundments, which, as stated earlier, are also known as evaporation or holding ponds. These nonconventional impoundments also contain byproduct material, and thus their HAP emissions are regulated under Subpart W. They are also regulated under the NRC operating license. While they hold mostly liquids, they are still designed and constructed in the manner of conventional impoundments, meaning they meet the requirements of section 192.32(a)(1). While this management practice of covering uranium byproduct materials in impoundments with liquids is not currently required under Subpart W, facilities using this practice have generally shown its effectiveness in reducing emissions in both conventional impoundments (that make use of phased disposal) and nonconventional impoundments (i.e. holding or evaporation ponds). We are therefore proposing to require the use of liquids in nonconventional impoundments as a way to limit radon emissions.

Therefore, after review of the available information and from the evidence we have examined, we have determined that a combination of the management practices listed above will be effective in limiting radon emissions from this source category, and will do so in a cost effective manner. We also believe that since heap leach piles are in many ways similar to the design of conventional impoundments, the same combination of work practices (limitation to no more than two operating heap leach piles, each one no more than 40 acres) will limit radon emissions in heap leach piles. We discuss our reasons supporting these conclusions in more detail in Section IV.B.

[30] See *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html* for a list of presentations made at public meetings held by EPA and at various conferences open to the public.

B. Proposed GACT Standards for Operating Mill Tailings

1. Requirements at 40 CFR 192.32(a)(1)

As an initial matter, we determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for the design and construction of liners at 40 CFR 264.221, continue to be an effective method of containment of tailings for all types of affected sources (EPA–HQ–OAR–2008–0218–0015). The liner requirements, described earlier in this document, remain in use for the permitting of hazardous waste land disposal units under RCRA. Because of the requirement for nearly impermeable boundaries between the tailings and the subsurface, and the requirement for leak detection between the liners, we have determined that the requirements contain enough safeguards to allow for the placement of tailings and also provide an early warning system in the event of a leak in the liner system (EPA–HQ–OAR–2008–0218–0015). For this reason we are proposing to require as GACT that conventional impoundments, non-conventional impoundments and heap leach piles all comply with the liner requirements in 40 CFR 192.32(a)(1). Previously, Subpart W contained this requirement but included a more general reference to 40 CFR 192.32(a); we are proposing to replace that general reference with a more specific reference to 40 CFR 192.32(a)(1) to narrow the requirements under this proposed rule to only the design and construction requirements for the liner of the impoundment contained in 40 CFR 192.32(a)(1).

The estimated average cost of the liner requirement for each type of impoundment at uranium recovery facilities is listed in the table below (EPA–HQ–OAR–2008–0218–0087):

TABLE 2—ESTIMATED LINER COSTS

Table 2—Proposed GACT standards costs per pound of U_3O_8

	Unit cost ($/lb U_3O_8)		
	Conventional	ISL	Heap Leach
GACT—Double Liners for Nonconventional Impoundments	$1.04	$3.07	$0.22
GACT—Maintaining 1 Meter of Water in Nonconventional Impoundments	0.013	0.010	0.0010
GACT—Liners for Heap Leach Piles	.....	.....	2.01
GACT—Maintaining Heap Leach Piles at 30% Moisture	.....	.....	0.0043
GACTs—Total for All Four	1.05	3.08	2.24

Table 2 presents a summary of the unit cost (per pound of U_3O_8) for implementing each GACT at each of the three types of uranium recovery facilities. In addition to presenting the GACT costs individually, Table 2 presents the total unit cost to implement all relevant GACTs at each type of facility.

Based on the Table 2, implementing all four GACTs would result in unit cost (per pound of U_3O_8) increases of about 2%, 6%, and 5% at conventional mills, ISL, and heap leach type uranium recovery facilities, respectively.

In making these cost estimates, we have assumed the following: (1) A conventional impoundment is no larger than 40 acres in size, which is the maximum size allowed for the phased disposal option; (2) a nonconventional impoundment is no larger than 80 acres in size (the largest size we have seen); and (3) a heap leach pile is no larger than 40 acres in size (again, the maximum size allowed under the phased disposal work practice standard, although as with conventional impoundments the owner or operator is limited to two of these affected sources to be in operation at any time).

We do not have precise data for the costs associated with the liner requirements at conventional impoundments using the continuous disposal work practice standard because currently none exist, but a reasonable maximum approximation would be the costs for the 80 acre nonconventional impoundment, since it is the largest we have seen. We believe that no additional costs would be incurred for building a conventional impoundment that will use the continuous disposal option above what we estimated for building a nonconventional impoundment but we ask for comment on whether this assumption is reasonable. We also ask for data on the costs of building a conventional impoundment using continuous disposal, and how those costs would differ from the estimates provided above, or whether the costs we have listed for building a conventional impoundment using phased disposal are a reasonable approximation of the costs for building a conventional impoundment using continuous disposal.

These liner systems are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC and NRC Agreement States through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC or NRC Agreement State license.

The liner systems we are proposing that heap leach piles must use are the same as those used for conventional and nonconventional impoundments. We estimate that the average costs associated with the construction of a 40 acre liner that complies with 40 CFR 192.32(a)(1)is approximately $15.3 million. When compared to the baseline capital costs associated with the facility (estimated at $356 million)(EPA–HQ–OAR–2008–0218–0087), the costs for constructing this type of liner system per facility is about 4% of the total baseline capital costs of a heap leach pile facility (EPA–HQ–OAR–2008–0218–0087).[31]

[31] For our purposes, baseline conditions are defined as a reference point that reflects the world without the proposed regulation. It is the starting point for conducting an economic analysis of the potential benefits and costs of a proposed regulation. The defined baseline influences first the level of emissions expected without regulatory intervention. It thereby also influences the projected level of emissions reduction that may be achieved as a consequence of the proposed regulation. Baselines have no standard definition besides the fact that they simply provide a reference scenario against which changes in economic and environmental conditions (in this case radon emissions) can be measured. In some instances, baselines have been established based on the assumption that economic, environmental and/or other conditions will continue on the present path or trend, purely as time dependant extensions of presently observed patterns. In other instances, baselines are derived from elaborate modeling

Continued

2. Conventional Impoundments

In the 1989 promulgation of Subpart W we required new conventional impoundments to comply with one of two work practice standards, phased disposal or continuous disposal. These work practice standards contain specific limits on the exposed area and/or number of operating conventional impoundments to limit radon emissions because we recognized that radon emissions from very large impoundments could impose unacceptable health effects if the piles were left dry and uncovered. We are proposing as the GACT standard that *all* conventional impoundments—both existing impoundments and new impoundments—comply with one of the two work practice standards, phased disposal or continuous disposal, because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments (reference EPA 520–1–86–009, August 1986). We are proposing that existing impoundments also comply with one of the two work practice standards because, as discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed.

We are also not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. Operators continue to use the general management practices discussed above for reducing radon emissions from their conventional impoundments, i.e., limiting the size and/or number of the impoundments, and covering the tailings with soil or keeping the tailings wet. These management practices form the basis of the work practice standards for conventional impoundments and continue to be very effective methods for limiting the amount of radon released to the environment.

These work practice standards are a cost-effective method for reducing radon emissions from conventional impoundments. In addition, the liner requirements for conventional impoundments are also required by the NRC in their licensing requirements at 10 CFR part 40. Therefore, we are proposing that GACT for conventional impoundments will be the same work practice standards as were previously included in Subpart W.

3. Non-Conventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids

Today we are proposing a GACT standard specifically for use by any operating uranium recovery facility that has one or more non-conventional impoundments at its facility (i.e., those impoundments where tailings are contained in ponds and covered by liquids). Common names for these structures may include, but are not limited to, impoundments, evaporation ponds and holding ponds. These ponds contain uranium byproduct material and the HAP emissions are regulated by Subpart W.

Industry has argued in preambles to responses to the CAA section 114(a) letters [32] and elsewhere that Subpart W does not, and was never meant to, include these types of evaporation or holding ponds under the Subpart W requirements. Industry has asserted that the original Subpart W did not specifically reference evaporation or holding ponds but was regulating only conventional mill tailings impoundments. They argue that the ponds are temporary because they hold very little solid material but instead hold mostly liquids containing dissolved radionuclides (which emit very little radon), and at the end of the facility's life they are drained, and any solid materials, along with the liner system, are disposed in a properly licensed conventional impoundment.

EPA has consistently maintained that these non-conventional impoundments meet the existing applicability criteria for regulation under Subpart W. As defined at 40 CFR 61.251(g), uranium byproduct material or tailings means the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct materials, either in solid form or dissolved in solution, and therefore their HAP emissions are regulated under Subpart W. Today we reiterate that position and are proposing a GACT standard more specifically tailored for these types of impoundments.

We are proposing that these non-conventional impoundments (the evaporation or holding ponds) must maintain a liquid level in the impoundment of no less than one meter at all times during the operation of the impoundment. Maintaining this liquid level will ensure that radon-222 emissions from the uranium byproduct material in the pond are minimized. We are also proposing that there is no maximum area requirement for the size of these ponds since the chance of radon emissions is small. Our basis for this determination is that radon emissions from the pond will be expected to be very low since the liquid in the ponds acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for approximately 98% of the radon produced by the solids or from the solution to migrate to the water surface and cross the water/air interface before decaying.

By requiring a minimum of one meter of water in all nonconventional impoundments that contain uranium byproduct material, the release of radon from these impoundments would be greatly reduced. Nielson and Rogers (1986) present the following equation for calculating the radon attenuation:

$$A = e^{\left(-\left[\frac{\lambda}{D}\right]^{0.5} d\right)}$$

Where:

A = Radon attenuation factor (unit less)
λ = Radon-222 decay constant (sec^{-1})
= 2.1×10^{-6} sec^{-1}
D = Radon diffusion coefficient (cm^2/sec)
= 0.003 cm^2/sec in water
d = Depth of water (cm)
= 100 cm

The above equation indicates that the attenuation of radon emanation by water (i.e., the amount by which a water cover will decrease the amount of radon emitted from the impoundment) depends on how quickly radon-222 decays, how quickly radon-222 can move through water (the diffusion coefficient), and the thickness of the layer of water.[33] Solving the above equation shows that one meter of water has a radon attenuation factor of about 0.07. That is, emissions can be expected to be reduced by about 93% compared to no water cover.

The benefit incurred by this requirement is that significantly less radon will be released to the atmosphere. The amount varies from facility to facility based on the size of the nonconventional impoundment, but

projections. Because in all cases their purpose is to project a view of the world without the proposed regulatory intervention, baselines are sometimes termed ''do nothing'' or ''business as usual'' scenarios.

[32] *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html.*

[33] For a detailed discussion of this topic, which includes the effects of pond water mixing, wind and convection, please see ''Risk Assessment Revision for 40 CFR Part 61 Subpart W-Radon Emissions from Operating Mill Tailings, Task 5 Radon Emission from Evaporation Ponds,''(EPA–HQ–OAR–2008–0218–0080).

across existing facilities radon can be expected to be reduced by approximately 24,600 curies, a decline of approximately 93%.

The estimated cost associated with complying with the proposed one meter of liquid that would be required to limit the amount of radon emissions to the air vary according to the size of the impoundment and the geographic area in which it is located. We estimate that this requirement will cost owners or operators of 80 acre nonconventional impoundments between $1,042 and $9,687 per year. This value varies according to the location of the impoundment, which will determine evaporation rates, which determines how much replacement water will be required to maintain the minimum amount of one meter. If the evaporated water is not replaced by naturally occurring precipitation, then it would need to be replaced with make-up water supplied by the nonconventional impoundment's operator.

The most obvious source of water is what is known as ''process water'' from the extraction of uranium from the subsurface. Indeed, management of this process water is one of the primary reasons for constructing the impoundment in the first place, as the process water contains uranium byproduct material that must also be managed by the facility. It is possible that an operator could maintain one meter of water in the impoundment solely through the use of process water. If so, this would not create any additional costs for the facility as the cost of the process water can be attributed to its use in the uranium extraction process. However, for purposes of estimating the economic impacts associated with our proposal, our cost estimate does not include process water as a source of water potentially added to the impoundment to replace water that has evaporated. Instead, we estimated the costs of using water from other sources. This method results in the most conservative cost estimate for compliance with the one meter requirement.

In performing the cost impacts for this requirement, three potential sources of impoundment make-up water were considered: (1) Municipal water suppliers; (2) offsite non-drinking-water suppliers; and (3) on-site water (EPA–HQ–OAR–2008–0218–0087). Depending on the source of water chosen, we estimate that this requirement will cost owners or operators of nonconventional impoundments between $1,042.00 and $9,687.00 per year.[34]

This value also varies according to the size and location of the nonconventional impoundment. Such impoundments currently range up to 80 acres in size. The requirement to maintain a minimum of one meter of liquid in the ponds is estimated to cost approximately $0.03 per pound of uranium produced. The annual cost of makeup water was divided by the base case facility yellowcake annual production rate to calculate the makeup water cost per pound of yellowcake produced (EPA–HQ–OAR–2008–0218–0087). We conclude that this proposed requirement is a cost-effective way to significantly reduce radon emissions from nonconventional impoundments, and is therefore appropriate to propose as a GACT standard for nonconventional impoundments.

4. Heap Leach Piles

The final affected source type for which we are proposing GACT standards is heap leach piles. While there are currently no operating uranium heap leach facilities in the United States, we are proposing to regulate the HAP emission at any future facilities using this type of uranium extraction under Subpart W since the moment that uranium extraction takes place in the heap, uranium byproduct materials are left behind. During the process of uranium extraction on a heap, as the acid drips through the ore, uranium is solubilized and carried away to the collection system where it is further processed. At the point of uranium movement out of the heap, what remains is uranium byproduct materials as defined by 40 CFR 61.251(g). In other words, what remains in the heap is the waste produced by the extraction or concentration of uranium from ore processed primarily for its source material content. Thus, Subpart W applies because uranium byproduct materials are being generated during and following the processing of the uranium ore in the heap.

As a result, we are proposing GACT standards for heap leach piles. We are proposing that these piles conform to the phased disposal work practice standard specified for conventional impoundments in 40 CFR 61.252(a)(1)(i)(which limits the number of active heap leach piles to two, and limits the size of each one to no more than 40 acres) and that the moisture content of the uranium byproduct material in the heap leach pile be greater than or equal to 30% moisture content. We believe that the phased disposal approach can be usefully applied here because it limits the amount of tailings that can be exposed at any one time, which limits the amount of radon that can be emitted. The phased disposal work practice standard is applicable for heap leach piles because heap leach piles are expected to be managed in a manner that is similar in many respects to conventional impoundments. Based on what we understand about the operation of potential future heap leach facilities, after the uranium has been removed from the heap leach pile, the uranium byproduct material that remains would be contained in the heap leach structure which would be lined according to the requirements of 40 CFR 192.32(a)(1). The heap leach pile would also be covered with soil at the end of its operational life to minimize radon emissions.

This is what is required to occur at conventional impoundments using the phased disposal standard. Limiting the size of the operating heap leach pile to 40 acres or less (and the number of operating heap leach piles at any one time to two) has the same effect as it does on conventional impoundments; that is, it limits the area of exposed uranium byproduct material and therefore limits the radon emissions from the heap leach pile. While we believe that the 40 acre limitation is appropriate for heap leach piles, we are requesting comment on what should be the maximum size (area) of a heap leach pile.

We are also proposing as GACT that the heap leach pile constantly maintain a moisture content of at least 30% by weight. By requiring a moisture content of at least 30%, the byproduct material in the heap leach pile will not become dewatered, and we think that the heap leach pile will be sufficiently saturated with liquid to reduce the amount of radon that can escape from the heap leach pile. However, we request further information on all the chemical mechanisms in place during the leaching operation, and whether the 30% moisture content is sufficient for minimizing radon emissions from the heap leach pile. We also request comment on the amount of time the 30% moisture requirement should be maintained by a facility. We are proposing the term ''operational life'' of the facility. We are aware of several operations that take place during the

[34] Municipal sources were the most expensive, with average unit costs of $0.0033 per gallon. Offsite non-drinking water sources were the cheapest, at $0.000069 per gallon on average. Various references were used for the comparisons. For more detail, please see Section 6.3.3 of the Background Information Document.

uranium extraction process at a heap leach pile. After an initial period of several months of allowing lixiviant to leach uranium from the pile, the heap leach pile is allowed to ''rest,'' which enables the geochemistry in the pile to equilibrate. At that point the heap leach pile may be subjected to another round of extraction by lixiviant, or it may be rinsed to flush out any remaining uranium that is in solution in the heap leach pile. After the rinsing, the pile is allowed to drain and a radon barrier required by 40 CFR 192.32 can be emplaced. We are proposing that the operational life of the heap leach pile be from the time that lixiviant is first placed on the heap leach pile until the time of the final rinse. We believe this incorporates a majority of the time when the heap leach pile is uncovered (no radon barrier has been constructed over the top of the heap) and when the ability for radon to be emitted is the greatest.

Because there is no ''process water'' component to a heap leach operation, as there is for an ISL, water for the heap leach pile must be supplied from an outside source. Even if an ISL and heap leach operation were to be located at the same site, we consider it unlikely that an operator would use ISL process water as the basis for an acidic heap leach solution. It is possible, in fact likely, that the solution used in the heap will be recycled (i.e., applied to the heap more than once), which could reduce the amount of outside water needed to some degree, although as we discuss later in this section, it would not seem that recycling solution would affect the overall moisture content. In calculating the high-end costs of heap leaching, we have not included this possibility in our estimates of economic impacts.

The unit costs for providing liquids to a heap leach pile are assumed to be the same as the unit costs developed for providing water to nonconventional impoundments. In estimating the cost impacts for this requirement, three potential sources of impoundment make-up water were considered: (1) Municipal water suppliers; (2) offsite non-drinking-water suppliers; and (3) on-site water. The only cost associated with maintaining the moisture level within the pile is the cost of the liquid. We assume that existing piping used to supply lixiviant to the pile during leaching would be used to supply water necessary for maintaining the moisture level. Also, we assume that the facility will use the in-soil method for moisture monitoring. The in-soil method and its costs are described below.

Soil moisture sensors have been used for laboratory and outdoor testing purposes and for agricultural applications for over 50 years. They are mostly used to measure moisture in gardens and lawns to determine when it is appropriate to turn on irrigation systems. Soil moisture sensors can either be placed in the soil or held by hand.

For example, one system would bury soil moisture sensors to the desired depth in the heap. Then, a portable soil moisture meter would be connected by cable to each buried sensor one at a time, i.e., a single meter can read any number of sensors. The portable soil moisture meter costs about $350, and each in-soil sensor about $35 or $45, depending on the length of the cable (either 5 or 10 ft). Finally, it is assumed that moisture readings would be performed during the NRC required daily inspections of the heap leach pile, which would require approximately 2,000 additional work hours per year per facility. Our estimates for costs of monitoring the heap include 100 sensors located within the heap, with a meter on each sensor. We chose 100 sampling stations because heaps are generally the same size as conventional impoundments, and Method 115 prescribed 100 measurements for the tailings area of a conventional impoundment. The total estimated costs for using this system, including labor, are approximately $86,500 per year per facility.

Alternatively, with a handheld soil moisture meter, two rods (up to 8 inches long) that are attached to the meter are driven into the soil at the desired location, and a reading is taken. A handheld meter of this type costs about $1,065, and replacement rods about $58 for a pair. A minimum of 100 sampling stations for measuring radon could be required. We did not estimate costs for this method, as we concluded that the length of time required walking around a heap leach pile and obtaining these measurements required more time than is found in an average work day, and would expose workers to potentially hazardous constituents contained in the lixiviant.

The base case heap leach facility includes a heap leach pile that will occupy up to 80 acres at a height of up to 50 feet. With an assumed porosity of 0.39 and a moisture content of 30% by weight, the effective surface area of the liquid within the heap pile is 33.7 acres.

Table 3 presents the calculated cost for make-up water to maintain the moisture level in the heap leach pile, such that the moisture content is at 30% by weight, or greater. The unit costs for water and the net evaporation rates used for these estimates are identical to those derived for evaporation ponds.

TABLE 3—HEAP LEACH PILE ANNUAL MAKEUP WATER COST

Cost type	Water cost ($/gal)	Net evaporation (in/yr)	Makeup water cost ($/yr)	Makeup water rate (gpm/ft^2)
Mean	$0.00010	45.7	$4,331	2.3E–05
Median	0.00010	41.3	3,946	2.1E–05
Minimum	0.000035	6.1	196	3.0E–06
Maximum	0.00015	96.5	13,318	4.8E–05

To place this amount of make-up water in perspective, during leaching and rinsing of the heap leach pile, liquid is dripped onto the pile at a rate of 0.005 gallons per minute per square foot (gpm/ft^2). This rate is significantly higher than the make-up water rates necessary to maintain the moisture content at 30% by weight, shown in Table 3. We conclude from this analysis that the leaching solution applied in a typical operation should be sufficient to maintain the moisture content of the heap leach pile to the required levels, and only in unusual circumstances (such as during the final rinse and draindown of the heap leach pile) would additional liquids need to be applied. However, in a circumstance that would require the additional application of liquid to maintain the 30% moisture limit, such as excessive evaporation, we estimate that the cost of requiring the owner/operator of a heap leach pile to maintain 30% moisture content in the pile will average approximately $4,000 per year.

We are asking for comment on exactly where in the pile the 30% moisture content should be achieved. We are also soliciting comments on whether the leaching operation itself liberates more radon into the air than the equivalent of a conventional impoundment. We assume that because low-grade ore is usually processed by heap leach, there would be less radon emitted from a heap leach pile than from a conventional impoundment of similar size. We request information on whether this is a correct assumption.

We are also aware that there could be a competing argument against regulating the heap leach pile under Subpart W while the lixiviant is being placed on the heap leach pile. While not directly correlative, the process of heap leach could be defined as active ''milling.'' The procedure being carried out on the heap is the extraction of uranium. In this view, the operation is focused on the production of uranium rather than on managing uranium byproduct materials. Therefore, under this view, the heap meets the definition of tailings under 40 CFR 61.251(g) only after the final rinse of the heap solutions occurs and the heap is preparing to close. In this scenario the heap leach pile would close under the requirements at 40 CFR part 192.32 and Subpart W would never apply. We are requesting comments on the relative merits of this interpretation.

It bears noting that, as with ISL facilities, collection and/or evaporation ponds (nonconventional impoundments) may exist at heap leach facilities that will also contain uranium byproduct materials. These ponds' HAP emissions will be regulated under Subpart W regardless of whether the heap leach pile is also subject to regulation under that subpart.

V. Other Issues Generated by Our Review of Subpart W

During our review of Subpart W we also identified several issues that need clarification in order to be more fully understood. The issues that we have identified are:

- Clarification of the term ''standby'' and how it relates to the operational phase of an impoundment;
- Amending the definition of ''operation'' of an impoundment so that it is clear when the owner or operator is subject to the requirements of Subpart W;
- Determining whether Subpart W adequately addresses protection from extreme weather events;
- Revising 40 CFR 61.252(b) and (c) to accurately reflect that it is only 40 CFR 192.32(a)(1)that is applicable to Subpart W; and
- Removing the phrase ''as determined by the Nuclear Regulatory Commission'' in 40 CFR 61.252(b)(1) and (2).

A. Clarification of the Term ''Standby''

There has been some confusion over whether the requirements of Subpart W apply to an impoundment that is in ''standby'' mode. This is the period of time that an impoundment may not be accepting tailings, but has not yet entered the ''closure period'' as defined by 40 CFR 192.31(h). This period of time usually takes place when the price of uranium is such that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so. Since the impoundment has not entered the closure period, it could continue to accept tailings at any time; therefore, Subpart W requirements continue to apply to the impoundment. Today we are proposing to add a definition to 40 CFR 61.251 to define ''standby'' as:

Standby means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

B. Amending the Definition of ''Operation'' for a Conventional Impoundment

As currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that ''operation'' means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W). An impoundment is in operation from the day that tailings are first placed in the impoundment until the day that final closure begins.

There has been some confusion over this definition. For example, a uranium mill announced that it was closing a pre-December 15, 1989, impoundment. Before initiating closure, however, it stated that it would keep the impoundment open to dispose of material generated by other closure activities at the site that contained byproduct material (liners, deconstruction material, etc) but not ''new tailings.'' The company argued that since it was not disposing of new tailings the impoundment was no longer subject to Subpart W. We disagree with this interpretation. While it may be true that the company was no longer disposing of new tailings in the impoundment, it has not begun closure activities; therefore, the impoundment is still open to disposal of byproduct material that emits radon and continues to be subject to all applicable Subpart W requirements.

To prevent future confusion, we are proposing today to amend the definition of ''operation'' in the Subpart W definitions at 40 CFR 61.251 as follows:

Operation means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

C. Weather Events

In the past, uranium recovery facilities have been located in the western regions of the United States. In these areas, the annual precipitation falling on the impoundment, and any drainage area contributing surface runoff to the impoundment, has usually been less than the annual evaporation from the impoundment. Also, these facilities have been located away from regions of the country where extreme rainfall events (e.g., hurricanes or flooding) could jeopardize the structural integrity of the impoundment, although there is a potential for these facilities to be affected by flash floods, tornadoes, etc. Now, however, uranium exploration and recovery in the U.S. has the potential to move eastward, into more climatologically temperate regions of the country, with south central Virginia being considered for a conventional uranium mill. In determining whether additional measures would be needed for impoundments operating in areas where precipitation exceeds evaporation, a review of the existing requirements was necessary.

The proposed revisions to Subpart W will continue to require owners and operators of all impoundments to follow the requirements of 40 CFR 192.32(a)(1). That particular regulation references the RCRA surface impoundment design and operations requirements of 40 CFR 264.221. At 40 CFR 264.221(g) and (h) are requirements that ensure proper design and operation of tailings impoundments. Section 264.221(g) states that impoundments must be designed, constructed, maintained and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and rain action (e.g., a two foot freeboard requirement); rainfall; run-on;

malfunctions of level controllers, alarms and other equipment; and human error. Section 264.221(h) states that impoundments must have dikes that are designed, constructed and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

Since impoundments at uranium recovery facilities have been and will continue to be required to comply with the requirements of 40 CFR 192.32(a)(1), they are already required to be designed to prevent failure during extreme weather events. As we stated in Section IV B.2., we believe the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. Therefore, we are proposing to include these requirements in the Subpart W requirements without modification.

D. Applicability of 40 CFR 192.32(a) to Subpart W

The requirements at 40 CFR 61.252(b) and (c) require compliance with 40 CFR 192.32(a). However, we are now proposing to focus the Subpart W requirements on the impoundment design and construction requirements found specifically at 40 CFR 192.32(a)(1). The remainder of 40 CFR 192.32(a) goes beyond this limited scope by including requirements for ground-water detection monitoring systems and closure of operating impoundments. These other requirements, along with all of the part 192 standards, are implemented and enforced by the NRC through its licensing requirements for uranium recovery facilities at 10 CFR part 40, Appendix A. However, when referenced in Subpart W, the requirements in 40 CFR 192.32(a)(1) would also be implemented and enforced by EPA as the regulatory authority administering Subpart W under its CAA authority. Therefore today we are proposing to revise 40 CFR 61.252 (b) and (c) to specifically define which portions of 40 CFR 192.32(a) are applicable to Subpart W. At the same time we are proposing to eliminate the phrase ''. . .as determined by the Nuclear Regulatory Commission'' from 40 CFR 61.252(b). This should eliminate confusion regarding what an applicant must submit to EPA under the CAA in its pre-construction and modification approval applications as required by 40 CFR 61.07, and better explain that EPA is the regulatory agency administering Subpart W under the CAA. This proposed change will have no effect on the licensing requirements of the NRC or its regulatory authority under UMTRCA to implement the part 192 standards through its licenses.

VI. Summary of Environmental, Cost and Economic Impacts

As discussed earlier, uranium recovery activities are carried out at several different types of facilities. We are proposing to revise Subpart W based on how uranium recovery facilities manage uranium byproduct materials during and after the processing of uranium ore at their particular facility. As discussed in Sections III and IV, we are proposing GACT requirements for three types of affected sources at uranium recovery facilities: (1) Conventional impoundments; (2) nonconventional impoundments; and (3) heap leach piles.

For purposes of analyzing the impacts of the proposed rule, we assumed that approximately five conventional milling facilities, 50 ISL facilities (although this is only a projection since only 12 currently exist) and one heap leach facility, each with at least one regulated impoundment, would become subject to the proposed rule. The following sections present our estimates of the proposed rule's air quality, cost and economic impacts. For more information, please refer to the Economic Impact Analysis report that is included in the public docket for this proposed rule (EPA–HQ–OAR–2008–0218–0087).

A. What are the air quality impacts?

We project that the proposed requirements will maintain or improve air quality surrounding the regulated facilities. The GACT standards being proposed today are based on control technologies and management practices that have been used at uranium recovery facilities for the past twenty or more years. These standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings. The requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources.

B. What are the cost and economic impacts?

Table 24 presents a summary of the unit cost (per pound of U_3O_8) for implementing each GACT at each of the three types of uranium recovery facilities. In addition to presenting the GACT costs individually, Table 24 presents the total unit cost to implement all relevant GACTs at each type of facility.

A reference facility for each type of uranium recovery facility is developed and described in Section 6.2, including the base cost estimate to construct and operate (without the GACTs) each of the three types of reference facilities. For comparison purposes, the unit cost (per pound of U_3O_8) of the three uranium recovery reference facilities is presented at the bottom of Table 4.

TABLE 4—PROPOSED GACT STANDARDS COSTS PER POUND OF U_3O_8

	Unit cost ($/lb U_3O_8)		
	Conventional	ISL	Heap leach
GACT—Double Liners for Nonconventional Impoundments	$1.04	$3.07	$0.22
GACT—Maintaining 1 Meter of Water in Nonconventional Impoundments	0.013	0.010	0.0010
GACT—Liners for Heap Leach Piles	.....	.....	2.01
GACT—Maintaining Heap Leach Piles at 30% Moisture	.....	.....	0.0043
GACTs—Total for All Four	1.05	3.08	2.24
Baseline Facility Costs (Section 6.2)	51.56	52.49	46.08

Based on the information in Table 24, implementing all four GACTs would result in unit cost (per pound of U_3O_8) increases of about 2%, 6%, and 5% at conventional, ISL, and heap leach type uranium recovery facilities, respectively.

The baseline costs were estimated using recently published cost data for actual uranium recovery facilities. For the model conventional mill, we used

data from the recently licensed new mill at the Piñon Ridge project in Colorado. For the model ISL facility, we used data from two proposed new facilities: (1) The Centennial Uranium project in Colorado; and (2) the Dewey-Burdock project in South Dakota. The Centennial project is expected to have a 14- to 15-year production period, which is a long duration for an ISL facility, while the Dewey-Burdock project is expected to have a shorter production period of about 9 years, which is more representative of ISL facilities. For the heap leach facility, we used data from the proposed Sheep Mountain project in Wyoming.

Existing Subpart W required facilities to perform annual monitoring using Method 115 to demonstrate that the radon flux standard at conventional impoundments constructed before December 15, 1989 was below 20 pCi/m^2-sec. The proposed removal of this monitoring requirement would result in a cost saving to the three facilities for which this requirement still applies: (1) Sweetwater; (2) White Mesa; and (3) Shootaring Canyon. Method 115 requires 100 measurements as the minimum number of flux measurements considered necessary to determine a representative mean radon flux value. For the three sites that are still required to perform Method 115 radon flux monitoring, the average annual cost to perform that monitoring is estimated to be about $9,730 for Shootaring and Sweetwater, and $19,460 for White Mesa. For all three sites the total annual average cost is estimated to be $38,920 per year, with a range from approximately $28,000 to $49,500 per year. For all three sites the total annual average cost savings resulting from removal of the flux monitoring requirement would be $39,920.

Baseline costs (explained in Section IV.B) for conventional impoundment liner construction [35] will remain the same, since the proposed rule does not impose additional requirements. Liners meeting the requirements at 40 CFR 192.32(a)(1) are already mandated by other regulations and, therefore, built into the baseline cost estimate. Therefore there are consequently no costs (or benefits) resulting from the inclusion of these requirements in Subpart W.

The average cost to construct one of these impoundments is $13.8 million. We estimate that this cost is approximately 3% of the total baseline capital costs to construct a conventional mill, estimated at $372 million.

We have estimated that for an average 80 acre nonconventional impoundment the average cost of construction of an impoundment is $23.7 million. Requiring impoundments to comply with the liner requirements in 40 CFR 192.32(a)(1) will contain the uranium byproduct material and reduce the potential for ground water contamination. The only economic impact attributable to the proposed rule is the cost of complying with the new requirement to maintain a minimum of one meter of water in the nonconventional impoundments during operation and standby. As shown in Section IV.B.3. of this preamble, as long as approximately one meter of water is maintained in the nonconventional impoundments the effective radon emissions from the ponds are so low that it is difficult to determine if there is any contribution above background radon values. In order to maintain one meter of liquid within a pond, it is necessary to replace the water that is evaporated from the pond. Depending on the source of water chosen,[36] we estimate that this requirement will cost owners or operators of nonconventional impoundments between $1,042 and $9,687 per year. This value also varies according to the size of the nonconventional impoundment, up to 80 acres, and the location of the impoundment. Evaporation rates vary by geographic location. However, the cost to maintain the one meter of liquid in a nonconventional impoundment is estimated to be less than 1% of the total annual production costs, estimated at $23.7 million. The requirement to maintain a minimum of one meter of liquid in the ponds is estimated to cost approximately $0.03 per pound of uranium produced.

Designing and constructing heap leach piles to meet the requirements at 40 CFR 192.32(a)(1) would minimize the potential for leakage of uranium enriched lixiviant into the ground water. Specifically, this would require that a double liner, with drainage collection capabilities, be provided under heap leach piles. Baseline costs (explained in Section IV.B) for heap leach pile liner construction will remain the same, since the proposed rule does not impose additional requirements. Liners meeting the requirements at 40 CFR 192.32(a)(1) are already mandated by other regulations and, therefore, built into the baseline cost estimate. Therefore there are consequently no costs (or benefits) resulting from the inclusion of these requirements in Subpart W. Baseline costs for construction will be essentially the same as for conventional impoundments. Since the liner systems are equivalent to the systems used for conventional and nonconventional impoundments, we have been able to estimate the average costs associated with the construction of heap leach pile impoundments that meet the liner requirements we are proposing, and compare them to the costs associated with the total production of uranium produced by the facility. The average cost of constructing such an impoundment is estimated to be approximately $15.3 million. The costs of constructing this type of liner system are about 4% of the estimated total baseline capital costs of a heap leach facility estimated at $356 million.

For heap leach piles, when the soil moisture content in the heap leach pile falls below about 30% by weight, the radon flux out of the heap leach pile increases because radon moves through the air faster (with less opportunity to decay) than through water. We concluded from our analysis that the leaching solution applied in a typical operation should be sufficient to maintain the moisture content of the heap leach pile to the required levels, and only in unusual circumstances would additional liquids need to be applied. However, in a circumstance that would require the additional application of liquid to maintain the 30% moisture limit, such as excessive evaporation, we estimate that the cost of requiring the owner/operator of a heap leach pile to maintain 30% moisture content in the pile will average approximately $4,000 per year. We also estimate that it will cost approximately $86,500 per year (which includes labor of approximately 2,000 hours) to perform the tests required to verify that the moisture content is being maintained. These costs are less than one percent of the total baseline capital costs of a heap leach facility, estimated at $356 million.

[35] These liner systems (conventional, nonconventional and heap leach piles)are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC license. Therefore, there are no projected costs (or benefits) beyond the baseline resulting from the inclusion of these requirements in Subpart W.

[36] Municipal sources were the most expensive, with average unit costs of $0.0033 per gallon. Offsite non-drinking water sources were the cheapest, at $0.000069 per gallon on average. For more detail, please see Section 6.3.3 of the Background Information Document.

In summary, we estimate that for conventional impoundments there will be no additional costs incurred through this proposed rule. There will be a cost savings of approximately $39,900 per year for the three existing conventional impoundments that are currently required to monitor for radon flux through the use of Method 115, since we are proposing to eliminate this requirement. For nonconventional impoundments we estimate that the additional costs incurred by this proposed rule will be to maintain one meter of liquid in each nonconventional impoundment, and we have estimated those costs between approximately $1,040 and $9,680 per year. For heap leach piles, additional costs incurred by this proposed rule would be for the maintaining and monitoring of the continuous 30% moisture content requirement, which we estimate will impose a one-time cost of approximately $35,000 for equipment and approximately $86,000 per year to monitor the moisture content.

C. What are the non-air environmental impacts?

Water quality would be maintained by implementation of this proposed rule. This proposed rule does contain requirements (by reference) related to water discharges and spill containment. In fact, the liner requirements cross referenced at 40 CFR 192.32(a)(1) will significantly decrease the possibility of contaminated liquids leaking from impoundments into ground water (which can be a significant source of drinking water). Section 192.32(a)(1) includes a cross-reference to the surface impoundment design and construction requirements of hazardous waste surface impoundments regulated under the Resource Conservation and Recovery Act (RCRA), found at 40 CFR 264.221. Those requirements state that the impoundment shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life of the impoundment. There are other requirements for the design and operation of the impoundment, and these include construction specifications, slope requirements, sump and liquid removal requirements.

These liner systems (conventional, nonconventional and heap leach piles)are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC license.

Including a double liner in the design of all onsite impoundments that would contain uranium byproduct material would reduce the potential for ground-water contamination. Although the amount of the potential reduction is not quantifiable, it is important to take this into consideration due to the significant use of ground water as a source of drinking water.

VII. Statutory and Executive Orders Review

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action.'' The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may ''raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.'' Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 2464.01.

The information to be collected for the proposed rulemaking today is based on the requirements of the Clean Air Act. Section 114 authorizes the Administrator of EPA to require any person who owns or operates any emission source or who is subject to any requirements of the Act to:

—Establish and maintain records
—Make reports, install, use, and maintain monitoring equipment or method
—Sample emissions in accordance with EPA-prescribed locations, intervals and methods
—Provide information as may be requested

EPA's regional offices use the information collected to ensure that public health continues to be protected from the hazards of radionuclides by compliance with health based standards and/or Generally Available Control Technology (GACT).

The proposed rule would require the owner or operator of a uranium recovery facility to maintain records that confirm that the conventional impoundment(s), nonconventional impoundment(s) and heap leach pile(s) meet the requirements in section 192.32(a)(1). Included in these records are the results of liner compatibility tests, measurements confirming that one meter of liquid has been maintained in nonconventional impoundments and records confirming that heap leach piles have constantly maintained at least 30% moisture content during the operating life of the heap leach pile. This documentation should be sufficient to allow an independent auditor (such as an EPA inspector) to verify the accuracy of the determination made concerning the facility's compliance with the standard. These records must be kept at the mill or facility for the operational life of the facility and, upon request, be made available for inspection by the Administrator, or his/her authorized representative. The proposed rule would not require the owners or operators of operating impoundments and heap leach piles to report the results of the compliance inspections or calculations required in Section 61.255. The recordkeeping requirements require only the specific information needed to determine compliance. We have taken this step to minimize the reporting requirements for small business facilities.

The annual proposed monitoring and recordkeeping burden to affected sources for this collection (averaged over the first three years after the effective date of the proposed rule) is estimated to be 10,400 hours with a total annual cost of $400,000. This estimate includes a total capital and start-up cost component annualized over the facility's expected useful life, a total operation and maintenance component, and a purchase of services component. We estimate that this total burden will be spread over 21 facilities that will be required to keep records. Of this total burden, however, 4,150 hours (and $93,000) will be incurred by the one heap leach uranium recovery facility,

due to the requirements for purchasing, installing and monitoring the soil moisture sensors, as well as training staff on how to operate the equipment.

Burden is defined at 5 CFR 1320.3(b). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this rule, which includes this ICR, under Docket ID number EPA–HQ–OAR–2008–0218. Submit any comments related to the ICR to EPA and OMB. See **ADDRESSES** section at the beginning of this notice for where to submit comments to EPA. Send comments on the ICR to OMB to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW., Washington, DC 20503, Attention: Desk Office for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after May 2, 2014, a comment to OMB is best assured of having its full effect if OMB receives it by June 2, 2014. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business whose company has less than 500 employees and is primarily engaged in leaching or beneficiation of uranium, radium or vanadium ores as defined by NAIC code 212291; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule is estimated to impact approximately 18 uranium recovery facilities that are currently operating or plan to operate in the future.

To evaluate the significance of the economic impacts of the proposed revisions to Subpart W, separate analyses were performed for each of the three proposed GACTs.

The GACT for uranium recovery facilities that use conventional milling techniques proposes that only phased disposal units or continuous disposal units be used to manage the tailings. For either option, the disposal unit must be lined and equipped with a leak detection system, designed in accordance with part 192.32(a)(1). If phased disposal is the option chosen, the rule limits the disposal unit to a maximum of 40 acres, with no more than two units open at any given time. If continuous disposal is chosen, no more than 10 acres may be open at any given time. Finally, the Agency is proposing to eliminate the distinction that was made in the 1989 rule between impoundments constructed pre-1989 and post-1989 since all of the remaining pre-1989 impoundments comply with the proposed GACT. The elimination of this distinction also eliminates the requirement that pre-1989 disposal units be monitored on an annual basis to demonstrate that the average Rn-222 flux does not exceed 20 $pCi/m^2/sec$.

The conventional milling GACT applies to three existing mills and one proposed mill that is in the process of being licensed. The four conventional mills are: the White Mesa mill owned by Energy Fuels Resources (USA); the Shootaring Canyon mill owned by Uranium One, Inc.; the Sweetwater mill owned by Kennecott Uranium Co.; and the proposed Piñon Ridge mill owned by Energy Fuels, Inc. Of the three companies that own conventional mills, none are classified as small businesses using fewer than 500 employees as the classification criterion.

Energy Fuels White Mesa mill uses a phased disposal system that complies with the proposed GACT. When its existing open unit is full it will be contoured and covered and a new unit, constructed in accordance with the proposed GACT, will be opened to accept future tailings. Energy Fuels is proposing a phased disposal system to manage its tailings; this system also complies with the proposed GACT.

Based on the fact that both small entities are in compliance with the proposed GACT, we conclude that the rulemaking will not impose any new economic impacts on either facility. For Energy Fuels Mines, the proposed rule will actually result in a cost saving as it will no longer have to perform annual monitoring to determine the average radon flux from its impoundments.

The GACT for evaporation ponds at uranium recovery facilities requires that the evaporation ponds be constructed in accordance with design requirements in part 192.32(a)(1) and that a minimum of 1 meter of liquid be maintained in the ponds during operation and standby. The key design requirements for the ponds are for a double-liner with a leak detection system between the two liners.

In addition to the four conventional mills identified above, the GACT for evaporation ponds applies to in-situ leach facilities and heap leach facilities. Currently, there are five operating ISL facilities and no operating heap leach facilities. The operating ISLs are Crow Butte and Smith Ranch owned by Cameco Resources, Alta Mesa owned by Mestena Uranium, LLC, Willow Creek owned by Uranium One, Inc., and Hobson owned by Uranium Energy Corp. Again using the fewer than 500 employees' criterion, Mestena Uranium, LLC and Uranium Energy Corp are both small businesses, while Cameco Resources and Uranium One, Inc. are both large businesses.

All of the evaporation ponds at the four conventional mills and the five ISL facilities were built in conformance with part 192.32(a)(1). Therefore, the only economic impact is the cost of complying with the new requirement to maintain a minimum of 1 meter of water in the ponds during operation and standby.

The proposed revisions to Subpart W apply to five currently operating ISL facilities. The operating facilities are Crow Butte (Nebraska) and Smith Ranch (Wyoming), owned by Cameco Resources; Alta Mesa (Texas), owned by Mestena Uranium, LLC; Willow Creek (Wyoming), owned by Uranium One, Inc.; and Hobson (Texas), owned by Uranium Energy Corp. Again using the fewer than 500 employees' criterion, Mestena Uranium, LLC and Uranium Energy Corp are both small businesses, while Cameco Resources and Uranium One, Inc. are both large businesses.

In addition to the five operating ISL facilities, three additional ISL facilities have been licensed, all in the state of Wyoming. These are: Lost Creek, owned by Ur-Energy Inc.; Moore Ranch, owned by Uranium One, Inc.; and Nichols Ranch, owned by Uranerz Uranium Corp. Of these three companies, both Ur-Energy Inc. and Uranerz Uranium Corp. are small businesses.

Eleven other ISL facilities have been proposed for licensing. These include: Dewey-Burdock (South Dakota) and Centennial (Colorado), both owned by Powertech Uranium Corp.; and Kingsville Dome, Los Finados, Rosito, and Vasques (Texas), all owned by Uranium Resources Inc.; Crownpoint (New Mexico), also owned by Uranium Resources Inc., Church Rock (New Mexico), owned by Strathmore Minerals; Ross (Wyoming), owned by Strata Energy, Inc., Goliad (Texas), owned by Uranium Energy Corp.; and Antelope-Jab (Wyoming), owned by Uranium One, Inc. All of these companies, except for Uranium One, Inc. are small businesses.

According to the licensing documents submitted by the owners of the proposed ISL facilities, all will be constructed in conformance with part 192.32(a)(1). Therefore the only economic impact is the cost of complying with the new requirement to maintain a minimum of 1 meter of water in the ponds during operation and standby.

The requirement to maintain a minimum of 1 meter of liquid in the ponds is estimated to cost up to $0.03 per pound of U_3O_8 produced. This cost is not a significant impact on any of these small entities.

Although there are no heap leach facilities currently licensed, Energy Fuels, Inc. is expected to submit a licensing application for the Sheep Mountain Project. From the preliminary documentation that Titan presented (now owned by Energy Fuels), the facility will have an Evaporation Pond, a Collection Pond, and a Raffinate Pond. All three ponds will be double lined with leak detection. However, as Energy Fuels is a large business, it does not affect the determination of impacts on small businesses.

The GACT for heap leach facilities applies the phased disposal option of the GACT for conventional mills to these facilities and adds the requirement that the heap leach pile be maintained at a minimum 30 percent moisture content by weight during operations.

As noted previously, there are no heap leach facilities currently in existence, and the only one that is known to be preparing to submit a license application is being proposed by Energy Fuels, which is a large business.

Of the 20 facilities identified above, 15 are owned by small businesses. No small organizations or small governmental entities have been identified that would be impacted by the proposed GACTs. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local and tribal governments, in the aggregate, or the private sector in any one year. The proposed rule imposes no enforceable duties on any State, local or Tribal governments or the private sector. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments nor does it impose obligations upon them.

E. Executive Order 13132: Federalism

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the facilities subject to this action are owned and operated by State governments, and, nothing in the proposed rule will supersede State regulations. Thus, Executive Order 13132 does not apply to this proposed rule.

In the spirit of Executive Order 13132 and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The action imposes requirements on owners and operators of specified area sources and not tribal governments. Thus, Executive Order 13175 does not apply to this action.

EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to EO 13045 because it is based solely on technology performance.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This proposed rule will not adversely directly affect productivity, competition, or prices in the energy sector.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

We request public comment on this aspect of the proposed rulemaking, and specifically, ask you to identify potentially applicable voluntary consensus standards and to explain why such standards could be used in this regulation.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This proposed rule would reduce toxics emissions of radon from nonconventional impoundments and heap leach piles and thus decrease the amount of such emissions to which all affected populations are exposed.

List of Subjects in 40 CFR Part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

Dated: April 17, 2014.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency proposes to amend title 40, Chapter I of the Code of Federal Regulations as follows:

PART 61—[NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS]

■ 1. The authority citation for part 61 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart W—[National Emission Standards for Radon Emissions From Operating Mill Tailings]

■ 2. Section 61.251 is amended by revising the definition for (e) and adding new definitions for (h–m) as follows:

§ 61.251 Definitions.

* * * * *

(e) *Operation.* Operation means that an impoundment is being used for the continued placement of uranium byproduct materials or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

* * * * *

(h) *Conventional Impoundment.* A conventional impoundment is a permanent structure located at any uranium recovery facility which contains mostly solid uranium byproduct material from the extraction of uranium from uranium ore. These impoundments are left in place at facility closure.

(i) *Non-Conventional Impoundment.* A non-conventional impoundment can be located at any uranium recovery facility and contains uranium byproduct material suspended in and/or covered by liquids. These structures are commonly known as holding ponds or evaporation ponds. They are removed at facility closure.

(j) *Heap Leach Pile.* A heap leach pile is a pile of uranium ore placed on an engineered structure and stacked so as to allow uranium to be dissolved and removed by leaching liquids.

(k) *Standby.* Standby means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

(l) *Uranium Recovery Facility.* A uranium recovery facility means a facility licensed by the NRC or an NRC Agreement State to manage uranium byproduct materials during and following the processing of uranium ores. Common names for these facilities are a conventional uranium mill, an in-situ leach (or recovery) facility and a heap leach facility or pile.

(m) *Heap Leach Pile Operational Life.* The operational life of a heap leach pile means the time that lixiviant is first placed on the heap leach pile until the time of the final rinse.

■ 3. Section 61.252 is revised to read as follows:

§ 61.252 Standard.

(a) Conventional Impoundments.

(1) Conventional impoundments shall be designed, constructed and operated to meet one of the two following management practices:

(i) *Phased disposal* in lined tailings impoundments that are no more than 40 acres in area and shall comply with the requirements of 40 CFR 192.32(a)(1). The owner or operator shall have no more than two conventional impoundments, including existing impoundments, in operation at any one time.

(ii) *Continuous disposal* of tailings such that tailings are dewatered and immediately disposed with no more than 10 acres uncovered at any time and shall comply with the requirements of 40 CFR 192.32(a)(1).

(b) *Non-Conventional Impoundments.* Non-conventional impoundments shall meet the requirements of 40 CFR 192.32(a)(1). During operation and until final closure begins, the liquid level in the impoundment shall not be less than one meter.

(c) *Heap Leach Piles.* Heap leach piles shall comply with the phased disposal management practice in 40 CFR 61.252(a)(1)(i). Heap leach piles shall be constructed in lined impoundments that are no more than 40 acres in area and shall comply with the requirements of 40 CFR 192.32(a)(1). The owner or operator shall have no more than two heap leach piles, including existing heap leach piles, in operation at any one time. The moisture content of heap leach piles shall be maintained at 30% or greater. The moisture content shall be determined on a daily basis, and performed using generally accepted geotechnical methods. The moisture content requirement shall apply during the heap leach pile operational life.

§ 61.253 [Removed]

■ 4. Section 61.253 is removed.

§ 61.254 [Removed]

■ 5. Section 61.254 is removed.

■ 6. Section 61.255 is revised to read as follows:

§ 61.255 Recordkeeping requirements.

(a) The owner or operator of any uranium recovery facility must maintain records that confirm that the conventional impoundment(s), nonconventional impoundment(s) and heap leach pile(s) at the facility meet the requirements in 40 CFR 192.32(a)(1). These records shall include, but not be limited to, the results of liner compatibility tests.

(b) The owner or operator of any uranium recovery facility with nonconventional impoundments must maintain records that include measurements confirming that one meter of liquid has been maintained in the nonconventional impoundments at the facility.

(c) The owner or operator of any heap leach facility shall maintain records confirming that the heap leach piles maintained at least 30% moisture content by weight during the heap leach pile operational life.

(d) The records required in paragraphs (a), (b) and (c) above must be kept at the uranium recovery facility for the operational life of the facility and must be made available for inspection by the Administrator, or his authorized representative.

[FR Doc. 2014–09728 Filed 5–1–14; 8:45 am]

BILLING CODE 6560–50–P

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: APPROVED for OMB - NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W) (5281)
Date: Tuesday, January 10, 2017 7:47:22 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:12 PM
To: Collections.SubW
Subject: FW: APPROVED for OMB - NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W) (5281)

From: Schultheisz, Daniel
Sent: Thursday, July 28, 2016 4:45 PM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: FW: APPROVED for OMB - NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W) (5281)

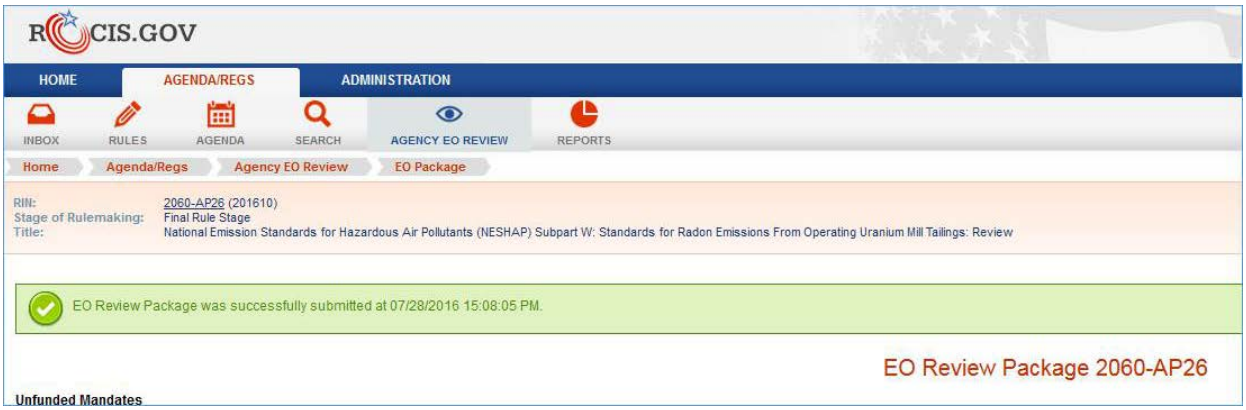
FYI

From: Schultheisz, Daniel
Sent: Thursday, July 28, 2016 4:43 PM
To: Edwards, Jonathan <Edwards.Jonathan@epa.gov>
Cc: Perrin, Alan <Perrin.Alan@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Subject: FW: APPROVED for OMB - NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W) (5281)

Subpart W has been submitted to OMB. Huzzah.

From: Muellerleile, Caryn
Sent: Thursday, July 28, 2016 3:16 PM
To: Nickerson, William <Nickerson.William@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Boyle, Kathryn <Boyle.Kathryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Lee, Raymond <Lee.Raymond@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morris, Joseph <Morris.Joseph@epa.gov>; Knapp, Kristien <Knapp.Kristien@epa.gov>; Clark, Spencer <Clark.Spencer@epa.gov>
Subject: APPROVED for OMB - NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W) (5281)

Today, OP approved OAR's **NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)** (5281) for transmission to OMB for interagency review. This tier 3 final rule has been submitted to OMB via the ROCIS database.



Caryn Muellerleile
Regulatory Management Division
Office of Policy
US Environmental Protection Agency
1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Working remotely Monday
Date: Tuesday, January 10, 2017 7:47:37 AM

From: Seidman, Emily
Sent: Tuesday, January 3, 2017 1:10 PM
To: Collections.SubW
Subject: FW: Working remotely Monday

-----Original Message-----
From: Schultheisz, Daniel
Sent: Monday, November 21, 2016 9:23 AM
To: Seidman, Emily <seidman.emily@epa.gov>
Subject: Working remotely Monday

(202) 236-8264 if you need me. Hoping to get you the last two RTC sections today.

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Did you send out the reminder about the stakeholder call? (eom)
Date: Tuesday, January 10, 2017 7:47:49 AM

From: Shogren, Angela
Sent: Tuesday, January 3, 2017 12:22 PM
To: Collections.SubW
Cc: Thornton, Marisa
Subject: RE: Did you send out the reminder about the stakeholder call? (eom)

No – Was I supposed to?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Thornton, Marisa **On Behalf Of** Collections.SubW
Sent: Tuesday, January 03, 2017 12:17 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Fw: Did you send out the reminder about the stakeholder call? (eom)

From: Schultheisz, Daniel
Sent: Tuesday, October 4, 2016 9:46 AM
To: Collections.SubW
Subject: FW: Did you send out the reminder about the stakeholder call? (eom)

From: Schultheisz, Daniel
Sent: Thursday, September 29, 2016 4:37 PM
To: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: RE: Did you send out the reminder about the stakeholder call? (eom)

I thought perhaps you went to the NAS, but I guess you are doing Northern Lights.

If you have more urgent matters to attend to, we don't need to get it out today. Even early next week will do. Thanks.

From: Nesky, Anthony
Sent: Thursday, September 29, 2016 4:34 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Did you send out the reminder about the stakeholder call? (eom)

I just got in from an all-day exercise. I'll buzz the message by you.

Tony Nesky
Center for Radiation Information and Outreach
Tel: 202-343-9597
nesky.tony@epa.gov

From: Schultheisz, Daniel
Sent: Thursday, September 29, 2016 4:13 PM
To: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Did you send out the reminder about the stakeholder call? (eom)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Final Subpart W Comm Plan
Date: Tuesday, January 10, 2017 7:48:05 AM

From: Wieder, Jessica
Sent: Tuesday, January 3, 2017 9:21 AM
To: Collections.SubW
Subject: Fw: Final Subpart W Comm Plan

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 9:55 AM
To: Millett, John
Cc: Schultheisz, Daniel; Peake, Tom; Nesky, Anthony; Veal, Lee; Perrin, Alan
Subject: Re: Final Subpart W Comm Plan

I am working in the website content and will send you a draft to review by COB tomorrow.

Jessica Wieder
U.S. Environmental Protection Agency
Radiation Protection Program
202-343-9201
m: 202-420-9353

Sent from my iPhone

On Dec 13, 2016, at 9:53 AM, Millett, John <Millett.John@epa.gov> wrote:

Wicked cool. Thanks!

I'll tee this up for OPA and Janet's review today.

One note: on the fact sheet or web text it'd be good to reinforce the desk statement's point (with 2-3 bullets of additional support) that it was high time to review the standards, and that a thorough assessment found that, affordable and effective approaches were found to be available.

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 9:44 AM
To: Millett, John <Millett.John@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>
Subject: Final Subpart W Comm Plan

John - We incorporated your feedback into the attached final Subpart W Comm Plan.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W
Date:	Tuesday, January 10, 2017 7:48:17 AM

From: Wieder, Jessica
Sent: Tuesday, January 3, 2017 9:20 AM
To: Collections.SubW
Subject: Fw: Subpart W

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Millett, John
Sent: Wednesday, December 14, 2016 12:50 PM
To: Wieder, Jessica
Subject: RE: Subpart W

You got it – thanks!

From: Wieder, Jessica
Sent: Wednesday, December 14, 2016 9:46 AM
To: Millett, John <Millett.John@epa.gov>
Subject: Re: Subpart W

Hi John, Please share the materials with regions 6, 7 and 8.

Thank you!

Jess
Jessica Wieder
U.S. Environmental Protection Agency
Radiation Protection Program

202-343-9201

m: 202-420-9353

Sent from my iPhone

On Dec 14, 2016, at 9:12 AM, Millett, John <Millett.John@epa.gov> wrote:

> Hi Jess – FYI -- All set for whenever it's signed. I'll share materials in advance with regions 8 & 9 – any others?
>
> ---
>
> **From:** McCabe, Janet
> **Sent:** Wednesday, December 14, 2016 7:53 AM
> **To:** Millett, John <Millett.John@epa.gov>
> **Subject:** Subpart W
>
> Thanks for the materials on Subpart W., John. They look fine.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Final Subpart W (radon in mill tailings) Comm Plan
Date:	Tuesday, January 10, 2017 7:48:34 AM

From: Wieder, Jessica
Sent: Tuesday, January 3, 2017 9:19 AM
To: Collections.SubW
Subject: Fw: Final Subpart W (radon in mill tailings) Comm Plan

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Jones, Enesta
Sent: Thursday, December 15, 2016 3:10 PM
To: Wieder, Jessica
Cc: Millett, John
Subject: Re: Final Subpart W (radon in mill tailings) Comm Plan

Thanks!

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 15, 2016, at 3:10 PM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:

> We haven't heard anything today. We are assuming next week. Yes, for administrator signature.
>
> Jessica Wieder
> U.S. Environmental Protection Agency
> Radiation Protection Program
> 202-343-9201
> m: 202-420-9353
>
> Sent from my iPhone
>
> On Dec 15, 2016, at 3:08 PM, Jones, Enesta <Jones.Enesta@epa.gov> wrote:
>
> > Next week right? And is this for Admin signature?
> >
> > **Enesta Jones**
> > **U.S. EPA**
> > **Office of Media Relations**
> > **Office: 202.564.7873**
> > **Cell: 202.236.2426**
> >
> > **"The root of all joy is gratefulness."**
> >
> > On Dec 15, 2016, at 9:11 AM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:
> >
> > > If we hear before noon, possibly but not probably. Most likely next week.
> > > I will let you know as soon as I hear anything.
> > >
> > > Jessica Wieder

U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Jones, Enesta
Sent: Thursday, December 15, 2016 9:09 AM
To: Wieder, Jessica <Wieder.Jessica@epa.gov>
Cc: Millett, John <Millett.John@epa.gov>
Subject: Re: Final Subpart W (radon in mill tailings) Comm Plan

This week still feasible?

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 15, 2016, at 9:09 AM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:

> Unfortunately, no. Still waiting on OP.
>
> Jessica Wieder
> U.S. EPA
> Radiation Protection Program
> Center for Radiation Information and Outreach
> w: 202-343-9201
> c: 202-420-9353
>
> ---
>
> **From:** Jones, Enesta
> **Sent:** Thursday, December 15, 2016 8:45 AM
> **To:** Millett, John <Millett.John@epa.gov>

Cc: Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Re: Final Subpart W (radon in mill tailings) Comm Plan

Any update on signature timing?

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 13, 2016, at 9:56 AM, Millett, John <Millett.John@epa.gov> wrote:

> Hi Enesta – this is a low-key, desk statement only roll out for when this gets signed (maybe this week). Just asking for a heads up to the trades upon signature and web posting.
>
> Thanks!
>
> John

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 9:44 AM
To: Millett, John <Millett.John@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Peake, Tom

<Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>

Subject: Final Subpart W Comm Plan

John - We incorporated your feedback into the attached final Subpart W Comm Plan.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

<Subpart W Comm Plan 12132016 final.docx>

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W package is moving forward for signature
Date:	Tuesday, January 10, 2017 7:48:46 AM

From: Wieder, Jessica
Sent: Tuesday, January 3, 2017 9:19 AM
To: Collections.SubW
Subject: Fw: Subpart W package is moving forward for signature

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Jones, Enesta
Sent: Monday, December 19, 2016 8:01 AM
To: Wieder, Jessica
Subject: Re: Subpart W package is moving forward for signature

Thanks!

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 19, 2016, at 8:00 AM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:

No. I do not believe this was signed on Friday. Tony and I will keep you posted.

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Jones, Enesta
Sent: Monday, December 19, 2016 7:42:44 AM
To: Millett, John
Cc: Nesky, Anthony; Schultheisz, Daniel; White, Rick; Wieder, Jessica
Subject: Re: Subpart W package is moving forward for signature

Hi-was this signed on Friday?

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 16, 2016, at 10:45 AM, Millett, John <Millett.John@epa.gov> wrote:

Looping E-nesta . . .

From: Millett, John
Sent: Friday, December 16, 2016 10:43 AM
To: Nesky, Anthony <Nesky.Tony@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick

<White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: RE: Subpart W package is moving forward for signature

Great – if it gets signed after 2:30 today, which I think is likely, I'd like to hold off on web posting and heads up notifications till Monday.

Does that work for folks?

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:55 AM
To: Millett, John <Millett.John@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Subpart W package is moving forward for signature

Sent from my iPhone

Begin forwarded message:

> **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Date:** December 16, 2016 at 9:42:43 AM EST
> **To:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>
> **Cc:** "Peake, Tom" <Peake.Tom@epa.gov>
> **Subject: RE: Tony Nesky is teleworking today--202.343.9597**
>
> Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.
>
> -----Original Message-----
> From: Nesky, Anthony
> Sent: Friday, December 16, 2016 9:29 AM
> To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel

<Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid
<Rosencrantz.Ingrid@epa.gov>
Subject: Tony Nesky is teleworking today--202.343.9597

Teleworking today

Sent from my iPhone

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: APPROVED for Signature (OEX) - "NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)" (5281)
Date:	Tuesday, January 10, 2017 7:49:00 AM

From: Wieder, Jessica
Sent: Tuesday, January 3, 2017 9:19 AM
To: Collections.SubW
Subject: Fw: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Jones, Enesta
Sent: Monday, December 19, 2016 4:35 PM
To: Wieder, Jessica
Cc: Nesky, Anthony; Millett, John
Subject: Re: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

Thanks!

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 19, 2016, at 4:21 PM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:

> FYI - Subpart W likely be signed tomorrow. OP just sent the package up.
>
> Jessica Wieder
> U.S. Environmental Protection Agency
> Radiation Protection Program
> 202-343-9201
> m: 202-420-9353
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Date:** December 19, 2016 at 4:17:44 PM EST
> **To:** "Perrin, Alan" <Perrin.Alan@epa.gov>, "Veal, Lee" <Veal.Lee@epa.gov>, "Peake, Tom" <Peake.Tom@epa.gov>
> **Cc:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>
> **Subject: FW: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)**
>
> OP sent the rule up. Probably too late for signature today.
>
> ---
>
> **From:** Muellerleile, Caryn
> **Sent:** Monday, December 19, 2016 4:12 PM
> **To:** Rees, Sarah <rees.sarah@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Boyle, Kathryn <Boyle.Kathryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Curry, Bridgid <Curry.Bridgid@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Kime, Robin

<Kime.Robin@epa.gov>
Cc: Knapp, Kristien <Knapp.Kristien@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Morris, Joseph <Morris.Joseph@epa.gov>; Lee, Raymond <Lee.Raymond@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

Today, OP approved OAR's 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281) for Administrator's signature. This tier 3 final rule has been delivered to OEX. ADP Tracker has been updated.

Caryn Muellerleile
Regulatory Management Division
Office of Policy
US Environmental Protection Agency
1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Signed - NESHAP Subpart W
Date:	Tuesday, January 10, 2017 7:49:15 AM

From: Wieder, Jessica
Sent: Tuesday, January 3, 2017 9:18 AM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Millett, John
Sent: Tuesday, December 20, 2016 3:06 PM
To: Wieder, Jessica
Subject: Re: Signed - NESHAP Subpart W

No worries!

John Millett
202.510.1822

On Dec 20, 2016, at 3:04 PM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:

> John – I apologize for not getting this to you. I was in meetings. Tony is taking point.
>
> Jessica Wieder
> U.S. EPA
> Radiation Protection Program
> Center for Radiation Information and Outreach

w: 202-343-9201
c: 202-420-9353

From: Millett, John
Sent: Tuesday, December 20, 2016 1:00 PM
To: Jones, Enesta <Jones.Enesta@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: RE: Signed - NESHAP Subpart W

Woulda let you know sooner, but these notes go to clutter . . .

From: Jones, Enesta
Sent: Tuesday, December 20, 2016 12:58 PM
To: Millett, John <Millett.John@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: RE: Signed - NESHAP Subpart W

Thanks.

From: Millett, John
Sent: Tuesday, December 20, 2016 12:58 PM
To: Wieder, Jessica <Wieder.Jessica@epa.gov>; Jones, Enesta <Jones.Enesta@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Fyi --

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>;

Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>
Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>;

Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, “Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings” (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Signed - NESHAP Subpart W
Date:	Tuesday, January 10, 2017 7:49:32 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:08 PM
To: Collections.SubW
Subject: FW: Signed - NESHAP Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Peake, Tom
Sent: Tuesday, December 20, 2016 12:43 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; White, Rick <White.Rick@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>
Subject: RE: Signed - NESHAP Subpart W

Yeah!

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; White, Rick <White.Rick@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Prepare to release the website etc.

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William

<Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>

Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael

<lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Signed - NESHAP Subpart W
Date:	Tuesday, January 10, 2017 7:49:44 AM
Attachments:	December 20 2016 NESHAP Subpart W.pdf

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:08 PM
To: Collections.SubW
Subject: FW: Signed - NESHAP Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; White, Rick <White.Rick@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Prepare to release the website etc.

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb

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Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre

<clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Signed - NESHAP Subpart W

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Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

List of Subjects in 40 CFR part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 7:51:54 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:07 PM
To: Collections.SubW
Subject: FW: Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Miller, Beth
Sent: Monday, December 12, 2016 4:02 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>
Subject: RE: Subpart W

Hi Ang

Yes it was placed see below:
Please let me know if you have any questions. Thanks

29	RE 1633C6E029	RTPFC	10/18/16		13,141.42	13,141.42	0.00	POC (Primary)Greg Mitchell 919-541-4823; COR: Bijan Mashayekhi 202-566-2973 or Mike Hart (202) 566-1696. Buyer: HPOD/IRMPSC; CO: Marisol Ventura and Kevin Thunell	Funding for CDX Task Order Contract #: GS00Q09BGD0022 Task Order #: EP-G11H-00154 TDD# 11.02 (also refer to Subpart W)

EAS

Requisition Snapshot

Requisition Number: PR-OAR-17-00042
DCN number: 1633C6E029
Owner: Beth Miller
Site: OAR/ORIA
Status: Closed
Requisition Date: 10/13/2016
Purpose: Funding for CDX Task Order Contract #: GS00Q09BGD0022 Task Order #: EP-G11H-00154 TDI

Requisitioner: Beth Miller
Originating Office: OAR
Buyer: Kevin Thunell
Buyer Assign Date: 11/07/2016
Total Amount: $13,141.42
Committed Amount: $13,141.42

Please consider the environment before printing this e-mail.

Beth Miller
202-343-9223

From: Shogren, Angela
Sent: Monday, December 12, 2016 3:21 PM
To: Miller, Beth <Miller.Beth@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>

Subject: FW: Subpart W

Hi Beth,

The question below is related to the Dan's Subpart W Compliance Reporting Tool. Do you know the status of the PR (details below)? I'll ask Alan if you don't know anything about it ;)

Thanks,

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Mitchell, Greg
Sent: Monday, December 12, 2016 3:18 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Subpart W

Has someone placed a PR Obligation out there for Subpart W yet? (Can't seem to find it?)
Ideally the amount should be $13,141.12

CDX Task Order Contract #: GS00Q09BGD0022 Task Order #: EP-G11H-00154 TDD# 11.02 (also refer to Subpart W)

POC (Primary)Greg Mitchell 919-541-4823;
COR: Bijan Mashayekhi 202-566-2973 or Mike Hart (202) 566-1696.
Buyer: HPOD/IRMPSC; CO: Marisol Ventura and Kevin Thunell

From: Mitchell, Greg
Sent: Tuesday, September 27, 2016 12:32 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Re: Subpart W

Very soon. Our ROM is stuck at Project level because discussion on CEDRI version isn't over.

So I need to talk to Bijan if possible in a couple minutes (first)

Sent from my iPhone

On Sep 27, 2016, at 8:03 AM, Shogren, Angela <Shogren.Angela@epa.gov> wrote:

> Either works - home is probably easiest (703-347-7773).
>
> **Angela Shogren**
> Public Affairs Specialist
> Radiation Protection Division
> U.S. Environmental Protection Agency Tel (202) 343-9761
> Shogren.Angela@epa.gov
>
> On Sep 27, 2016, at 7:24 AM, Mitchell, Greg <Mitchell.Greg@epa.gov> wrote:
>
> > Yes. I get a lunch break at ~12:35. This is a very technical rapid-paced Azure cloud class, and the instructor bounces all over the place and yesterday I didn't complete the labs until nearly 6:30pm, so I'll call you when I get a moment and can get into EPA mode. ☺ Would I call your work or home number?
> >
> > ---
> >
> > **From:** Shogren, Angela
> > **Sent:** Tuesday, September 27, 2016 7:09 AM
> > **To:** Mitchell, Greg <Mitchell.Greg@epa.gov>
> > **Subject:** Re: Subpart W

Thanks. I feel like we still have some stuff to iron out though. Do you have time today to talk? I also want to talk about the mirror server.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Sep 27, 2016, at 6:37 AM, Mitchell, Greg <Mitchell.Greg@epa.gov> wrote:

> Sorry this got away from me. You have my IGCE. I think the ROM went directly back to Bijan and I'll have it later today.
>
> My recommendation is to prepare for the PR obligation (info, below). Also, call Mike Hart 202-566-1696 then possibly follow up with Bijan.
> I'll keep an eye out for the ROM and forward to you as soon as possible. Once we establish the actual amount between IGCE & ROM and you have finalized the PR, I'll make sure the SOW gets started.
>
> Sincerely,
> Greg
> 919-917-4667 (cell)
>
> CDX Task Order Contract #: GS00Q09BGD0022 Task Order #: EP-G11H-00154 TDD# 11.02 (also refer to Subpart W)
>
> POC (Primary)Greg Mitchell 919-541-4823;
> COR: Bijan Mashayekhi 202-566-2973 or Mike Hart (202) 566-1696.
> Buyer: HPOD/IRMPSC; CO: Marisol Ventura and Kevin Thunell

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W
Date:	Tuesday, January 10, 2017 7:53:19 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:07 PM
To: Collections.SubW
Subject: FW: Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

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Sent: Monday, December 12, 2016 3:18 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Subpart W

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Sent: Tuesday, September 27, 2016 12:32 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
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Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

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To: Mitchell, Greg <Mitchell.Greg@epa.gov>
Subject: Re: Subpart W

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Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

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Sincerely,
Greg
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POC (Primary)Greg Mitchell 919-541-4823;
COR: Bijan Mashayekhi 202-566-2973 or Mike Hart (202) 566-1696.
Buyer: HPOD/IRMPSC; CO: Marisol Ventura and Kevin Thunell

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: How about this version?
Date:	Tuesday, January 10, 2017 7:54:06 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:06 PM
To: Collections.SubW
Subject: FW: How about this version?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Monday, December 05, 2016 9:18 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: How about this version?

Can you do it in 12 point? That's our standard for correspondence etc. Then I'll do a quick look for things that are hanging. Thanks.

From: Shogren, Angela
Sent: Monday, December 05, 2016 8:44 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: How about this version?

Here is a version with it changed into Times New Roman – better safe than sorry.

Take one last peek if you would and then I will convert it to a PDF and we can call it a day!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Sunday, December 04, 2016 3:57 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Re: How about this version?

Here's the revised version. Content should be final. I also went through to make the formatting (line spacing) consistent throughout.

I didn't look for widows/orphans (e.g., an issue heading at the bottom of the page) in case we change the font. Thanks.

From: Shogren, Angela
Sent: Sunday, December 4, 2016 7:16 AM
To: Schultheisz, Daniel
Subject: Re: How about this version?

I'm pretty sure that it only matters if it goes to print, but I can check Monday. I can also just switch everything to times new roman - that's an easy fix.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 3, 2016, at 7:30 PM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Are we supposed to do documents in Times New Roman? I didn't notice this with the earlier versions until looking at the introduction, then just now saw that the other sections are in Calibri as well.
>
> ---
>
> **From:** Shogren, Angela
> **Sent:** Thursday, December 1, 2016 9:03 PM
> **To:** Schultheisz, Daniel
> **Subject:** RE: How about this version?
>
> OK, let's try this again.
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Thursday, December 01, 2016 10:49 AM
> **To:** Shogren, Angela <Shogren.Angela@epa.gov>
> **Subject:** RE: How about this version?
>
> Page numbers look better. I spot-checked a couple of places, including section 11, where there was previously a discrepancy between the main TOC and the section.
>
> One big thing I should have seen earlier. Sections 12 (General) and 13 (Out of scope) are not incorporated. My fault for not registering that. I sent those to you on the 23rd.

They are attached here as well.

The Introduction somehow also got incorporated into the separate Section 1 listing. It's correct in the main TOC.

I hope this won't distract from your training. Thanks.

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Fwd: How about this version?

Let me know if you still see issues with this version.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

Begin forwarded message:

> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
>
> This should be better.
>
> This page is how we request a document number - http://cincinnati.epa.gov/services/nscep/nscep_form.asp
>
> I think that what I need from you is:
>
> Publication Type (R, I think?)
> Title
> Do you want this available from NSCEP?
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Monday, November 28, 2016 12:18 PM
> **To:** Shogren, Angela <Shogren.Angela@epa.gov>

Subject: RE: How about this version?

Looks very nice. Still have some issues with page numbers. I randomly checked Section 11 in the table of contents and in that section, and the numbers are off by one. It looks like the listing in the main TOC is correct.

Attached is a file with an introduction and list of acronyms/abbreviations, which I have labeled Appendix B.

I expect to be making some relatively minor edits, so let me know when you feel pretty settled with it. Thanks.

From: Shogren, Angela
Sent: Monday, November 28, 2016 11:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: How about this version?

Please let me know any additional changes that you need me to make!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: How about this version?
Date:	Tuesday, January 10, 2017 7:54:21 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:06 PM
To: Collections.SubW
Subject: FW: How about this version?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Saturday, December 03, 2016 7:31 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Re: How about this version?

Are we supposed to do documents in Times New Roman? I didn't notice this with the earlier versions until looking at the introduction, then just now saw that the other sections are in Calibri as well.

From: Shogren, Angela
Sent: Thursday, December 1, 2016 9:03 PM
To: Schultheisz, Daniel
Subject: RE: How about this version?

OK, let's try this again.

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Thursday, December 01, 2016 10:49 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: How about this version?

Page numbers look better. I spot-checked a couple of places, including section 11, where there was previously a discrepancy between the main TOC and the section.

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From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Fwd: How about this version?

Let me know if you still see issues with this version.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
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Begin forwarded message:

> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
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> Do you want this available from NSCEP?
>
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---

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Sent: Monday, November 28, 2016 11:40 AM
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Subject: How about this version?

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Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: How about this version?
Date: Tuesday, January 10, 2017 7:55:50 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:05 PM
To: Collections.SubW
Subject: FW: How about this version?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Saturday, December 03, 2016 7:23 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Re: How about this version?

I'll edit this one and we can clean up anything that remains. The document number should be on the title page, even if the full header is not. Thanks. Hope your training was good.

From: Shogren, Angela
Sent: Thursday, December 1, 2016 9:03 PM
To: Schultheisz, Daniel
Subject: RE: How about this version?

OK, let's try this again.

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
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Let me know if you still see issues with this version.

Angela Shogren
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> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
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> This should be better.
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> This page is how we request a document number - http://cincinnati.epa.gov/services/nscep/nscep_form.asp
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> Publication Type (R, I think?)
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> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
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From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: How about this version?
Date:	Tuesday, January 10, 2017 7:56:06 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:05 PM
To: Collections.SubW
Subject: FW: How about this version?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Thursday, December 01, 2016 11:48 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: How about this version?

Good. Thanks.

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:51 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: How about this version?

I'll correct those tonight - sorry for overlooking those additions! I'll send later tonight if that's ok. And include the document number in the header as well.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
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Subject: Fwd: How about this version?

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> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
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> This page is how we request a document number - http://cincinnati.epa.gov/services/nscep/nscep_form.asp
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> Publication Type (R, I think?)
> Title
> Do you want this available from NSCEP?
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Monday, November 28, 2016 12:18 PM
> **To:** Shogren, Angela <Shogren.Angela@epa.gov>

Subject: RE: How about this version?

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Sent: Monday, November 28, 2016 11:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: How about this version?

Please let me know any additional changes that you need me to make!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

<12-General Comments Final.docx>
<13-Out of Scope of Rulemaking Final.docx>

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: NSCEP Pub# Request
Date:	Tuesday, January 10, 2017 7:56:18 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:05 PM
To: Collections.SubW
Subject: FW: NSCEP Pub# Request

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Thursday, December 01, 2016 10:16 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: NSCEP Pub# Request

Didn't that one still have some page numbering issues?

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:15 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: NSCEP Pub# Request

The version I sent earlier this week was as final as I was thinking. You can make edits to that one. I can't insert the document # until later tonight when I am reunited with my laptop. Let me know if you want me to resend.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 1, 2016, at 10:09 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Yes, please insert the document number. If you have everything else in final form, let me know. I still need to make some edits. Thanks.
>
> -----Original Message-----
> From: Shogren, Angela

Sent: Tuesday, November 29, 2016 11:48 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: FW: NSCEP Pub# Request

We got our document number - see below.

I can insert in the document, or you can. Just let me know what else you need from me to finalize!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

-----Original Message-----
From: nscep-priority [mailto:nscep-priority@lmsolas.com]
Sent: Tuesday, November 29, 2016 11:26 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: NSCEP Pub# Request

Thank you for your recent request. The publication number assigned to the requested title is 402-R-16-004

If you have any questions or concerns please feel free to respond directly to this email or contact our office at 301-240-7455.

Thank you,

NSCEP Customer Service

-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Angela Shogren <shogren.angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela
05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
08_REQ_FAX:
09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J
10_REQ_CITY: Washington
11_REQ_STATE: District Of Columbia

12_REQ_ZIP: 20460
13_PUB_PRINTED: NO
15_PUB_ORIGINAL_OR_REVISION: ORIGINAL
17_PUB_DUE_DATE: 11/16
18_NS_PUB_RESPONS_CODE: 40x-45x
19_PUB_TYPE: R.
20_PUB_TITLE: Radionuclide NESHAPs: 40 CFR Part 61, Subpart W â€“ Summary of Public Comments and Responses
21_PUB_URL: https://www.epa.gov/radiation/subpart-w-rulemaking-activity
22_PUB_URL_DIGITAL_ONLY:
23_DIS_NSCEP_OR_OTHER:
25_DIS_ORG:
26_DIS_MAIL_CODE:
27_DIS_PHONE:
28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: NSCEP Pub# Request
Date: Tuesday, January 10, 2017 7:56:32 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:05 PM
To: Collections.SubW
Subject: FW: NSCEP Pub# Request

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

-----Original Message-----
From: Schultheisz, Daniel
Sent: Thursday, December 01, 2016 10:10 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: NSCEP Pub# Request

Yes, please insert the document number. If you have everything else in final form, let me know. I still need to make some edits. Thanks.

-----Original Message-----
From: Shogren, Angela
Sent: Tuesday, November 29, 2016 11:48 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: FW: NSCEP Pub# Request

We got our document number - see below.

I can insert in the document, or you can. Just let me know what else you need from me to finalize!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

-----Original Message-----
From: nscep-priority [mailto:nscep-priority@lmsolas.com]
Sent: Tuesday, November 29, 2016 11:26 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: NSCEP Pub# Request

Thank you for your recent request. The publication number assigned to the requested title is 402-R-16-004

If you have any questions or concerns please feel free to respond directly to this email or contact our office at 301-240-7455.

Thank you,

NSCEP Customer Service

-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Angela Shogren <shogren.angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela
05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
08_REQ_FAX:
09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J
10_REQ_CITY: Washington
11_REQ_STATE: District Of Columbia
12_REQ_ZIP: 20460
13_PUB_PRINTED: NO
15_PUB_ORIGINAL_OR_REVISION: ORIGINAL
17_PUB_DUE_DATE: 11/16
18_NS_PUB_RESPONS_CODE: 40x-45x
19_PUB_TYPE: R.
20_PUB_TITLE: Radionuclide NESHAPs: 40 CFR Part 61, Subpart W â€“ Summary of Public Comments and Responses
21_PUB_URL:
https://www.epa.gov/radiation/subpart-w-rulemaking-activity
22_PUB_URL_DIGITAL_ONLY:
23_DIS_NSCEP_OR_OTHER:
25_DIS_ORG:
26_DIS_MAIL_CODE:
27_DIS_PHONE:
28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:

31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: NSCEP Pub# Request
Date: Tuesday, January 10, 2017 7:56:54 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:04 PM
To: Collections.SubW
Subject: FW: NSCEP Pub# Request

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 |
shogren.angela@epa.gov

-----Original Message-----
From: nscep-priority [mailto:nscep-priority@lmsolas.com]
Sent: Tuesday, November 29, 2016 11:26 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: NSCEP Pub# Request

Thank you for your recent request. The publication number assigned to the requested title is 402R16004

If you have any questions or concerns please feel free to respond directly to this email or contact our office at 301-240-7455.

Thank you,

NSCEP Customer Service

-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Angela Shogren <shogren.angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
08_REQ_FAX:
09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J
10_REQ_CITY: Washington
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27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: NSCEP Pub# Request
Date: Tuesday, January 10, 2017 7:57:16 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:04 PM
To: Collections.SubW
Subject: FW: NSCEP Pub# Request

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 |
shogren.angela@epa.gov

-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela
05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
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18_NS_PUB_RESPONS_CODE: 40x-45x
19_PUB_TYPE: R.
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21_PUB_URL: https://www.epa.gov/radiation/subpart-w-rulemaking-activity

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27_DIS_PHONE:
28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W comments doc
Date: Tuesday, January 10, 2017 7:57:28 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:04 PM
To: Collections.SubW
Subject: FW: Subpart W comments doc

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Wednesday, November 23, 2016 2:41 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Re: Subpart W comments doc

I think that should be okay. It shouldn't take too long to generate the document on short notice if we need to, but we are not expecting the final technical support document until Monday anyway. I also feel better about getting a document number, if only for tracking purposes (and it makes the document look more official). I will send you the introduction and the list of acronyms and abbreviations.

From: Shogren, Angela
Sent: Wednesday, November 23, 2016 2:07 PM
To: Schultheisz, Daniel
Subject: Re: Subpart W comments doc

This all sounds great. I am working Monday and Tuesday (AM only)of next week (remote) and then I am in training Wednesday-Thursday. I spoke with Ray and even though we don't HAVE to get a document number, I see no reason not to. It takes a day or two and it's a simple process. I just think that it might be easier to make it part of record if we have a document number to refer to. I guess I mostly just think it feels like the right thing to do.

I'll work on page numbers, create a cover page and a page to add in the introduction and the acronyms. I'll get it back to you on Monday, hopefully. Does that work?

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Nov 23, 2016, at 2:00 PM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

Angela:

This looks pretty good, although page numbers are off a bit. Would it be better to number by section (e.g., 1-1, 2-1, 3-1)? I've attached the last two sections.

I think we need to have a cover page, which doesn't need to be very elaborate, but something like this:

National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Radionuclides
National Emission Standards for Radon from Operating Mill Tailings
40 CFR Part 61, Subpart W

Background Information for Final Rule
Summary of Public Comments and Responses

Date

I have looked at a few recent RTC documents for NESHAPs, and they do not have document numbers (the one I am looking at now also numbers the pages sequentially, not by section). They do have the EPA seal on the cover. The older ones you referenced below (I was looking at the 2001 Yucca RTC for the format on what I sent you) were all printed. I think it would be nice to have a document number, but Tony has told me that a web-only document does not need a document number. I know you are checking with Ray, but if you want to pursue one, that is fine with me.

There probably also needs to be an inside page that identifies ORIA/RPD as the preparer of the document. I will prepare a short introduction to the rulemaking, probably taking from the preamble, as well as a list of acronyms and abbreviations.

Can you remind me of your schedule? I'm assuming, since we have not heard anything about the rule package moving out of OAR, that signature would not

take place until the middle of next week at the earliest.

Thanks for your help on this. Let me know if something here doesn't make sense.

Dan

From: Shogren, Angela
Sent: Wednesday, November 23, 2016 11:12 AM
To: Schultheisz, Daniel
Subject: RE: Subpart W comments doc

Dan,

Here is what I have so far (attached). All of these documents have a brief (2-3 pages) introduction and overview of the rule and a description of how the comments were solicited and the process in reviewing and responding. I am not aware of a formal requirement, but I think that it is generally a good idea with documents like this.

Some documents also have an acronym list (as an Appendix). I think that for this document, that is a good idea as well.

I looked online at our previous Response to Comment documents and it looks like typically they are given document numbers:
https://www.epa.gov/sites/production/files/2015-05/documents/402-r-01-009.pdf (Yucca Final Rule - Response to Comments)

Public Health and Environmental Radiation Protection ...

www.epa.gov

United States Environmental Protection Agency Air and Radiation (6608J) EPA 402-R-01-009 June 2001 Public Health and Environmental Radiation Protection Standards for

https://www.epa.gov/sites/production/files/2015-07/documents/00000c7e.pdf (Subpart R - Response to Comments)

www.epa.gov

www.epa.gov

Created Date: 2/19/2012 1:47:28 PM

https://www.epa.gov/sites/production/files/2015-05/documents/final194r2c.pdf (40

CFR Part 194 – Response to Comments)

Response to Comments Document for 40 CFR Part 194

www.epa.gov

v INTRODUCTION The Waste Isolation Pilot Plant (WIPP) is a deep geologic repository proposed for the disposal of transuranic radioactive waste. The facility, operated …

I have a call in to Ray about whether we need a document number, so stay tuned.

Let me know what other formatting needs you have on this document…or, if I am on the wrong track altogether!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Tuesday, November 22, 2016 5:41 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: Subpart W comments doc

Angela:

Here are the first eleven sections. Just got 12 and 13 back from OGC and will work those tomorrow (probably). They are not terribly large files.

What I would like is to have them combined into one document. Each section has its own listing of contents, but the overall document should have a similar listing of the main sections. There is also a table of commenters (attached) that should be included at the end (maybe with a list of acronyms/abbreviations that are taken from the rule). I have to check it to make sure it is comprehensive.

I don't know what kind of requirements we have for including any type of disclaimers or introductory material for documents. This will be posted on the web, but not published/printed, so I believe (from Tony) that we do not need a document number.

I don't know how that sounds as far as how difficult it should be and how much else you have to do. I could do the basic parts, but some of the formatting (like table of contents) would probably be done through brute force.

Let me know what you think. I will probably not be in the office tomorrow, but you can

get me at (202) 236-8264. Thanks.

Dan

From: Shogren, Angela
Sent: Monday, November 21, 2016 12:19 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Subpart W comments doc

Hi Dan,
Can you please send me all of the sections for the Subpart W comments document that you referenced last week? I'd like to get started on a draft for you to look at...

Thanks!

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

<12-General Comments Final.docx>

<13-Out of Scope of Rulemaking Final.docx>

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Mirroring / Subpart W Statuses
Date:	Tuesday, January 10, 2017 7:57:44 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:03 PM
To: Collections.SubW
Subject: FW: Mirroring / Subpart W Statuses

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Mitchell, Greg
Sent: Wednesday, November 02, 2016 11:28 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Mirroring / Subpart W Statuses

Generally good news from CGI..

Mirroring:

- CGI is confident the Production Query Logic performance is working and significantly improved (sufficient for a monthly pull/replace)
- Mirror Loading will be done by next Friday (but with the Friday Holiday, I suspect you & I can discuss early the following week)
- Coding to reflect the Mirror is expected to be complete at the same time. ☺ and we can firm up release date for either for that upcoming Friday or decide if worth an emergency change
- Note: CGI did detect a small data bug back in 2010 where NAREL may possibly have a duplicate record on a location that causes it to bomb on a uniqueness requirement (don't have specifics but they think we can ignore it)

Subpart W is being Constructed

- CGI is scheduled Provision Flow/Roles by upcoming Monday
- May see sample flow by Monday after Veterans Day Holiday (same as the Mirroring)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 7:58:00 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:02 PM
To: Collections.SubW
Subject: FW: Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

-----Original Message-----
From: Schultheisz, Daniel
Sent: Thursday, October 20, 2016 8:32 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Subpart W

Sorry, I meant to send this earlier. I got your message, and we understand that if the requirements change, we will have to change with them, and it may cost us something.

I think the work can proceed. Thanks.

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: CDX question about cost-sharing
Date: Tuesday, January 10, 2017 7:59:53 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:02 PM
To: Collections.SubW
Subject: FW: CDX question about cost-sharing

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Mitchell, Greg
Sent: Thursday, October 20, 2016 11:07 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: CDX question about cost-sharing

(Did I already send this status to you?)
***
I cleared up … you are "standard" and I expect a $5K 1st year but since your Subpart W won't start in Production until well after October, the 1st year costs will not show up until FY17.

From: Shogren, Angela
Sent: Thursday, October 06, 2016 10:51 AM
To: Kosier, Hope <Kosier.Hope@epa.gov>
Cc: Mitchell, Greg <Mitchell.Greg@epa.gov>
Subject: RE: CDX question about cost-sharing

Hi Hope, thanks for the quick response!

I think that I will reach out to Shawn regarding my concerns on the cost-share policies in general, but perhaps you can help me with a few other matters for my reference:
- I manage the RadNet CDX portal and I am interested in seeing a detailed copy of the past two years annual fees for cost-sharing. I want to get a good benchmark of where we are (and our history) to share with our Management.
- Greg has produced a ROM for a new project, the yet-to-be-officially-named Subpart W Compliance Reporting Tool (I am calling it W-CRT for now). I am concerned about the cost-sharing fees that we can anticipate in October 2017 and October 2018 (for FY17 and FY18). It is my understanding that there could be a drastic difference in what we might see for the annual

cost-share amount the first full year of service/support (FY17) and subsequent years. Can you explain that to me and perhaps paint a clearer picture of what I might be able to present to Management before we finalize the creation of this tool in CDX?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Kosier, Hope
Sent: Thursday, October 06, 2016 10:43 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Cc: Mitchell, Greg <Mitchell.Greg@epa.gov>
Subject: RE: CDX question about cost-sharing

Hi Angela,

I manage the CDX Cost Share program, which in turn is governed by the ENPPW Committee. The OAR Representative on the ENPPW Committee is Shawn Stingel. Shawn can represent your concerns regarding overall CDX Cost Share policies when the committee meets, but if you have questions regarding the cost share for your specific flow, i.e., what range costs are likely to fall into using current ENPPW guidelines, I (with Greg's input) am likely a better source. Please let us know how we can help.

Also, if you would tell me what CDX flow you are affiliated with, that will help for reference.

Many thanks,

Hope
--
Hope Kosier
Information Exchange Solutions Branch
Office of Environmental Information
U.S. Environmental Protection Agency

202-566-2956 (direct)
kosier.hope@epa.gov

"Wherever you go, no matter what the weather, always bring your own sunshine."
– Anthony J. D'Angelo

From: Shogren, Angela
Sent: Thursday, October 06, 2016 10:23 AM
To: Kosier, Hope <Kosier.Hope@epa.gov>
Subject: CDX question about cost-sharing

Hi Hope,

I received your name from Greg Mitchell, the OEI/CDX rep who I work with closely on our CDX services. I am looking to add a new service to CDX and while Greg has gone over the ROM for the proposed work, I have some specific questions and concerns about the cost-sharing annual charges that I can expect in the coming years.

Can you tell me who my OAR-rep is so that I can reach out to them about my concerns and get some answers?

Kindly,

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W
Date:	Tuesday, January 10, 2017 8:00:29 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:02 PM
To: Collections.SubW
Subject: FW: Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Mitchell, Greg
Sent: Tuesday, October 18, 2016 4:40 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: Subpart W

The CEDRI folks… so the contractor is just saying (one last time) that they don't want to be in the middle of the decision whether this Subpart W must be inside CEDRI.

From: Shogren, Angela
Sent: Tuesday, October 18, 2016 4:28 PM
To: Mitchell, Greg <Mitchell.Greg@epa.gov>
Subject: Re: Subpart W

I need to understand this "if OAR decides down the road..." business. Who is this mysterious OAR? How do I make sure that we don't we have to do that later?! I thought the concern was from the Contractor and not anyone in OAR (or EPA)?

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Oct 18, 2016, at 4:09 PM, Mitchell, Greg <Mitchell.Greg@epa.gov> wrote:

> There are still some sticky points but progress…

Please note that at the moment your money is not obligated which means CDX will be working at risk on your $13K… using our own 11.02 Funding until that is sorted out.

From: Mitchell, Greg
Sent: Tuesday, October 18, 2016 4:07 PM
To: Mashayekhi, Bijan <Mashayekhi.Bijan@epa.gov>
Cc: 'Kearns, Mike (CGI Federal)' <Mike.Kearns@cgifederal.com>; Hart, Michael <Hart.Michael@epa.gov>
Subject: Subpart W

Just got off the phone with Mike Hart, and he is agreeable to proceeding with the Subpart W on TDD 11.02

Mike mentioned also talking to CGI about the CEDRI situation and I've promised to ensure Angela understands that sometime down the road "if" OAR decides the Subpart W needs to be inside CEDRI they will need to fund that separately, again.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W
Date:	Tuesday, January 10, 2017 8:00:41 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:02 PM
To: Collections.SubW
Subject: FW: Subpart W

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Mitchell, Greg
Sent: Tuesday, October 18, 2016 4:10 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Subpart W

There are still some sticky points but progress…

Please note that at the moment your money is not obligated which means CDX will be working at risk on your $13K… using our own 11.02 Funding until that is sorted out.

From: Mitchell, Greg
Sent: Tuesday, October 18, 2016 4:07 PM
To: Mashayekhi, Bijan <Mashayekhi.Bijan@epa.gov>
Cc: 'Kearns, Mike (CGI Federal)' <Mike.Kearns@cgifederal.com>; Hart, Michael <Hart.Michael@epa.gov>
Subject: Subpart W

Just got off the phone with Mike Hart, and he is agreeable to proceeding with the Subpart W on TDD 11.02

Mike mentioned also talking to CGI about the CEDRI situation and I've promised to ensure Angela understands that sometime down the road "if" OAR decides the Subpart W needs to be inside CEDRI they will need to fund that separately, again.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: EAS Document Notification
Date: Tuesday, January 10, 2017 8:00:57 AM
Importance: High

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:01 PM
To: Collections.SubW
Subject: FW: EAS Document Notification

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

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From: Mitchell, Greg
Sent: Tuesday, October 18, 2016 9:02 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: EAS Document Notification
Importance: High

Reached out to my TOCOR… Once you can tell me the funding is in EAS (and how much your office committed?).. I've been given the green light to proceed! ☺

From: Mashayekhi, Bijan
Sent: Thursday, October 13, 2016 8:27 AM
To: Mitchell, Greg <Mitchell.Greg@epa.gov>
Cc: Hart, Michael <Hart.Michael@epa.gov>
Subject: RE: EAS Document Notification

Good morning Greg,

Since the money is committed but not yet obligated, I suggest that you start working with them. OAM is delaying the overall process.

Cheers,

Bijan

Bijan Mashayekhi
OEI/OIM/Information Exchange Solutions Branch (2823T)
U.S. Environmental Protection Agency
1301 Constitution Avenue, NW
Washington, DC. 20460
(202) 566-2973
mashayekhi.bijan@epa.gov

From: Mitchell, Greg
Sent: Thursday, October 13, 2016 6:33 AM
To: Mashayekhi, Bijan <Mashayekhi.Bijan@epa.gov>
Cc: Hart, Michael <Hart.Michael@epa.gov>
Subject: RE: EAS Document Notification

Sorry, my bad. Thanks for the communications.
I see, now, (reading in reverse order) that Chris got his information from you and you cc'd me!

So, what can we do? Both Angela Shogren (who has a reg in a couple months!) and Chris Laabs both have PR's for very small amounts of work ($20K ¯) that need to get done?

From: Mashayekhi, Bijan
Sent: Wednesday, October 12, 2016 4:39 PM
To: Laabs, Chris <Laabs.Chris@epa.gov>; Mitchell, Greg <Mitchell.Greg@epa.gov>
Cc: Hart, Michael <Hart.Michael@epa.gov>; Rivera, Sandra <Rivera.Sandra@epa.gov>
Subject: RE: EAS Document Notification

Hi Chris,

According to CDW, this PR has yet to be obligated on the CDX contract:

Document Summary: General Ledger Entries
Doc Type: RE
Doc No: 1687EE6005
External Doc No: PR-OW-16-00571
Commitment Date: 08/17/16
Closed Date:
Servicing Finance Office: RTPFC
Original Amount: $20,000.00
Available Amount: $20,000.00
Description:
Extended Description:
Laabs-Funding $20K-Development of Online 'Burial at Sea' reporting tool. The purpose of the funding action is to develop an online burial at sea reporting system to capture information from users of the burial at sea general permit. Funding is from OW/OWOW/OCPD, FY16/17 $20,000. POC (Primary)Greg Mitchell 919-541-4823; COR: Bijan Mashayekhi 202-566-2973 or Mike Hart (202) 566-1696. Buyer: HPOD/IRMPSC; CO: Marisol Ventura and Kevin Thunell CDX Task Order Contract #: GS00Q09BGD0022 Task Order #: EP-G11H-00154 TTD# 11.02.

Document Details: Expand

Line#	Line Amt	Obligated Amt	Refunded Amt	Available Amt	BFY	Fund	Org	Program	Project	FOC	CostOrg	Comments	Extended Description
1	$20,000.00	$0.00		$20,000.00	20162017	B	87DE17	202B88	n/a	2505			Laabs-Funding $20K-Development of Online 'Burial at Sea

Thanks,

Bijan

Bijan Mashayekhi
OEI/OIM/Information Exchange Solutions Branch (2823T)
U.S. Environmental Protection Agency
1301 Constitution Avenue, NW
Washington, DC. 20460
(202) 566-2973
mashayekhi.bijan@epa.gov

-----Original Message-----
From: Laabs, Chris
Sent: Wednesday, October 12, 2016 3:55 PM
To: Mitchell, Greg <Mitchell.Greg@epa.gov>
Cc: Mashayekhi, Bijan <Mashayekhi.Bijan@epa.gov>
Subject: FW: EAS Document Notification

Greg,

It would appear the PR has been "closed." I assume it is now in your contract and available for use. Do you have some time Thursday or Friday to talk?

Thanks!
Chris

-----Original Message-----
From: Ventura.Marisol@epa.gov [mailto:Ventura.Marisol@epa.gov]
Sent: Wednesday, October 12, 2016 3:47 PM
To: Laabs, Chris <Laabs.Chris@epa.gov>
Subject: EAS Document Notification

Reference Document: Requisition, PR-OW-16-00571.

Message: Requisition was closed by Marisol Ventura on 10/12/2016

You may access the document at https://eas.epa.gov/

Owner: Chris Laabs
Requisitioner: Chris Laabs
Technical Point of Contact: Bijan Mashayekhi
Buyer: Kevin Thunell
Site: OW
Originating Office: OW-OWOW-OCPD-MPCB
Issuing Office: HPOD
Admin Office: HPOD

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: PR for Subpart W compliance tool
Date:	Tuesday, January 10, 2017 8:01:10 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:01 PM
To: Collections.SubW
Subject: FW: PR for Subpart W compliance tool

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Miller, Beth
Sent: Monday, October 17, 2016 11:35 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Cc: Perrin, Alan <Perrin.Alan@epa.gov>
Subject: RE: PR for Subpart W compliance tool

Hi Angela,

The PR was approved by Alan last week it is waiting for Javon to fund it in EAS.

Thanks

Beth Miller
202-343-9223

From: Shogren, Angela
Sent: Monday, October 17, 2016 10:53 AM
To: Miller, Beth <Miller.Beth@epa.gov>
Subject: PR for Subpart W compliance tool

Hey Beth,

I thought that I remembered seeing an email about this, but I wanted to find out the status of the PR for 13K that we had for the Subpart W Compliance tool. Where is that now? On Alan's desk?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: CDX question about cost-sharing
Date:	Tuesday, January 10, 2017 8:01:21 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:01 PM
To: Collections.SubW
Subject: FW: CDX question about cost-sharing

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Kosier, Hope
Sent: Thursday, October 06, 2016 10:43 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Cc: Mitchell, Greg <Mitchell.Greg@epa.gov>
Subject: RE: CDX question about cost-sharing

Hi Angela,

I manage the CDX Cost Share program, which in turn is governed by the ENPPW Committee. The OAR Representative on the ENPPW Committee is Shawn Stingel. Shawn can represent your concerns regarding overall CDX Cost Share policies when the committee meets, but if you have questions regarding the cost share for your specific flow, i.e., what range costs are likely to fall into using current ENPPW guidelines, I (with Greg's input) am likely a better source. Please let us know how we can help.

Also, if you would tell me what CDX flow you are affiliated with, that will help for reference.

Many thanks,

Hope
--
Hope Kosier
Information Exchange Solutions Branch
Office of Environmental Information
U.S. Environmental Protection Agency

202-566-2956 (direct)

kosier.hope@epa.gov

"Wherever you go, no matter what the weather, always bring your own sunshine."
– Anthony J. D'Angelo

From: Shogren, Angela
Sent: Thursday, October 06, 2016 10:23 AM
To: Kosier, Hope <Kosier.Hope@epa.gov>
Subject: CDX question about cost-sharing

Hi Hope,

I received your name from Greg Mitchell, the OEI/CDX rep who I work with closely on our CDX services. I am looking to add a new service to CDX and while Greg has gone over the ROM for the proposed work, I have some specific questions and concerns about the cost-sharing annual charges that I can expect in the coming years.

Can you tell me who my OAR-rep is so that I can reach out to them about my concerns and get some answers?

Kindly,

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Tomorrow
Date:	Tuesday, January 10, 2017 8:01:36 AM

From: Shogren, Angela
Sent: Friday, December 30, 2016 2:00 PM
To: Collections.SubW
Subject: FW: Tomorrow

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Tuesday, October 04, 2016 5:10 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: Tomorrow

Yes. I'll catch you in the morning. Thanks.

From: Shogren, Angela
Sent: Tuesday, October 04, 2016 4:17 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Tomorrow

Hi Dan,

Want to talk tomorrow about the Subpart W compliance reporting tool? I'll be in the office and will definitely have some time.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: DRAFT 2016-11-17 Technical Direction.doc
Date:	Tuesday, January 10, 2017 8:01:55 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 12:26 PM
To: Collections.SubW
Subject: FW: DRAFT 2016-11-17 Technical Direction.doc

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Thursday, November 17, 2016 9:39 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: DRAFT 2016-11-17 Technical Direction.doc

You mention an attachment from the Preamble. Do you know what pages I should pull and attach?
PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Schultheisz, Daniel

Sent: Thursday, November 17, 2016 9:32 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>
Subject: RE: DRAFT 2016-11-17 Technical Direction.doc

Revisions attached. Thanks.

From: Egidi, Philip
Sent: Wednesday, November 16, 2016 5:13 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: DRAFT 2016-11-17 Technical Direction.doc

Please look this over and add necessary detail as you see fit.
We can transmit on Thursday…
PVE

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)
Date:	Tuesday, January 10, 2017 8:02:08 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 12:14 PM
To: Collections.SubW
Subject: FW: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Friday, October 14, 2016 8:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Pretty sure I sent you my markup last week. Can you verify?
PVE

From: Schultheisz, Daniel
Sent: Friday, October 14, 2016 7:55:36 AM
To: Szabo, Aaron L. EOP/OMB
Cc: Johnson, Ann; Werner, Jacqueline; Perrin, Alan; Peake, Tom; Nesky, Anthony; Egidi, Philip; Seidman, Emily; Stahle, Susan; Rodman, Sonja
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-

AP26)

Aaron:

Thanks for checking. I am hoping to get responses to you today or Monday at the latest. Any delays are on me for not getting at them as quickly as I expected.

Dan

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Thursday, October 13, 2016 7:32 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Dan,

I was just wondering if you had a status update on the responses to interagency comments (or if you sent them and I missed them). I am not rushing anything, I just want to make sure that you are not waiting for me.

Thanks.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Szabo, Aaron L. EOP/OMB
Sent: Wednesday, September 14, 2016 2:39 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule --

Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Attached please find the summary of interagency comments under EO 12866 and 13563 for the EPA draft final rule entitled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (2060-AP26).

Please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W in Inside EPA...
Date: Tuesday, January 10, 2017 8:02:22 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 12:12 PM
To: Collections.SubW
Subject: FW: Subpart W in Inside EPA...

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Friday, October 07, 2016 12:56 PM
To: Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>
Subject: Subpart W in Inside EPA...

Daily News

EPA Weighs 'Operating' Definition For Final Uranium Waste Radon Air Rule

October 06, 2016

EPA is preparing to issue a final air rule governing radon emissions from uranium mining waste next month, agency staff says, once the agency has resolved issues raised during recent interagency consultation on the rule's definition of "operating" waste impoundments -- a key question that determines which sites are subject to the rule.

On a public conference call Oct. 6, staff said that the revision to Clean Air Act "Subpart W" rules, proposed in 2014, will likely be complete in November. The agency sent the final rule for mandatory White House Office of Management and Budget (OMB) pre-publication review in July, and EPA is now considering its response to points raised by other, unnamed federal agencies during interagency review, staff said.

While EPA staff on the call declined to give specifics, they confirmed that among the issues raised during OMB review were "definitional" and "operational" issues. One such issue is clarification of which impoundments are considered "operating," and hence subject to the Subpart W rules.

EPA's May 2, 2014, proposed version of the radon emissions rule floated several changes to the existing Subpart W regulation which set radon emissions limits for uranium "tailings" or waste.

The agency proposed that certain impoundments and "heap leach piles" must maintain minimum liquid levels to control their radon emissions; that generally available control technology be required for affected sources at various types of uranium mills; to tailor regulatory definitions to reflect the evolution of uranium mining facilities; to remove certain monitoring requirements EPA viewed as redundant; and to define requirements for waste facility liners.

One environmentalist on the call suggested a legal challenge to the final rule is likely if it resembles the proposal, as environmental groups consider the proposed version to be unlawfully weak.

Meanwhile, EPA sent a related final rule to OMB for review Oct. 5 on "health and environmental protection standards for uranium and thorium mill tailings and uranium in situ leaching processing facilities," according to OMB's website, which says the agency intends to publish the rule in November.

EPA proposed to update these standards in January 2016, taking into account changes to practices within the industry and the characteristics of new facilities being proposed in states including Virginia and Alaska. -- *Stuart Parker* (sparker@iwpnews.com)

Related News | Air |

195286

FYI

PVE

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18
Date:	Tuesday, January 10, 2017 8:02:35 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:44 AM
To: Collections.SubW
Subject: FW: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:48 AM
To: Miller, Beth <Miller.Beth@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

No, see my latest message…
It's on me.
PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Miller, Beth
Sent: Wednesday, September 28, 2016 8:47 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

Ok so we are still waiting on an amended WP?

Please consider the environment before printing this e-mail.

Beth Miller
202-343-9223

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:35 AM
To: Miller, Beth <Miller.Beth@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

Please ignore the last message. It was not correct.
PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:32 AM
To: Miller, Beth <Miller.Beth@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

They resubmitted on September 15 with an estimate that is more in line with our IGCE.
I will put the package together this morning…
PVE

Philip Egidi
Environmental Scientist

U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Miller, Beth
Sent: Wednesday, September 28, 2016 8:06 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>
Subject: FW: Contract No. EP-D-10-042, Work Plan for WA 5-18

Hi Phil,

Is the WP in the works?

Thanks

Please consider the environment before printing this e-mail.

Beth Miller
202-343-9223

From: Judy Eley [mailto:jeley@scainc.com]
Sent: Tuesday, September 13, 2016 2:23 PM
To: Miller, Beth <Miller.Beth@epa.gov>; Miller, Ross <miller.ross@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>
Cc: azeitoun@scainc.com
Subject: Contract No. EP-D-10-042, Work Plan for WA 5-18

Ms. Miller:

SC&A, Inc. is pleased to submit its Work Plan for Work Assignment 5-18 under Contract No. EP-D-10-042 extended. If you have any questions, please contact Abe Zeitoun at 703-893-6600 ext. 225.

Regards,

Judy Eley
Admin. Asst.
SC&A, Inc.

1608 Spring Hill Rd., Suite 400
Vienna, VA 22182-2241
703-893-6600 ext. 200
703-821-8236 (fax)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Please call Phil Egidi at your earliest convenience
Date: Tuesday, January 10, 2017 8:02:45 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:44 AM
To: Collections.SubW
Subject: FW: Please call Phil Egidi at your earliest convenience

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:37 AM
To: 'Steve Marschke' <smarschke@scainc.com>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Please call Phil Egidi at your earliest convenience

Steve,
I need to discuss the work plan for 5-08 ASAP.
Thank you,
PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."

Cicero (106 - 43 BC)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18
Date: Tuesday, January 10, 2017 8:02:57 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:44 AM
To: Collections.SubW
Subject: FW: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:35 AM
To: Miller, Beth <Miller.Beth@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: IGNORE RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

Please ignore the last message. It was not correct.
PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip

Sent: Wednesday, September 28, 2016 8:32 AM
To: Miller, Beth <Miller.Beth@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

They resubmitted on September 15 with an estimate that is more in line with our IGCE.
I will put the package together this morning…
PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Miller, Beth
Sent: Wednesday, September 28, 2016 8:06 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>
Subject: FW: Contract No. EP-D-10-042, Work Plan for WA 5-18

Hi Phil,

Is the WP in the works?

Thanks

Beth Miller
202-343-9223

From: Judy Eley [mailto:jeley@scainc.com]
Sent: Tuesday, September 13, 2016 2:23 PM
To: Miller, Beth <Miller.Beth@epa.gov>; Miller, Ross <miller.ross@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>
Cc: azeitoun@scainc.com
Subject: Contract No. EP-D-10-042, Work Plan for WA 5-18

Ms. Miller:

SC&A, Inc. is pleased to submit its Work Plan for Work Assignment 5-18 under Contract No. EP-D-10-042 extended. If you have any questions, please contact Abe Zeitoun at 703-893-6600 ext. 225.

Regards,

Judy Eley
Admin. Asst.
SC&A, Inc.
1608 Spring Hill Rd., Suite 400
Vienna, VA 22182-2241
703-893-6600 ext. 200
703-821-8236 (fax)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Contract No. EP-D-10-042, Work Plan for WA 5-18
Date: Tuesday, January 10, 2017 8:04:57 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:43 AM
To: Collections.SubW
Subject: FW: Contract No. EP-D-10-042, Work Plan for WA 5-18

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:32 AM
To: Miller, Beth <Miller.Beth@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

They resubmitted on September 15 with an estimate that is more in line with our IGCE.
I will put the package together this morning…
PVE

Philip Egidi
Environmental Scientist
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Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Miller, Beth
Sent: Wednesday, September 28, 2016 8:06 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>
Subject: FW: Contract No. EP-D-10-042, Work Plan for WA 5-18

Hi Phil,

Is the WP in the works?

Thanks

Please consider the environment before printing this e-mail.

Beth Miller
202-343-9223

From: Judy Eley [mailto:jeley@scainc.com]
Sent: Tuesday, September 13, 2016 2:23 PM
To: Miller, Beth <Miller.Beth@epa.gov>; Miller, Ross <miller.ross@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>
Cc: azeitoun@scainc.com
Subject: Contract No. EP-D-10-042, Work Plan for WA 5-18

Ms. Miller:

SC&A, Inc. is pleased to submit its Work Plan for Work Assignment 5-18 under Contract No. EP-D-10-042 extended. If you have any questions, please contact Abe Zeitoun at 703-893-6600 ext. 225.

Regards,

Judy Eley
Admin. Asst.
SC&A, Inc.
1608 Spring Hill Rd., Suite 400
Vienna, VA 22182-2241
703-893-6600 ext. 200
703-821-8236 (fax)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Contract No. EP-D-10-042, Work Plan for WA 5-18
Date: Tuesday, January 10, 2017 8:05:06 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:43 AM
To: Collections.SubW
Subject: FW: Contract No. EP-D-10-042, Work Plan for WA 5-18

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
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Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Wednesday, September 28, 2016 8:23 AM
To: Miller, Beth <Miller.Beth@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Contract No. EP-D-10-042, Work Plan for WA 5-18

I thought I turned it in early; will check with Dan…
PVE

Philip Egidi
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Cicero (106 - 43 BC)

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Sent: Tuesday, September 13, 2016 2:23 PM
To: Miller, Beth <Miller.Beth@epa.gov>; Miller, Ross <miller.ross@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>
Cc: azeitoun@scainc.com
Subject: Contract No. EP-D-10-042, Work Plan for WA 5-18

Ms. Miller:

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Regards,

Judy Eley
Admin. Asst.
SC&A, Inc.
1608 Spring Hill Rd., Suite 400
Vienna, VA 22182-2241
703-893-6600 ext. 200
703-821-8236 (fax)

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Link to Final Rule Subpart W
Date:	Tuesday, January 10, 2017 8:05:20 AM
Importance:	High

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:41 AM
To: Collections.SubW
Subject: FW: Link to Final Rule Subpart W

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 3:39 PM
To: Millett, John <Millett.John@epa.gov>; Jones, Enesta <Jones.Enesta@epa.gov>
Cc: Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; White, Rick <White.Rick@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>
Subject: Link to Final Rule Subpart W
Importance: High

https://www.epa.gov/radiation/subpart-w-rulemaking-activity

Subpart W Rulemaking Activity | Radiation Protection | US EPA

www.epa.gov

Background and supporting materials related to Subpart W rulemaking activity, including non-privileged records, conference call minutes, presentations and other ...

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: FY17 budget project sheet template
Date:	Tuesday, January 10, 2017 8:05:31 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:41 AM
To: Collections.SubW
Subject: FW: FY17 budget project sheet template

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Schultheisz, Daniel
Sent: Monday, December 12, 2016 11:07 AM
To: Walsh, Jonathan <Walsh.Jonathan@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>
Subject: RE: FY17 budget project sheet template

Phil did submit one on Subpart W. So you don't need to worry about it. I did take my eye off the ball in making sure one did get done. Sorry about that.

From: Walsh, Jonathan
Sent: Monday, December 12, 2016 11:03 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>
Subject: RE: FY17 budget project sheet template

So did we all drop the ball on this?

From: Schultheisz, Daniel
Sent: Tuesday, November 15, 2016 10:49 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>
Cc: Walsh, Jonathan <Walsh.Jonathan@epa.gov>

Subject: Re: FY17 budget project sheet template

It's probably reasonable to assume that work in FY17 will focus on any legal challenges. And that may be something that just needs a placeholder until we see how things develop. Ultimately Subpart W will be wholly within the NESHAPs portfolio. We should have enough in place to complete the rulemaking. So I sleeve it to you to figure out who does a budget sheet. How's that for punting?

Sent from my iPhone

On Nov 15, 2016, at 10:39 AM, Egidi, Philip <Egidi.Philip@epa.gov> wrote:

> I am going to assume that any Subpart W work in FY17 would fall under a Rad NESHAPS work assignment, i.e., am punting that to Jon Walsh. Is that a good assumption?
>
> PVE
> Philip Egidi
> Environmental Scientist
> U.S. Environmental Protection Agency
> Radiation Protection Division
> Washington, DC
> (202) 343-9186 (work)
> (970) 209-2885 (Cell)
>
> "The health of the people is the highest law."
> Cicero (106 - 43 BC)
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Tuesday, November 15, 2016 8:54 AM
> **To:** OAR-ORIA-RPD-CWMR <OARORIARPDCWMR@epa.gov>
> **Subject:** Fwd: FY17 budget project sheet template
>
> Attached is the FY17 project sheet template. Please submit your proposed project sheets to Tom by Wednesday, November 30. Thanks.
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > **From:** "Perrin, Alan" <Perrin.Alan@epa.gov>
> > **Date:** November 10, 2016 at 5:51:31 PM EST
> > **To:** "Veal, Lee" <Veal.Lee@epa.gov>, "Peake, Tom" <Peake.Tom@epa.gov>, "Boyd, Mike" <Boyd.Mike@epa.gov>, "White, Rick" <White.Rick@epa.gov>
> > **Cc:** "Snead, Kathryn" <Snead.Kathryn@epa.gov>, "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>, "Pawel, David" <Pawel.David@epa.gov>
> > **Subject: FY17 budget project sheet template**

Template for FY17 attached for those of you that want to get started.

~~~~~~~~~~~~~~~

Alan Perrin, Deputy Director
Radiation Protection Division, USEPA
ofc (202) 343-9775 | mbl (202) 279-0376
~~~~~~~~~~~~~~~

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: EO12866_NESHAP Subpart W 2060 AP26 Final Rule BID-EIA_20160607.docx
Date:	Tuesday, January 10, 2017 8:05:41 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:39 AM
To: Collections.SubW
Subject: FW: EO12866_NESHAP Subpart W 2060 AP26 Final Rule BID-EIA_20160607.docx

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

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Cicero (106 - 43 BC)

From: Stephen Marschke [mailto:smarschke@scainc.com]
Sent: Wednesday, November 16, 2016 10:36 AM
To: Egidi, Philip <Egidi.Philip@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Abe Zeitoun <azeitoun@scainc.com>
Subject: RE: EO12866_NESHAP Subpart W 2060 AP26 Final Rule BID-EIA_20160607.docx

Phil, thanks for the heads up. We look forward to receiving the TD,
Steve

From: Egidi, Philip [mailto:Egidi.Philip@epa.gov]
Sent: Wednesday, November 16, 2016 9:57 AM
To: Stephen Marschke <smarschke@scainc.com>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: EO12866_NESHAP Subpart W 2060 AP26 Final Rule BID-EIA_20160607.docx

Steve,
I talked with Dan this morning. We have a few items that need updating for the BID for Subpart W. Want to give you a heads up that a technical direction memo will be coming your way. This is all very minor stuff to finish the updates to the BID after the last exchange circa June.

Thank you,

PVE

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

“The health of the people is the highest law.”
Cicero (106 - 43 BC)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Update
Date: Tuesday, January 10, 2017 8:05:55 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:39 AM
To: Collections.SubW
Subject: FW: Subpart W Update

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Schultheisz, Daniel
Sent: Thursday, November 10, 2016 8:44 AM
To: Johnson, Ann <Johnson.Ann@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Law, Donald <Law.Donald@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Benner, Tim <Benner.Tim@epa.gov>; Mills, Jason <Mills.Jason@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Subpart W Update

To the Subpart W Workgroup:

OMB officially cleared Subpart W this week. We are now working to get the package prepared to submit for signature. Thanks for all your assistance.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: terrific news on Subpart W!
Date:	Tuesday, January 10, 2017 8:06:07 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:39 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Egidi, Philip
Sent: Friday, November 04, 2016 5:00 PM
To: Peake, Tom <Peake.Tom@epa.gov>; OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: Re: terrific news on Subpart W!

Aw shucks.
I really didn't have to contribute that much since Dan was in charge - it was written as well as could be!
I am impressed with his clarity and communication skills on this effort.
It will be great to see the final rule published...

PVE

From: Peake, Tom
Sent: Friday, November 4, 2016 4:54:16 PM
To: OAR-ORIA-RPD; Flynn, Mike; Edwards, Jonathan; Cherepy, Andrea
Cc: Reid Rosnick ; Rodman, Sonja; Seidman, Emily; Stahle, Susan
Subject: RE: terrific news on Subpart W!

And special thanks to Phil, too!

From: Peake, Tom
Sent: Friday, November 04, 2016 4:50 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

Great news on Subpart W!

Dan has heard from OMB that the rule has cleared the interagency review process!
There is still clean-up and finalizing everything and getting the docket in order and loose ends addressed, and, while time-consuming, its anti-climactic. The hard part of the interagency review is done. December is a probable time for a Federal Register notice.

Special thanks to Dan, Reid, Val, Tony and OGC staff for all their contributions.

Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: terrific news on Subpart W!
Date:	Tuesday, January 10, 2017 8:06:20 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:38 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
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Tom Peake
US EPA Radiation Protection Division
Director, Center for Waste Management and Regulations
phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: terrific news on Subpart W!
Date:	Tuesday, January 10, 2017 8:06:34 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:38 AM
To: Collections.SubW
Subject: FW: terrific news on Subpart W!

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
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Washington, DC
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Sent: Friday, November 04, 2016 4:50 PM
To: OAR-ORIA-RPD <OARORIARPD@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>
Cc: Reid Rosnick <rosnickr@gmail.com>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>
Subject: terrific news on Subpart W!

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Tom Peake
US EPA Radiation Protection Division

Director, Center for Waste Management and Regulations
phone: 202-343-9765

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)
Date:	Tuesday, January 10, 2017 8:06:45 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:38 AM
To: Collections.SubW
Subject: FW: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
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Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

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Cicero (106 - 43 BC)

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Friday, November 04, 2016 3:22 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Dan,

Thank you again for the response to comments. The interagency reviewers agree with the use of the EPA preferred approach.

At this time, please provide a redline-strikeout version reflecting all of the changes during the interagency review and a clean version. I have also opened up ROCIS for amendment such that the revised versions of the documents can be uploaded. Please have OP email me when the new version has been uploaded to ROCIS.
Thank you again and please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Schultheisz, Daniel [mailto:Schultheisz.Daniel@epa.gov]
Sent: Friday, November 4, 2016 9:24 AM
To: Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Aaron:

Attached is EPA's proposed response to the additional comment from the interagency review of the Subpart W final rule. We provide two options to clarify the point noted by the commenter, with our preferred option identified. Please let me know if you need anything else. Thanks.

FYI, I will be on travel next Monday and Tuesday, but should be able to respond to emails. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Thursday, October 27, 2016 3:57 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily

<seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Attached please find the summary of additional interagency comments under EO 12866 and 13563 for the EPA draft final rule entitled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (2060-AP26) in response to the most recent response provided by EPA.

Please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)
Date:	Tuesday, January 10, 2017 8:06:55 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:38 AM
To: Collections.SubW
Subject: FW: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Philip Egidi
Environmental Scientist
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Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Friday, November 04, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Thanks Dan. We will get back to you as soon as possible.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs

Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Schultheisz, Daniel [mailto:Schultheisz.Daniel@epa.gov]
Sent: Friday, November 4, 2016 9:24 AM
To: Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Aaron:

Attached is EPA's proposed response to the additional comment from the interagency review of the Subpart W final rule. We provide two options to clarify the point noted by the commenter, with our preferred option identified. Please let me know if you need anything else. Thanks.

FYI, I will be on travel next Monday and Tuesday, but should be able to respond to emails. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Thursday, October 27, 2016 3:57 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Attached please find the summary of additional interagency comments under EO 12866 and 13563 for the EPA draft final rule entitled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (2060-AP26) in response to the most recent response provided by

EPA.

Please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)
Date:	Tuesday, January 10, 2017 8:07:08 AM

From: Egidi, Philip
Sent: Tuesday, December 27, 2016 11:37 AM
To: Collections.SubW
Subject: FW: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Philip Egidi
Environmental Scientist
U.S. Environmental Protection Agency
Radiation Protection Division
Washington, DC
(202) 343-9186 (work)
(970) 209-2885 (Cell)

"The health of the people is the highest law."
Cicero (106 - 43 BC)

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Friday, October 14, 2016 12:20 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Thanks Dan. There is no rush, so please take your time. I just wanted to make sure that I had no missed anything as I have a number of various projects right now.

Aaron L. Szabo
Policy Analyst

Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Schultheisz, Daniel [mailto:Schultheisz.Daniel@epa.gov]
Sent: Friday, October 14, 2016 7:56 AM
To: Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Aaron:

Thanks for checking. I am hoping to get responses to you today or Monday at the latest. Any delays are on me for not getting at them as quickly as I expected.

Dan

From: Szabo, Aaron L. EOP/OMB [mailto:Aaron_L_Szabo@omb.eop.gov]
Sent: Thursday, October 13, 2016 7:32 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: RE: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Dan,

I was just wondering if you had a status update on the responses to interagency comments (or if you sent them and I missed them). I am not rushing anything, I just want to make sure that you are not waiting for me.

Thanks.

Aaron L. Szabo

Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From: Szabo, Aaron L. EOP/OMB
Sent: Wednesday, September 14, 2016 2:39 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Johnson, Ann <Johnson.Ann@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Szabo, Aaron L. EOP/OMB <Aaron_L_Szabo@omb.eop.gov>
Subject: Summary of Interagency Comments under EO12866 and 13563 for EPA Final Rule -- Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (2060-AP26)

Attached please find the summary of interagency comments under EO 12866 and 13563 for the EPA draft final rule entitled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (2060-AP26).

Please let me know if you have any questions.

Aaron L. Szabo
Policy Analyst
Office of Information and Regulatory Affairs
Office of Management and Budget
202-395-3621
Aaron_L_Szabo@omb.eop.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: This IS Part W FW: Heads-Up-Administrator"s Signature on NESHAP Subpart W Proposed Rule
Date:	Tuesday, January 10, 2017 8:07:28 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:29 PM
To: Collections.SubW
Subject: FW: This IS Part W FW: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

Collected by Marilyn Ginsberg.

From: Ginsberg, Marilyn
Sent: Thursday, April 17, 2014 12:41 PM
To: Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>
Subject: This IS Part W FW: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

---

From: Rosnick, Reid
Sent: Thursday, April 17, 2014 9:49 AM
To: Benner, Tim; Brozowski, George; Carlson, Albion; Cherepy, Andrea; Diaz, Angelique; Dye, Robert; Elman, Barry; Garlow, Charlie; Ginsberg, Marilyn; Hoffman, Stephen; Hooper, Charles A.; Peake, Tom; Stahle, Susan; Anoma, Valentine; Walker, Stuart; Zhen, Davis; Diaz, Angelique; Aquino, Marcos; Button, Rich; Generette, Lloyd; Giardina, Paul; Honnellio, Anthony; Murphy, Michael; Povetko, Oleg; Rosenblum, Shelly
Subject: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

PER ADMINISTRATOR's REPORT---OAR will be releasing/signing a revision to propose Limiting Radon Emissions from Uranium Mill Tailings to an existing Hazardous Air Pollutants Rule soon. OAR anticipates industry to challenge the rule.

There are 12 existing facilities that are currently operating at a technology-based standard. Air program indicated states/tribes will generally be supportive (**YES**), industry opposed **(YES, may challenge the portions of the rule)**, environs in favor **(likely express frustration that the timeline the EPA used did not result in a new form of the standard and that the Agency is proposing a technology-based standard.)**

Where are the 12 facilities located (city, state)?

White Mesa Mill, Blanding, UT
Shootaring Canyon, Ticaboo, UT
Sweetwater Mill, Rawlins, WY
Alta Mesa, Brooks County TX
Crow Butte, Dawes County, NE
Hobson/La Palangana, South TX
Willow Creek, Christensen, WY
Smith Ranch, Converse County, WY
Uranium One, Luderman, WY
Lost Creek, Lost Creek, NE
Cameco, Marsland, NE
Powertech, Dewey Burdock, SD

As soon as the rule has been signed I will forward a copy.

Reid

_____

Reid J. Rosnick
US Environmental Protection Agency
Radiation Protection Division
202.343.9563
rosnick.reid@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: This IS Part W FW: Heads-Up-Administrator"s Signature on NESHAP Subpart W Proposed Rule
Date:	Tuesday, January 10, 2017 8:07:53 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:28 PM
To: Collections.SubW
Subject: FW: This IS Part W FW: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

Collected by Marilyn Ginsberg.

From: Ginsberg, Marilyn
Sent: Thursday, April 17, 2014 12:41 PM
To: Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>
Subject: This IS Part W FW: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

---

From: Rosnick, Reid
Sent: Thursday, April 17, 2014 9:49 AM
To: Benner, Tim; Brozowski, George; Carlson, Albion; Cherepy, Andrea; Diaz, Angelique; Dye, Robert; Elman, Barry; Garlow, Charlie; Ginsberg, Marilyn; Hoffman, Stephen; Hooper, Charles A.; Peake, Tom; Stahle, Susan; Anoma, Valentine; Walker, Stuart; Zhen, Davis; Diaz, Angelique; Aquino, Marcos; Button, Rich; Generette, Lloyd; Giardina, Paul; Honnellio, Anthony; Murphy, Michael; Povetko, Oleg; Rosenblum, Shelly
Subject: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

PER ADMINISTRATOR's REPORT---OAR will be releasing/signing a revision to propose Limiting Radon Emissions from Uranium Mill Tailings to an existing Hazardous Air Pollutants Rule soon. OAR anticipates industry to challenge the rule.

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White Mesa Mill, Blanding, UT
Shootaring Canyon, Ticaboo, UT
Sweetwater Mill, Rawlins, WY
Alta Mesa, Brooks County TX
Crow Butte, Dawes County, NE
Hobson/La Palangana, South TX
Willow Creek, Christensen, WY
Smith Ranch, Converse County, WY
Uranium One, Luderman, WY
Lost Creek, Lost Creek, NE
Cameco, Marsland, NE
Powertech, Dewey Burdock, SD

As soon as the rule has been signed I will forward a copy.

Reid

_____

Reid J. Rosnick
US Environmental Protection Agency
Radiation Protection Division
202.343.9563
rosnick.reid@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Team meeting 3/15 1-2pm
Date: Tuesday, January 10, 2017 8:08:21 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:28 PM
To: Collections.SubW
Subject: FW: Team meeting 3/15 1-2pm

Collected by Marilyn Ginsberg.

From: Ginsberg, Marilyn
Sent: Friday, March 11, 2016 12:39 PM
To: Tiago, Joseph <Tiago.Joseph@epa.gov>
Subject: Team meeting 3/15 1-2pm

Hi Joe,

My NESHAP-regulation work group is having a meeting at the same time as our team meeting and I must attend the reg mtg. I apologize for the short lead time.

-- MG

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Workgroup Meeting
Date: Tuesday, January 10, 2017 8:08:45 AM
Attachments: Subpart W Workgroup Meeting.msg

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:25 PM
To: Collections.SubW
Subject: FW: Subpart W Workgroup Meeting

Collected by Marilyn Ginsberg.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Workgroup Meeting
Date: Tuesday, January 10, 2017 8:08:45 AM
Attachments: Subpart W Workgroup Meeting.msg

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:25 PM
To: Collections.SubW
Subject: FW: Subpart W Workgroup Meeting

Collected by Marilyn Ginsberg.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Update
Date: Tuesday, January 10, 2017 8:08:58 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:25 PM
To: Collections.SubW
Subject: FW: Subpart W Update

Collected by Marilyn Ginsberg.

From: Schultheisz, Daniel
Sent: Thursday, November 10, 2016 8:44 AM
To: Johnson, Ann <Johnson.Ann@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Law, Donald <Law.Donald@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Benner, Tim <Benner.Tim@epa.gov>; Mills, Jason <Mills.Jason@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Subpart W Update

To the Subpart W Workgroup:

OMB officially cleared Subpart W this week. We are now working to get the package prepared to submit for signature. Thanks for all your assistance.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Status Update
Date: Tuesday, January 10, 2017 8:09:07 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:24 PM
To: Collections.SubW
Subject: FW: Subpart W Status Update

Collected by Marilyn Ginsberg.

From: Rosnick, Reid
Sent: Wednesday, September 09, 2015 6:33 AM
To: Johnson, Ann <Johnson.Ann@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>; Benner, Tim <Benner.Tim@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Dye, Robert <Dye.Robert@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Joglekar, Rajani <Joglekar.Rajani@epa.gov>; Law, Donald <Law.Donald@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>
Subject: Subpart W Status Update

Hello,

I thought this would be a good time to provide an update on the status of the final rule. Effective August 26, 2015 we officially became a Tier 3 rule. This may result in some procedural changes, but it will not really change the role of the workgroup in producing the final rule. As I have stated in the past, if we cannot reach agreement on any issue we can still have an options selection meeting, or brief any AA or RA that wishes to be more informed.

I plan on sending out the draft Analytic Blueprint next week. I will set up a workgroup meeting several weeks after that to discuss comments. Now that we know the tiering status I can finish this up and continue working on the responses to comments. I am trying to slog through them, but work is going slower than I had anticipated. I also want to start working on the preamble and rule language. Sara Ayers has volunteered to help on the language for rule effectiveness, and with her and Bob Dye's efforts we should have a strong section on rule effectiveness.

Also, if you have any emails generated in August that directly relate to this rulemaking, please send them to Collections.SubW@epa.gov so that relevant, non-privileged ones can be placed on our

website.

As always, thanks for your efforts and please let me know if you have questions or comments.

Reid

_____

Reid J. Rosnick
US Environmental Protection Agency
Radiation Protection Division
202.343.9563
rosnick.reid@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W NPRM
Date:	Tuesday, January 10, 2017 8:09:18 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:21 PM
To: Collections.SubW
Subject: FW: Subpart W NPRM

Collected by Marilyn Ginsberg.

From: Rosnick, Reid
Sent: Wednesday, January 22, 2014 9:30 AM
To: Benner, Tim <Benner.Tim@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Carlson, Albion <Carlson.Albion@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Diaz, Angelique <Diaz.Angelique@epa.gov>; Dye, Robert <Dye.Robert@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; Garlow, Charlie <Garlow.Charlie@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Hoffman, Stephen <Hoffman.Stephen@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Anoma, Valentine <Anoma.Valentine@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>
Subject: Subpart W NPRM

Hello All,

It has been a long time since my last status update. The reason for that is that nothing happened to Subpart W for quite some time. However, things are moving again and I have good news. The NRPM went through OMB relatively unscathed, with just some minor wordsmithing. I am now putting the package together for the Administrator's signature. We hope to have the rule in the FR in early February. I'll keep you posted.

Reid

_____
Reid J. Rosnick
US Environmental Protection Agency
Radiation Protection Division
202.343.9563
rosnick.reid@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 8:09:33 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:12 PM
To: Collections.SubW
Subject: FW: Subpart W

Collected by Marilyn Ginsberg.

From: Ginsberg, Marilyn
Sent: Thursday, July 24, 2014 5:00 PM
To: Rosnick, Reid <Rosnick.Reid@epa.gov>
Subject: Subpart W

Hi Reid,
Can you give me an approximate time line for when this will be published?
Thanks, Marilyn

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Status of the NPRM
Date:	Tuesday, January 10, 2017 8:09:48 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 8:08 PM
To: Collections.SubW
Subject: FW: Status of the NPRM

Collected by Marilyn Ginsberg.

From: Rosnick, Reid
Sent: Wednesday, June 05, 2013 8:21 AM
To: Benner, Tim <Benner.Tim@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Carlson, Albion <Carlson.Albion@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Diaz, Angelique <Diaz.Angelique@epa.gov>; Dye, Robert <Dye.Robert@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; Garlow, Charlie <Garlow.Charlie@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Hoffman, Stephen <Hoffman.Stephen@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Anoma, Valentine <Anoma.Valentine@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>
Subject: Status of the NPRM

Hello All,

Just a quick note to let you know that the Subpart W rulemaking package was uploaded by OMB last night. I'll keep you posed on our progress. Tanks.

Reid

_____
Reid J. Rosnick
US Environmental Protection Agency
Radiation Protection Division
202.343.9563
rosnick.reid@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 8:09:59 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:51 PM
To: Collections.SubW
Subject: FW: Subpart W

Collected by Marilyn Ginsberg.

From: Ginsberg, Marilyn
Sent: Friday, July 25, 2014 10:39 AM
To: Rosnick, Reid <Rosnick.Reid@epa.gov>
Subject: RE: Subpart W

Hi Reid,
Thanks (and belated congratulations). -- M

From: Rosnick, Reid
Sent: Friday, July 25, 2014 6:40 AM
To: Ginsberg, Marilyn
Subject: RE: Subpart W

Hi Marilyn,

Subpart W (attached) was published on May 2, 2014. This week we extended the comment period by 90 days, to October 29.

Reid

From: Ginsberg, Marilyn
Sent: Thursday, July 24, 2014 5:00 PM
To: Rosnick, Reid
Subject: Subpart W

Hi Reid,
Can you give me an approximate time line for when this will be published?
Thanks, Marilyn

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W
Date: Tuesday, January 10, 2017 8:10:32 AM
Attachments: Subpart W NPRM.pdf

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:42 PM
To: Collections.SubW
Subject: FW: Subpart W

Collected by Marilyn Ginsberg.

From: Rosnick, Reid
Sent: Friday, July 25, 2014 6:40 AM
To: Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>
Subject: RE: Subpart W

Hi Marilyn,

Subpart W (attached) was published on May 2, 2014. This week we extended the comment period by 90 days, to October 29.

Reid

From: Ginsberg, Marilyn
Sent: Thursday, July 24, 2014 5:00 PM
To: Rosnick, Reid
Subject: Subpart W

Hi Reid,
Can you give me an approximate time line for when this will be published?
Thanks, Marilyn

FEDERAL REGISTER

Vol. 79 Friday,
No. 85 May 2, 2014

Part III

Environmental Protection Agency

40 CFR Part 61
Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

[EPA–HQ–OAR–2008–0218; FRL–9816–2]

RIN 2060–AP26

Revisions to National Emission Standards for Radon Emissions From Operating Mill Tailings

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to revise certain portions of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for radon emissions from operating uranium mill tailings. The proposed revisions are based on EPA's determination as to what constitutes generally available control technology or management practices (GACT) for this area source category. We are also proposing to add new definitions to this rule, revise existing definitions and clarify that the rule applies to uranium recovery facilities that extract uranium through the in-situ leach method and the heap leach method.

DATES: Comments must be received on or before July 31, 2014.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2008–0218, by one of the following methods:

- *www.regulations.gov*: Follow the on-line instructions for submitting comments.
- *Email: a-and-r-docket@epa.gov*.
- *Fax:* 202–566–9744.
- *Mail:* Air and Radiation Docket, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave. NW., Washington, DC 20460.
- *Hand Delivery:* EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2008–0218. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or email. The *www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to EPA without going through *www.regulations.gov* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*.

Docket: All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Office of Air and Radiation Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1792.

FOR FURTHER INFORMATION CONTACT: Reid J. Rosnick, Office of Radiation and Indoor Air, Radiation Protection Division, Mailcode 6608J, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: 202–343–9290; fax number: 202–343–2304; email address: *rosnick.reid@epa.gov.*

SUPPLEMENTARY INFORMATION:

Outline. The information in this preamble is organized as follows:

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I. General Information

A. Does this action apply to me?

The regulated categories and entities potentially affected by the proposed standards include:

Category	NAICS code [1]	Examples of regulated entities
Industry:		
Uranium Ores Mining and/or Beneficiating	212291	Area source facilities that extract or concentrate uranium from any ore processed primarily for its source material content.
Leaching of Uranium, Radium or Vanadium Ores	212291	Area source facilities that extract or concentrate uranium from any ore processed primarily for its source material content.

[1] North American Industry Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed action. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permit authority for the entity or your EPA regional representative as listed in 40 CFR 61.04 of subpart A (General Provisions).

B. What should I consider as I prepare my comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through *www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

Make sure to submit your comments by the comment period deadline identified.

C. Acronyms and Abbreviations

We use many acronyms and abbreviations in this document. These include:

AEA—Atomic Energy Act
ALARA—As low as reasonably achievable
BID—Background information document
CAA—Clean Air Act
CAAA—Clean Air Act Amendments of 1990
CCAT—Colorado Citizens Against Toxic Waste
CFR—Code of Federal Regulations
Ci—Curie, a unit of radioactivity equal to the amount of a radioactive isotope that decays at the rate of 3.7×10^{10} disintegrations per second.
DOE—U.S. Department of Energy
EIA—economic impact analysis
EO—Executive Order
EPA—U.S. Environmental Protection Agency
FR—Federal Register
GACT—Generally Available Control Technology
gpm—Gallons Per Minute
HAP—Hazardous Air Pollutant
ICRP—International Commission on Radiological Protection
ISL—In-situ leach uranium recovery, also known as in-situ recovery (ISR)
LCF—Latent Cancer Fatality—Death resulting from cancer that became active after a latent period following exposure to radiation
NAAQS—National Ambient Air Quality Standards
NCRP—National Council on Radiation Protection and Measurements
mrem—millirem, 1×10^{-3} rem
MACT—Maximum Achievable Control Technology
NESHAP—National Emission Standard for Hazardous Air Pollutants
NRC—U.S. Nuclear Regulatory Commission
OMB—Office of Management and Budget
pCi—picocurie, 1×10^{-12} curie
Ra-226—Radium-226
Rn-222—Radon-222
Radon flux—A term applied to the amount of radon crossing a unit area per unit time, as in picocuries per square centimeter per second ($pCi/m^2/sec$).
RCRA—Resource Conservation and Recovery Act
Subpart W—National Emission Standards for Radon Emissions from Operating Mill Tailings at 40 CFR 61.250–61.256
TEDE—Total Effective Dose Equivalent
UMTRCA—Uranium Mill Tailings Radiation Control Act of 1978
U.S.C.—United States Code

D. Where can I get a copy of this document?

In addition to being available in the docket, an electronic copy of this proposed action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/.* The TTN provides information and technology exchange in various areas of air pollution control.

E. When would a public hearing occur?

If anyone contacts EPA requesting to speak at a public hearing concerning this proposed rule by July 1, 2014, we will hold a public hearing. If you are interested in attending the public hearing, contact Mr. Anthony Nesky at (202) 343–9597 to verify that a hearing will be held and if you wish to speak. If a public hearing is held, we will announce the date, time and venue on our Web site at *http://www.epa.gov/radiation.*

II. Background Information for Proposed Area Source Standards

A. What is the statutory authority for the proposed standards?

Section 112(q)(1) of the Clean Air Act (CAA) requires that National Emission Standards for Hazardous Air Pollutants (NESHAP) ''in effect before the date of enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990] . . . shall be reviewed and, if appropriate, revised, to comply with the requirements of subsection (d) of . . . section [112].'' EPA promulgated 40 CFR part 61, Subpart W, ''National Emission Standards for Radon Emissions From Operating Mill Tailings,'' (''Subpart W'') on December 15, 1989.[1] EPA is conducting this review of Subpart W under CAA section 112(q)(1) to determine what revisions, if any, are appropriate.

Section 112(d) of the CAA requires EPA to establish emission standards for major and area source categories that are listed for regulation under CAA section 112(c). A major source is any stationary source that emits or has the potential to emit 10 tons per year (tpy) or more of any single hazardous air pollutant (HAP) or 25 tpy or more of any combination of HAP. An area source is a stationary source of HAP that is not a major source. For the purposes of Subpart W, the HAP at issue is radon-222 (hereafter referred to as ''radon''). We presently have no data or information that shows any other HAPs being emitted from these impoundments. Calculations of radon emissions from operating uranium recovery facilities have shown that facilities regulated under Subpart W are area sources (EPA–HQ–OAR–2008–0218–0001, 0002).

Section 112(q)(1) does not dictate how EPA must conduct its review of those NESHAPs issued prior to 1990. Rather, it provides that the Agency must review, and if appropriate, revise the standards to comply with the requirements of section 112(d). Determining what revisions, if any, are appropriate for these NESHAPs is best assessed through a case-by-case consideration of each NESHAP. As explained below, in this case, we have reviewed Subpart W and are revising the standards consistent with section 112(d)(5), which provides EPA authority to issue standards for area sources.

Under CAA section 112(d)(5), the Administrator may elect to promulgate standards or requirements for area sources ''which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.'' Under section 112(d)(5), the Administrator has the discretion to use generally available control technology or management practices (GACT) in lieu of maximum achievable control technology (MACT) under section 112(d)(2) and (d)(3), which is required for major sources. Pursuant to section 112(d)(5), we are proposing revisions to Subpart W to reflect GACT.

B. What criteria did EPA use in developing the proposed GACT standards for these area sources?

Additional information on generally available control technologies or management practices (GACT) is found in the Senate report on the legislation (Senate Report Number 101–228, December 20, 1989), which describes GACT as:

> * * * methods, practices and techniques which are commercially available and appropriate for application by the sources in the category considering economic impacts and the technical capabilities of the firms to operate and maintain the emissions control systems.

Consistent with the legislative history, we can consider costs and economic impacts in determining GACT, which is particularly important when developing regulations for source categories, like this one, that may include small businesses.

Determining what constitutes GACT involves considering the control technologies and management practices that are generally available to the area sources in the source category. We also consider the standards applicable to major sources[2] in the same industrial sector to determine if the control technologies and management practices are transferable and generally available to area sources. In appropriate circumstances, we may also consider technologies and practices at area and major sources in similar categories to determine whether such technologies and practices could be considered generally available for the area source category at issue. Finally, as noted above, in determining GACT for a particular area source category, we consider the costs and economic impacts of available control technologies and management practices on that category.

C. What source category is affected by the proposed standards?

As defined by EPA pursuant to the CAA, the source category for Subpart W is ''facilities licensed [by the U.S. Nuclear Regulatory Commission (NRC)] to manage uranium byproduct material during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings.'' 40 CFR 61.250. Subpart W defines ''uranium byproduct material or tailings'' as ''the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.''[3] 40 CFR 61.251(g). For clarity, in this proposed rule we refer to this source category by the term ''uranium recovery facilities'' and we are proposing to add this phrase to the definitions section of the rule. Use of this term encompasses the existing universe of facilities whose HAP emissions are currently regulated under Subpart W. Uranium recovery facilities process uranium ore to extract uranium. The HAP emissions from any type of uranium recovery facility that manages uranium byproduct material or tailings is subject to regulation under Subpart W. This currently includes three types of uranium recovery facilities: (1) Conventional uranium mills; (2) in-situ leach recovery facilities; and (3) heap leach facilities. Subpart W requirements specifically apply to the affected sources at the uranium recovery facilities that are used to manage or contain the uranium byproduct material or tailings. Common names for these structures may include, but are not limited to, impoundments, tailings impoundments, evaporation or holding ponds, and heap leach piles. However, the name itself is not important for determining whether Subpart W requirements apply to that structure; rather, applicability is based

[1] On April 26, 2007, Colorado Citizens Against Toxic Waste and Rocky Mountain Clean Air Action filed a lawsuit against EPA (EPA–HQ–OAR–2008–0218–0013) for EPA's alleged failure to review and, if appropriate, revise NESHAP Subpart W under CAA section 112(q)(1). A settlement agreement was entered into between the parties in November 2009(EPA–HQ–OAR–2008–0218–0019).

[2] None of the sources in this source category are major sources.

[3] Pursuant to the Atomic Energy Act of 1954, as amended, the Nuclear Regulatory Commission defines ''source material'' as ''(1) Uranium or thorium or any combination of uranium or thorium in any chemical or physical form; or (2) Ores that contain, by weight, one-twentieth of one percent (0.05 percent), or more, of uranium or thorium, or any combination of uranium or thorium.'' (10 CFR 20.1003) For a uranium recovery facility licensed by the Nuclear Regulatory Commission under 10 CFR Part 40, ''byproduct material'' means the ''tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes.'' (10 CFR 20.1003 and 40.4)

on the use of these structures to manage or contain uranium byproduct material.

D. What are the production operations, emission sources, and available controls?

As noted above, uranium recovery and processing currently occurs by one of three methods: (1) Conventional milling; (2) in-situ leach (ISL); and (3) heap leach. Below we present a brief explanation of the various uranium recovery methods and the usual structures that contain uranium byproduct materials.

(1) Conventional Mills

Conventional milling is one of the two primary recovery methods that are currently used to extract uranium from uranium-bearing ore. Conventional mills are typically located in areas of low population density. Only one conventional mill in the United States is currently operating; all others are in standby, in decommissioning (closure) or have been decommissioned.

A conventional uranium mill is a chemical plant that extracts uranium using the following process:

(A) Trucks deliver uranium ore to the mill, where it is crushed before the uranium is extracted through a leaching process. In most cases, sulfuric acid is the leaching agent, but alkaline solutions can also be used to leach the uranium from the ore. The process generally extracts 90 to 95 percent of the uranium from the ore.

(B) The mill then concentrates the extracted uranium to produce a uranium oxide material which is called ''yellowcake'' because of its yellowish color.[4]

(C) Finally, the yellowcake is transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

(D) The extraction process in (A) and (B) above produces both solid and liquid wastes (i.e., uranium byproduct material, or ''tailings'') which are transported from the extraction location to an on-site tailings impoundment or a pond for temporary storage.

Uranium byproduct material/tailings are typically created in slurry form during the crushing, leaching and concentration processes and are then deposited in an impoundment or ''mill tailings pile'' which must be carefully monitored and controlled. This is because the mill tailings contain heavy metal ore constituents, including radium. The radium decays to produce radon, which may then be released to the environment. Because radon is a radioactive gas which may be inhaled into the respiratory tract, EPA has determined that exposure to radon and its daughter products contributes to an increased risk of lung cancer.[5]

The holding or evaporation ponds at this type of facility hold liquids containing byproduct material from which HAP emissions are also regulated under Subpart W. These ponds are discussed in more detail in the next section.

(2) In-Situ Leach/Recovery

In-situ leach or recovery sites (ISL/ISR, in this document we will use ISL) represent the majority of the uranium recovery operations that currently exist. The research and development projects and associated pilot projects of the 1980s demonstrated ISL as a viable uranium recovery technique where site conditions (e.g., geology) are amenable to its use. Economically, this technology produces a better return on the investment dollar (EPA–HQ–OAR–2008–0218–0087); therefore, the cost to produce uranium is more favorable to investors. Due to this, the trend in uranium production has been toward the ISL process.

In-situ leaching is defined as the underground leaching or recovery of uranium from the host rock (typically sandstone) by chemicals, followed by recovery of uranium at the surface. Leaching, or more correctly the re-mobilization of uranium into solution, is accomplished through the underground injection of a lixiviant (described below) into the host rock (i.e., ore body) through wells that are connected to the ore formation. A lixiviant is a chemical solution used to extract (or leach) uranium from underground ore bodies.

The injection of a lixiviant essentially reverses the geochemical reactions that resulted in the formation of the uranium deposit. The lixiviant assures that the dissolved uranium, as well as other metals, remains in the solution while it is collected from the ore zone by recovery wells, which pump the solution to the surface. At the surface, the uranium is recovered in an ion-exchange column and further processed into yellowcake. The yellowcake is packaged and transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

Two types of lixiviant solutions can be used, loosely defined as ''acid'' or ''alkaline'' systems. In the U.S., the geology and geochemistry of the majority of the uranium ore bodies favors the use of alkaline lixiviants such as bicarbonate-carbonate lixiviant and oxygen. Other factors in the choice of the lixiviant are the uranium recovery efficiencies, operating costs, and the ability to achieve satisfactory ground-water restoration.

After processing, lixiviant is recharged (more carbonate/bicarbonate or dissolved carbon dioxide is added to the solution) and pumped back down into the formation for reuse in extracting more uranium. However, a small amount of this liquid is held back from reinjection to maintain a proper hydraulic gradient[6] within the wellfield. The amount of liquid held back is a function of the characteristics of the formation properties (e.g., permeability, hydraulic conductivity, transmissivity). This excess liquid is sent to an impoundment (often called an evaporation pond or holding pond) on site or injected into a deep well for disposal. These impoundments, since they contain uranium byproduct material, are subject to the requirements of Subpart W.[7] With respect to the lixiviant reinjected into the wellfield, there is a possibility of the lixiviant spreading beyond the zone of the uranium deposit (excursion), and this produces a threat of ground-water contamination. The operator of the ISL facility remediates any excursion by pumping large amounts of water in or out of the formation (at various wells) to contain the excursion, and this water (often containing byproduct material either before or after injection into or withdrawal from the formation) is often stored in the evaporation or holding ponds.[8] Although the excursion control operation itself is not regulated under Subpart W, the ponds that contain byproduct material are regulated under that subpart, since they are a potential source of radon emissions. After the ore body has been depleted, restoration of the formation (attempting to return the formation back to its original geochemical and geophysical

[4] The term ''yellowcake'' is still commonly used to refer to this material, although in addition to yellow the uranium oxide material can also be black or grey in color.

[5] *http://www.epa.gov/radon/risk_assessment.html.*

[6] The hydraulic gradient determines which direction water in the formation will flow, which in this case limits the amount of water that migrates away from the ore zone.

[7] As described later in this preamble, the design requirements for these impoundments are derived from the RCRA requirements for impoundments.

[8] By controlling the hydraulic gradient of the formation the operator controls the direction of flow of water, containing the water within specified limits of the formation.

properties) is accomplished by flushing the host rock with water and sometimes additional chemicals. Since small amounts of uranium are still contained in the returning water, the restoration fluids are also considered byproduct material, and are usually sent to evaporation ponds for disposition.

(3) Heap Leaching

In addition to conventional uranium milling and ISL, some facilities may use an extraction method known as heap leaching. In some instances uranium ore is of such low grade, or the geology of the ore body is such that it is not cost-effective to remove the uranium via conventional milling or through ISL.[9] In this case a heap leaching method may be utilized.

No such facilities currently operate to recover uranium in the U.S. However, there are plans for at least one facility to open in the U.S. within the next few years.

Heap leach operations involve the following process:

A. Small pieces of ore are placed in a large pile, or ''heap,'' on an impervious geosynthetic liner with perforated pipes under the heap. For the purposes of Subpart W the impervious pad will meet the requirements for design and construction of impoundments found at 40 CFR 192.32(a).

B. An acidic solution is then sprayed [10] over the ore to dissolve the uranium it contains.

C. The uranium-rich solution drains into the perforated pipes, where it is collected and transferred to an ion-exchange system.

D. The heap is ''rested,'' meaning that there is a temporary cessation of application of acidic solution to allow for oxidation of the ore before leaching begins again.

E. The ion-exchange system extracts the uranium from solution where it is later processed into a yellowcake.[11]

F. Once the uranium has been extracted, the remaining solution still contains small amounts of uranium byproduct material (the extraction process is not 100% effective), and this solution is either piped to the heap leach pile to be reused or piped to an evaporation or holding pond. In the evaporation pond it is subject to the Subpart W requirements.

G. The yellowcake is transported to a uranium conversion facility where it is processed through the stages of the nuclear fuel cycle to produce fuel for use in nuclear power reactors.

H. Finally, there is a final drain down of the heap solutions, as well as a possible rinsing of the heap. These solutions will contain byproduct material and will be piped to evaporation or holding ponds, where they become subject to the Subpart W requirements. The heap leach pile will be closed in place according to the requirements of 40 CFR 192.32.

Today we are proposing to regulate the HAP emissions from heap leach uranium extraction under Subpart W, in addition to conventional impoundments and evaporation ponds, which are already regulated under this Subpart. Our rationale (explained in greater detail in Section IV.D.4.) is that from the moment uranium extraction takes place in the heap, uranium byproduct material is left behind. Therefore the byproduct material must be managed with the same design as a conventional impoundment, with a liner and leak detection system prescribed at 40 CFR 192.32(a), and an effective method of limiting radon emissions while the heap leach pile is being used to extract uranium.

As described above, there may also be holding or evaporation ponds at this type of facility. In many cases these ponds hold liquids containing byproduct material. The byproduct material is contained in the liquids used to leach uranium from the ore in the heap leach pile as well as draining the heap leach pile in preparation for closure. The HAP emissions from these fluids are currently regulated under Subpart W.

E. What are the existing requirements under Subpart W?

Subpart W was promulgated on December 15, 1989 (54 FR 51654). At the time of promulgation the predominant form of uranium recovery was through the use of conventional mills. There are two separate standards required in Subpart W. The first standard is for ''existing'' impoundments, e.g., those in existence and licensed by the NRC (or it's Agreement States) on or prior to December 15, 1989. Owners or operators of existing tailings impoundments must ensure that emissions from those impoundments do not exceed a radon (Rn-222) flux standard of 20 picocuries per meter squared per second (pCi/m^2/sec). As stated at the time of promulgation: ''This rule will have the practical effect of requiring the mill owners to keep their piles wet or covered.''[12] Keeping the piles (impoundments) wet or covered with soil would reduce radon emissions to a level that would meet the standard. This is still considered an effective method to reduce radon emissions at all uranium tailings impoundments.

The method for monitoring for compliance with the radon flux standard was prescribed as Method 115, found at 40 CFR part 61, Appendix B. The owners or operators of existing impoundments must report to EPA the results of the compliance testing for any calendar year by no later than March 31 of the following year.

There is currently one existing operating mill with impoundments that pre-date December 15, 1989, and two mills that are currently in standby mode.

The second standard applies to ''new'' impoundments designed and/or constructed after December 15, 1989. The requirements applicable to new impoundments are work practice standards that regulate either the size and number of impoundments, or the amount of tailings that may remain uncovered at any time. 40 CFR 61.252(b) states that no new tailings impoundment can be built after December 15, 1989, unless it is designed, constructed and operated to meet one of the following two work practices:

1. Phased disposal in lined impoundments that are no more than 40 acres in area, and meet the requirements of 40 CFR 192.32(a) as determined by the NRC. The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time.

2. Continuous disposal of tailings that are dewatered and immediately disposed with no more than 10 acres uncovered at any time, and operated in accordance with 40 CFR 192.32(a) as determined by the NRC.

The basis of the work practice standards is to (1) limit the size of the impoundment, which limits the radon source; or (2) utilize the continuous disposal system, which prohibits large accumulations of uncovered tailings, limiting the amount of radon released.

The work practice standards described above were promulgated after EPA considered a number of factors that influence the emissions of Rn-222 from tailings impoundments, including the climate and the size of the impoundment. For example, for a given concentration of Ra-226 in the tailings, and a given grain size of the tailings, the moisture content of the tailings will control the radon emission rate; the higher the moisture content the lower the emission rate. In the arid and semi-arid areas of the country where most impoundments are located or proposed, the annual evaporation rate is quite high. As a result, the exposed tailings

[9] The ore grade is so low that it is not practical to invest large sums of capital to extract the uranium. Heap leach is a much more passive and relatively inexpensive system.

[10] Other technology includes drip systems, sometimes used at gold extraction heaps, and flooding of the heap leach pile.

[11] It is our understanding that either ion-exchange or solvent extraction techniques can be used to recover uranium at heap leach facilities. The decision to use one type or the other depends largely on the quality of the ore at a particular site.

[12] See 54 FR 51689.

(absent controls like sprinkling) dry rapidly. In previous assessments, we explicitly took the fact of rapid drying into account by using a Rn-222 flux rate of 1 pCi/m²/s per pCi/g Ra-226 to estimate the Rn-222 source term from the dry areas of the impoundments. (**Note:** The estimated source terms from the ponded (areas completely covered by liquid) and saturated areas of the impoundments are considered to be zero, reflecting the complete attenuation of the Rn-222).

Another factor we considered was the area of the impoundment, which has a direct linear relationship with the Rn-222 source term, more so than the depth or volume of the impoundment. Again, assuming the same Ra-226 concentration and grain sizes in the tailings, a 100-acre dry impoundment will emit 10 times the radon of a 10-acre dry impoundment. This linear relationship between size and Rn-222 source term is one of the main reasons that Subpart W imposed size restrictions on all future impoundments (40 acres per impoundment if phased disposal is chosen and 10 acres total uncovered if continuous disposal is chosen).

Subpart W also mandates that all tailings impoundments at uranium recovery facilities comply with the requirements at 40 CFR 192.32(a). EPA explained the reason for adding this requirement in the preamble as follows:

''EPA recognizes that in the case of a tailings pile which is not synthetically or clay lined (the clay lining can be the result of natural conditions at the site) water placed on the tailings in an amount necessary to reduce radon levels, can result in ground water contamination. In addition, in certain situations the water can run off and contaminate surface water. EPA cannot allow a situation where the reduction of radon emissions comes at the expense of increased pollution of the ground or surface water. Therefore, all piles will be required to meet the requirements of 40 CFR 192.32(a) which protects water supplies from contamination. Under the current rules, existing piles are exempt from these provisions, this rule will end that exemption.''

54 FR 51654, 51680 (December 15, 1989). Therefore, all impoundments are required to meet the requirements at 40 CFR 192.32(a).

Section 192.32(a) includes a cross-reference to the surface impoundment design and construction requirements of hazardous waste surface impoundments regulated under the Resource Conservation and Recovery Act (RCRA), found at 40 CFR 264.221. Those requirements state that the impoundment shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life of the impoundment. Briefly, 40 CFR 264.221(c) requires that the liner system must include:

1. A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into the liner during the active life of the unit.

2. A composite bottom liner consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life of the unit. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least three feet of compacted soil material with a hydraulic conductivity of no more than 1 x 10^{-7} cm/sec.

3. A leachate collection and removal system between the liners, which acts as a leak detection system. This system must be capable of detecting, collecting and removing hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to the waste or liquids in the impoundment.

There are other requirements for the design and operation of the impoundment, and these include construction specifications, slope requirements, sump and liquid removal requirements.[13]

F. How did we gather information for this proposed rule?

This section describes the information we used as the basis for making the determination to revise Subpart W. We collected this information using various methods. We performed literature searches, where appropriate, of the engineering methods used by existing uranium recovery facilities in the United States as well as the rest of the world. We used this information to determine whether the technology used to contain uranium byproduct material had advanced since the time of the original promulgation of Subpart W. We reviewed and compiled a list of existing and proposed uranium recovery facilities and the containment technologies being used, as well as those proposed to be used. We compared and contrasted those technologies with the engineering requirements of hazardous waste surface impoundments regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA), which are used as the design basis for existing uranium byproduct material impoundments.

We collected information on existing uranium mills and in-situ leach facilities by issuing information collection requests authorized under section 114(a) of the CAA to seven uranium recovery facilities. At the time, this represented 100% of existing facilities. Since then, Cotter Corp. has closed its Cañon City facility. These requests required uranium recovery companies to provide detailed information about the uranium mill and/or in-situ leaching facility, as well as the number, sizes and types of affected sources (tailings impoundments, evaporation ponds and collection ponds) that now or in the past held uranium byproduct material. We requested information on the history of operation since 1975, ownership changes, whether the operation was in standby mode and whether plans existed for new facilities or reactivated operations were expected.[14] We also reviewed the regulatory history of Subpart W and the radon measurement methods used to determine compliance with the existing standards. Below is a synopsis of the information we collected and our analyses.

1. Pre-1989 Conventional Mill Impoundments

We have been able to identify three facilities, either operating or on standby,[15] that have been in operation since before the promulgation of Subpart W in 1989. These existing facilities must ensure that emissions from their operational, pre-1989 impoundments[16] not exceed a radon (Rn-222) flux standard of 20 pCi/m²/sec. The method for monitoring for compliance with the radon flux standard was prescribed as Method 115, found at 40 CFR part 61, Appendix B. These facilities must also meet the requirements in 40 CFR 61.252(c), which cross-references the requirements of 40 CFR 192.32(a)

The White Mesa Conventional Mill in Blanding, Utah, has one pre-1989 impoundment (known by the company as Cell 3) that is currently in operation and near capacity but is still authorized and continues to receive tailings. The

[13] For detailed information on the design and operating requirements, refer to 40 CFR Part 264 Subpart K—Surface Impoundments.

[14] Section 114(a) letters and responses can be found at *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html.*

[15] ''Standby'' is when a facility impoundment is licensed for the continued placement of tailings/byproduct material but is currently not receiving tailings/byproduct material. See Section V.A. for a discussion of this definition that we are proposing to add to Subpart W.

[16] In this preamble when we use the generic term ''impoundment,'' we are using the term as described by industry.

company is now pumping any residual free solution out of the cell and contouring the sands. It will then be determined whether any more solids need to be added to the cell to fill it to the specified final elevation. It is expected to close in the near future (EPA–HQ–OAR–2008–0218–0069). The mill also uses an impoundment constructed before 1989 as an evaporation pond (known as Cell 1). To the extent this evaporation pond contains byproduct material, its HAP emissions are also regulated by Subpart W.

The Sweetwater conventional mill is located 42 miles northwest of Rawlins, Wyoming. The mill operated for a short time in the 1980s and is currently in standby status. Annual radon values collected by the facility indicate that there is little measurable radon flux from the mill tailings that are currently in the lined impoundment. This monitoring program remains active at the facility. According to company records, of the 37 acres of tailings, approximately 28.3 acres of tailings are covered with soil; the remainder of the tailings are continuously covered with water. The dry tailings have an earthen cover that is maintained as needed. During each monitoring event one hundred radon flux measurements are taken on the tailings continuously covered by soil, as required by Method 115 for compliance with Subpart W. The mean radon flux for the exposed tailings over the past 21 years was 3.5 pCi/m ^{2}/sec. The radon flux for the entire tailings impoundment was calculated to be 6.01 pCi/m ^{2}/sec. The calculated radon flux from the entire tailings impoundment surface is thus approximately 30% of the 20.0 pCi/m ^{2}/sec standard (EPA–HQ–OAR–2008–0218–0087).

The Shootaring Canyon project is a conventional mill located about 3 miles north of Ticaboo, Utah, in Garfield County. The approximately 1,900-acre site includes an ore pad, a small milling building, and a tailings impoundment system that is partially constructed. The mill operated for a very short period of time. Shootaring Canyon did pre-date the standard, but the mill was shut down prior to the promulgation of the standard. The impoundment is in a standby status and has an active license administered by the Utah Department of Environmental Quality, Division of Radiation Control. The future plans for this uranium recovery operation are unknown. Current activities at this remote site consist of intermittent environmental monitoring by consultants to the parent company (EPA–HQ–OAR–2008–0218–0087).

The Shootaring Canyon mill operated for approximately 30 days. Tailings were deposited in a portion of the upper impoundment. A lower impoundment was conceptually designed but has not been built. Milling operations in 1982 produced 25,000 cubic yards of tailings, deposited in a 2,508 m ^{2} (0.62 acres) area. The tailings are dry except for moisture associated with occasional precipitation events; consequently, there are no beaches.[17] The tailings have a soil cover that is maintained by the operating company. Radon sampling for the 2010 year took place in April. Again, one hundred radon flux measurements were collected. The average radon flux from this sampling event was 11.9 pCi/m ^{2}-sec.

A fourth mill is Cotter Corporation in Cañon City, Colorado. The mill no longer exists, and the pre-1989 impoundments are in closure.

2. 1989–Present Conventional Mill Impoundments

There currently is only one operating conventional mill with an impoundment that was constructed after December 15, 1989. The White Mesa conventional mill in Utah has two impoundments (Cell 4A and Cell 4B: Cell 4A is currently operating as a conventional impoundment and Cell 4B is being used as an evaporation pond) designed and constructed after 1989. The facility uses the phased disposal work practice.

There are several conventional mills in the planning and/or permitting stage and conventional impoundments at these mills will be required to utilize one of the current work practice standards.

3. In-Situ Leach Facilities

After 1989 the price of uranium began to fall, and the uranium mining and milling industry essentially collapsed, with very few operations remaining in business. However, several years ago the price of uranium began to rise so that it became profitable once more for companies to consider uranium recovery. ISL has become the preferred choice for uranium extraction where suitable geologic conditions exist.

Currently there are five ISL facilities in operation: (1) The Alta Mesa project in Brooks County, Texas; (2) the Crow Butte Operation in Dawes County, Nebraska; (3) the Hobson/La Palangana Operation in South Texas; (4) the Willow Creek (formerly Christensen Ranch/Irigaray Ranch) Operation in Wyoming; and (5) the Smith Ranch-Highland Operation in Converse County, Wyoming.[18] These facilities use or have used evaporation ponds to hold back liquids containing uranium byproduct material from reinjection to maintain a proper hydraulic gradient within the wellfield.[19] These ponds are subject to the Subpart W requirements and range in size from less than an acre to up to 40 acres. Based on the information provided to us the ponds meet the requirements of 40 CFR 61.252(c).

There are approximately 11 additional ISL facilities in various stages of licensing or on standby. It is anticipated that there could be approximately another 20–30 license applications over the next 5–10 years.[20]

4. Heap Leach Facilities

As stated earlier, there are currently no operating heap leach facilities in the United States. We are aware of two or three potential future operations. The project most advanced in the application process is the Sheep Mountain facility in Wyoming. Energy Fuels has announced its intent to submit a license application to the NRC in March 2014. One or two other as yet to be determined operations may be located in Lander County, Nevada and/or a site in New Mexico.[21]

5. Flux Requirement Versus Management Practices for Conventional Impoundments in Operation Before December 15, 1989

In performing our analysis we considered the information we received from all the existing conventional impoundments. We also looked at the compliance history of the existing conventional impoundments. After this review we considered two specific questions: (1) Are any of the conventional impoundments using any novel methods to reduce radon emissions? (2) Is there now any reason to believe that any of the existing conventional impoundments could not comply with the management practices for new conventional impoundments, in which case would we need to continue to make the distinction between conventional impoundments constructed before or after December 15, 1989? We arrived at the following

[17] The term ''beaches'' refers to portions of the tailings impoundment where the tailings are wet but not saturated or covered with liquids.

[18] Source: U.S. Energy Information Administration, *http://www.eia.gov/uranium/production/quarterly/html/qupd_tbl4.html.*

[19] The Alta Mesa operation uses deep well injection rather than evaporation ponds.

[20] Source: *http://www.nrc.gov/materials/uranium-recovery/license-apps/ur-projects-list-public.pdf.*

[21] *http://www.nrc.gov/materials/uranium-recovery/license-apps/ur-projects-list-public.pdf.*

conclusions: First, we are not aware of any conventional impoundment that uses any new or different technologies to reduce radon emissions. Conventional impoundment operators continue to use the standard method of reducing radon emissions by limiting the size of the impoundment and covering tailings with soil or keeping tailings wet. These are very effective methods for limiting the amount of radon released to the environment.

Second, we believe that only one existing operating conventional impoundment designed and in operation before December 15, 1989, could not meet the work practice standards. This impoundment is Cell 3 at the White Mesa mill, which is expected to close in 2014 (Personal communication between EPA staff and Utah Department of Environmental Quality staff, May 16, 2013, EPA–HQ–2008–0218–0081). We were very clear in our 1989 rulemaking that all conventional mill impoundments must meet the requirements of 40 CFR 192.32(a), which, in addition to requiring ground-water monitoring, also required the use of liner systems to ensure there would be no leakage from the impoundment into the ground water. We did this by removing the exemption for existing piles from the 40 CFR 192.32(a) requirements (54 FR 51680). However, we did not require those existing impoundments to meet either the phased disposal or continuous disposal work practice standards, which limit the exposed area and/or number of conventional impoundments, thereby limiting the potential for radon emissions. This is because at the time of promulgation of the rule, conventional impoundments existed that were larger in area than the maximum work practice standard of 40 acres used for the phased disposal work practice, or 10 acres for the continuous disposal requirement. This area limitation was important in reducing the amount of exposed tailings that were available to emit radon. However, we recognized that by instituting a radon flux standard we would require owners and operators to limit radon emissions from these preexisting impoundments (usually by placing water or soil on exposed portions of the impoundments). The presumption was that conventional impoundments constructed before this date could otherwise be left in a dry and uncovered state, which would allow for unfettered release of radon. The flux standard was promulgated to have the practical effect of requiring owners and operators of these old impoundments to keep their tailings either wet or covered with soil, thereby reducing the amount of radon that could be emitted (54 FR 51680).

We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a). We also have information that the new conventional impoundments operating at the White Mesa mill will utilize the phased work practice standard of limiting conventional impoundments to no more than two, each 40 acres or less in area. We also have information that Cell 3 at the White Mesa facility will be closed in 2014, and the phased disposal work method will be used for the remaining cells. (Personal communication between EPA staff and staff of Utah Department of Environmental Quality, May 16, 2013 (EPA–HQ–2008–0218–0081). As a result, we find there would be no conventional impoundment designed or constructed before December 15, 1989 that could not meet a work practice standard. Since the conventional impoundments in existence prior to December 15, 1989 appear to meet the work practice standards, we are proposing to eliminate the distinction of whether the conventional impoundment was constructed before or after December 15, 1989. We are also proposing that all conventional impoundments (including those in existence prior to December 15, 1989) must meet the requirements of one of the two work practice standards, and that the flux standard of 20 pCi/m^2/sec will no longer be required for the impoundments in existence prior to December 15, 1989.

G. How does this action relate to other EPA standards?

Under the CAA, EPA promulgated Subpart W, which includes standards and other requirements for controlling radon emissions from operating mill tailings at uranium recovery facilities. Under our authority in the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), we have also issued standards that are more broadly applicable to uranium and thorium byproduct materials at active and inactive uranium recovery facilities. NRC (or Agreement States [22]) and DOE implement and enforce these standards at these uranium recovery facilities as directed by UMTRCA. These standards, located in 40 CFR part 192, address the radiological and non-radiological hazards of uranium and thorium byproduct materials in ground water and soil, in addition to air. For the non-radiological hazards, UMTRCA directed us to promulgate standards consistent with those used by EPA to regulate non-radiological hazardous materials under RCRA. Therefore, our part 192 standards incorporate the ground-water protection requirements applied to hazardous waste management units under RCRA and specify the placement of uranium or thorium byproduct materials in impoundments constructed in accordance with RCRA requirements. Radon emissions from non-operational impoundments (i.e., those with final covers) are limited in 40 CFR part 192 to the emissions levels of 20 pCi/m^2/sec. We are currently preparing a regulatory proposal to update provisions of 40 CFR part 192, with emphasis on ground-water protection for ISL facilities. As explained in previous sections, Subpart W currently contains reference to some of the part 192 standards.

H. Why did we conduct an updated risk assessment?

While not required by or conducted as part of our GACT analysis, one of the tasks we performed for our own purposes was to update the risk analysis we performed when we promulgated Subpart W in 1989. We performed a comparison between the 1989 risk assessment and current risk assessment approaches, focusing on the adequacy and the appropriateness of the original assessments. We did this for informational purposes only and not for or as part of our GACT analysis. Instead, we prepared this updated risk assessment because we wanted to demonstrate that even using updated risk analysis procedures (i.e. using procedures updated from those used in the 1980s), the existing radon flux standard appears to be protective of the public health and the environment. We did this by using the information we collected to perform new risk assessments for existing facilities, as well as two idealized ''generic'' sites, one located in the eastern half of the United States and one located in the southwest United States. (These two model sites do not exist. They are idealized using representative features

[22] An Agreement State is a State that has entered into an agreement with the Nuclear Regulatory Commission under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021)and has authority to regulate byproduct materials (as defined in section 11e.(2)of the Atomic Energy Act)and the disposal of low-level radioactive waste under such agreement.

of mills in differing climate and geography). This information has been collected into one document [23] that has been placed in the docket (EPA–HQ–OAR–2008–0218–0087) for this proposed rulemaking.

As part of this work, we evaluated various computer models that could be used to calculate the doses and risks due to the operation of conventional and ISL uranium recovery facilities, and selected CAP88 V 3.0 for use in this analysis. CAP88 V 3.0 was developed in 1988 from the AIRDOS, RADRISK, and DARTAB computer programs, which had been developed for the EPA at the Oak Ridge National Laboratory (ORNL).

CAP88 V 3.0, which stands for ''Clean Air Act Assessment Package-1988 version 3.0,'' is used to demonstrate compliance with the NESHAP requirements applicable to radionuclides. CAP88 V 3.0 calculates the doses and risk to a designated receptor as well as to the surrounding population. Exposure pathways evaluated by CAP88 V 3.0 are: inhalation, air immersion, ingestion of vegetables, meat, and milk, and ground surface exposure. CAP88 V 3.0 uses a modified Gaussian plume equation to estimate the average dispersion of radionuclides released from up to six emitting sources. The sources may be either elevated stacks, such as a smokestack, or uniform area sources, such as the surface of a uranium byproduct material impoundment. Plume rise can be calculated assuming either a momentum or buoyant-driven plume.

At several sites analyzed in this evaluation only site-wide releases of radon were available to us. This assessment was limited by the level of detail provided by owners and operators of uranium recovery facilities. In instances where more specific site data were available, site-wide radon releases were used as a bounding estimate. Assessments are done for a circular grid of distances and directions for a radius of up to 80 kilometers (50 miles) around the facility. The Gaussian plume model produces results that agree with experimental data as well as any comparable model, is fairly easy to work with, and is consistent with the random nature of turbulence. A description of CAP88 V 3.0 and the computer models upon which it is based is provided in the CAP88 V 3.0 Users Manual.[24]

The uranium recovery facilities that we analyzed included three existing conventional mills (Cotter, White Mesa and Sweetwater), five operating ISL operations (the Alta Mesa project in Brooks County, Texas; the Crow Butte Operation in Dawes County, Nebraska; the Hobson/La Palangana Operation in South Texas; the Willow Creek (formerly Christensen Ranch/Irigaray Ranch) Operation in Wyoming; and the Smith Ranch-Highland Operation in Converse County, Wyoming), and two generic sites assumed for the location of conventional mills (we chose conventional mills because we believe they have the potential for greater radon emissions). One generic site was modeled in the southwest United States (Western Generic) while the other was assumed to be located in the eastern United States (Eastern Generic).[25] An Eastern generic site was selected for the second generic site to accommodate the recognition that a number of uranium recovery facilities are expected to apply for construction licenses in the future, and to determine potential risks in geographic areas of the U.S. that customarily have not hosted uranium recovery facilities. For this assessment the conventional mills we were most interested in were the White Mesa mill and the Sweetwater mill. (The Shootaring Canyon mill was not analyzed, because the impoundment is very small and is soil covered, and the Cotter facility is now in closure). These conventional mills are either in operation or standby and are subject to the flux standard of 20 pCi/m^2/sec. The risk analyses performed for these two mills showed that the maximum lifetime cancer risks from radon emissions from the White Mesa impoundments were 1.1×10^{-4} while the maximum lifetime cancer risks from radon associated with the impoundments at the Sweetwater mill were 2.4×10^{-5}. As we indicated in our original 1989 risk assessment, in protecting public health, EPA strives to provide the maximum feasible protection by limiting lifetime cancer risk from radon exposure to approximately 1 in 10,000 (i.e., 10^{-4}).[26] The analyses also estimated that the total cancer risk to the populations surrounding all ten modeled uranium sites (i.e., total cancer fatalities) is between 0.0015 and 0.0026 fatal cancers per year, or approximately 1 case every 385 to 667 years for the 4 million persons living within 80 km of the uranium recovery facilities. Similarly, the total cancer incidence for all ten modeled sites is between 0.0021 and 0.0036 cancers per year, or approximately 1 case every 278 to 476 years. The analyses are described in more detail in the background document generated for this proposal.[27] As stated above, we performed this risk assessment for informational purposes only. The risk assessment was not required or considered during our analysis for proposing GACT standards for uranium recovery facilities (e.g., conventional impoundments, non-conventional impoundments or heap leach piles).

III. Summary of the Proposed Requirements

We are proposing to revise Subpart W to include requirements we have identified that are generally available for controlling radon emissions in a cost-effective manner, and are not currently included in Subpart W. Specifically, we are proposing to require that non-conventional impoundments and heap leach piles must maintain minimum liquid levels to control their radon emissions from these affected sources.

Additionally, we are revising Subpart W to propose GACT standards for the affected sources at conventional uranium mills, ISL facilities and heap leach facilities. Given the evolution of uranium recovery facilities over the last 20 years, we believe it is appropriate to revise Subpart W to tailor the requirements of the rule to the different types of facilities in existence at this time. We are therefore proposing to revise Subpart W to add appropriate definitions, standards and other requirements that are applicable to HAP emissions at these uranium recovery facilities.

Our experience with ensuring that uranium recovery facilities are in compliance with Subpart W also leads us to propose three more changes. First, we are proposing to remove certain monitoring requirements that we believe are no longer necessary for demonstrating compliance with the proposed GACT standards. Second, we are proposing to revise certain definitions so that owners and operators clearly understand when Subpart W applies to their facility. Third, we are proposing to clarify what specific liner

[23] Technical and Regulatory Support to Develop a Rulemaking to Potentially Modify the NESHAP Subpart W Standard for Radon Emissions from Operating Uranium Mills (40 CFR 61.250).

[24] *http://www.epa.gov/radiation/assessment/CAP88 V 3.0/index.html.*

[25] There is a potential in the future for uranium recovery in areas like south-central Virginia.

[26] See 54 FR 51656

[27] All risks are presented as LCF risks. If it is desired to estimate the morbidity risk, simply multiply the LCF risk by 1.39. For a more detailed analysis of cancer mortality and morbidity, please see the Background Information Document, Docket number EPA–HQ–OAR–0218–0087.

requirements must be met under Subpart W.[28]

Taken altogether, the proposed revisions to Subpart W are appropriate for updating, clarifying and strengthening the management of radon emissions from the uranium byproduct material generated at uranium recovery facilities.

A. What are the affected sources?

Today we are proposing to revise Subpart W to include requirements for affected sources at three types of operating uranium recovery facilities: (1) Conventional uranium mills; (2) ISL facilities; and (3) heap leach facilities. The affected sources at these uranium recovery facilities include conventional impoundments, non-conventional impoundments where tailings are contained in ponds and covered by liquids (examples of these affected sources are evaporation or holding ponds that may exist at conventional mills, ISL facilities and heap leach facilities), and heap leach piles. The proposed GACT standards and the rationale for these proposed standards are discussed below and in Section IV. We request comment on all aspects of these proposed requirements.

B. What are the proposed requirements?

1. Conventional Impoundments

In the 1989 promulgation of Subpart W we created two work practice standards, phased disposal and continuous disposal, for uranium tailings impoundments designed and constructed after December 15, 1989. The work practice standards, which limit the exposed area and/or number of conventional impoundments at a uranium recovery facility, require that these impoundments be no larger than 40 acres (for phased disposal) or 10 uncovered acres (for continuous disposal). We also limited the number of conventional impoundments operating at any one time to two. We took this approach because we recognized that the radon emissions from very large conventional impoundments could impose unacceptable health effects if the piles were left dry and uncovered. The 1989 promulgation also included the requirements in 40 CFR 192.32(a), which include design and construction requirements for the impoundments as well as requirements for prevention and mitigation of ground-water contamination.

As discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed. We believe that the existing conventional impoundments at both the Shootaring Canyon and Sweetwater facilities can meet the work practice standards in the current Subpart W regulation. The conventional impoundments at both these facilities are less than 40 acres in area and are synthetically lined as per the requirements in 40 CFR 192.32(a)(1). The existing cell 3 at the White Mesa mill will undergo closure in 2014 and will be replaced with the impoundments currently under construction that meet the phased disposal work practice standard. Therefore, there is no reason not to subject these older impoundments to the work practice standards required for impoundments designed or constructed after December 15, 1989. By incorporating these impoundments under the work practices provision of Subpart W, it is no longer necessary to require radon flux monitoring, and we are proposing to eliminate that requirement.

The proposed elimination of the monitoring requirement in 40 CFR 61.253 applies only to those facilities currently subject to the radon flux standard in 40 CFR 61.252(a), which applies to only the three conventional impoundments in existence prior to the original promulgation of Subpart W on December 15, 1989. While we are proposing to eliminate the radon monitoring requirement for these three impoundments under Subpart W, this action does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements of their operating license issued by the NRC or its Agreement States. These requirements are found at 10 CFR Part 40, Appendix A, Criterion 8 and 8A. Additionally, NRC, through its Regulatory Guide 4.14, may also recommend incorporation of radionuclide air monitoring at operating facility boundaries.

Further, when the impoundments formally close they are subject to the radon monitoring requirements of 40 CFR 192.32(a)(3), also under the NRC licensing requirements.

From a cost standpoint, by not requiring radon monitoring we expect that for all three sites the total annual average cost savings would be $29,200, with a range from about $21,000 to $37,000. More details on economic costs can be found in Section IV.B of this preamble.

For the proposed rule we also evaluated the requirements of 40 CFR 192.32(a) as they pertain to the Subpart W standards. The requirements of 40 CFR 192.32(a) are included in the NRC's regulations and are reviewed for compliance by NRC during the licensing process for a uranium recovery facility. We determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for design and operation of surface impoundments at 40 CFR 264.221, are the only requirements necessary for EPA to incorporate for Subpart W, as they are effective methods of containing tailings and protecting ground water while also limiting radon emissions. This liner requirement, described earlier in this preamble, remains in use for the permitting of hazardous waste land disposal units under RCRA. The requirements at 40 CFR 192.32(a)(1) contain safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. We are therefore proposing to retain the two work practice standards and the requirements of 40 CFR 192.32(a)(1) as GACT for conventional impoundments because these methods for limiting radon emissions while also protecting ground water have proven effective for these types of impoundments.

2. Non-Conventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids

Today we are proposing a GACT standard specifically for non-conventional impoundments where uranium byproduct materials are contained in ponds and covered by liquids. Common names for these structures may include, but are not limited to, impoundments and evaporation or holding ponds. These affected sources may be found at any of the three types of uranium recovery facilities.

These units meet the existing applicability criteria in 40 CFR 61.250 to classify them for regulation under Subpart W. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct material, either in solid form or dissolved in solution, and therefore their emissions are regulated under Subpart W. As defined at 40 CFR 61.251(g), uranium byproduct material or tailings means the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.

[28] Under its CAA authority, EPA requires facilities subject to Subpart W to build impoundments in a manner that complies with the requirements found in 40 CFR 192. As a matter of convenience, EPA cross-references the part 192 requirements in Subpart W instead of copying them directly into Subpart W. This cross-referencing convention is often used in rulemakings.

Therefore, emissions for the ponds at uranium recovery facilities that contain either uranium byproduct material in solid form or radionuclides dissolved in liquids are regulated under Subpart W. Today we are again stating that determination and proposing a GACT standard specifically for these impoundments.

Evaporation or holding ponds, while sometimes smaller in area than conventional impoundments, perform a basic task. They hold uranium byproduct material until it can be disposed. Our survey of existing ponds shows that they contain liquids, and, as such, this general practice has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero. Because of the low potential for radon emissions from these impoundments, we do not believe it is necessary to monitor them for radon emissions. We have found that as long as approximately one meter of liquid is maintained in the pond, the effective radon emissions from the pond are so low that it is difficult to determine whether there is any contribution above background radon values. EPA has stated in the *Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Background Information Document* (August, 1986):

''Recent technical assessments of radon emission rates from tailings indicate that radon emissions from tailings covered with less than one meter of water, or merely saturated with water, are about 2% of emissions from dry tailings. Tailings covered with more than one meter of water are estimated to have a zero emissions rate. The Agency believes this calculated difference between 0% and 2% is negligible. The Agency used an emission rate of zero for all tailings covered with water or saturated with water in estimating radon emissions.''

Therefore, we are proposing as GACT that these impoundments meet the design and construction requirements of 40 CFR 192.32(a)(1), with no size/area restriction, and that during the active life of the pond at least one meter of liquid be maintained in the pond.

We are also proposing that no monitoring be required for this type of impoundment. We have received information and collected data that show there is no acceptable radon flux test method for a pond holding a large amount of liquid. (Method 115 does not work because a solid surface is needed to place the large area activated carbon canisters used in the Method). Further, even if there was an acceptable method, we recognize that radon emissions from the pond would be expected to be very low because the liquid acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for most of the radon produced by the solids or from solution to migrate to the water surface and cross the water/air interface before decaying(EPA–HQ–OAR–2008–0218–0087). It therefore appears that monitoring at these ponds is not necessary for demonstrating compliance with the proposed standards. We do, however, ask for comment and supporting information on three issues: (1) Whether these impoundments need to be monitored with regard to their radon emissions, and why; (2) whether these impoundments need to be monitored to ensure at least one meter of liquid is maintained in the pond at all times, and (3) if these impoundments do need monitoring, what methods could a facility use (for example, what types of radon collection devices, or methods to measure liquid levels) at evaporation or holding ponds.

3. Heap Leach Piles

The final impoundment category for which we are proposing GACT standards is heap leach piles. We are proposing to require that heap leach piles meet the phased disposal work practice standard set out in Section III B. 1. of this preamble (which limits an owner/operator to no more than two operating heap leach piles of no more than 40 acres each at any time) and the design and construction requirements at 40 CFR 192.32(a)(1) as GACT. We are also requiring heap leach piles to maintain minimum moisture content of 30% so that the byproduct material in the heap leach pile does not dry out, which would increase radon emissions from the heap leach pile.

As noted earlier in the preamble, there are currently no operating uranium heap leach facilities in the United States. We are aware that the one currently proposed heap leach facility will use the design and operating requirements at 40 CFR 192.32(a)(1) for the design of its heap. Since this requirement will be used at the only example we have for a heap leach pile, it (design and operating requirements at 40 CFR 192.32(a)(1)), along with the phased disposal work practice standard (limiting the number and size of heap leach piles), will be the standards that we propose as GACT for heap leach piles. The premise is that the operator of a heap would not want to lose any of the uranium-bearing solution; thus, it is cost effective to maintain a good liner system so that there will be no leakage and ground water will be protected. Also, use of the phased disposal work practice standard will limit the amount of exposed uranium byproduct material that would be available to emit radon. If we assume that uranium ore (found in the heap leach pile) and the resultant leftover byproduct material after processing emit radon at the same rate as uranium byproduct material in a conventional impoundment (a conservative estimate), we can also assume that the radon emissions will be nearly the same as two 40 acre conventional impoundments.

We recognize that owners and operators of conventional impoundments also limit the amount of radon emitted by keeping the tailings in the impoundments covered, either with soil or liquids. At the same time, however, we recognize that keeping the uranium byproduct material in the heap in a saturated or near-saturated state (in order to reduce radon emissions) is not a practical solution as it would be at a conventional tailings impoundment. In the definitions at 40 CFR 61.251(c) we have defined ''dewatered'' tailings as those where the water content of the tailings does not exceed 30% by weight. We are proposing today to require operating heaps to maintain moisture content of greater than 30% so that the byproduct material in the heap is not allowed to become dewatered which would allow more radon emissions. We are specifically asking for comment on the amount of liquid that should be required in the heap, and whether the 30% figure is a realistic objective. We are also asking for comments on precisely where in the heap leach pile this requirement must be met. The heap leach pile may not be evenly saturated during the uranium extraction process. The sprayer/drip system commonly used on the top of heap leach piles usually results in a semi-saturated moisture condition at the top of the pile, since flow of the lixiviant is not uniformly spread across the top of the pile. As downward flow continues, the internal areas of the pile become saturated. We are requesting information and comment on where specifically in the pile the 30% moisture content should apply.

C. What are the monitoring requirements?

As the rule currently exists, only mills with existing conventional impoundments in operation on or prior to December 15, 1989, are currently required to monitor to ensure compliance with the radon flux standard. The reason for this is because at the time of promulgation of the 1989 rule, EPA stated that no flux monitoring would be required for new impoundments because the proposed

work practice standards would be effective in reducing radon emissions from operating impoundments by limiting the amount of tailings exposed (54 FR 51681). Since we have now determined that existing older conventional impoundments can meet one of the two work practice standards, we are proposing to eliminate the radon flux monitoring requirement.

In reviewing Subpart W we looked into whether we should extend radon monitoring to all affected sources constructed and operated after 1989 so that the monitoring requirement would apply to all conventional impoundments, non-conventional impoundments and heap leach piles containing uranium byproduct materials. We also reviewed how this requirement would apply to facilities where Method 115 is not applicable, such as at impoundments totally covered by liquids. We concluded that the original work practice standards (now proposed as GACT) continue to be an effective practice for the limiting of radon emissions from conventional impoundments and from heap leach piles. We also concluded that by maintaining an effective water cover on non-conventional impoundments the radon emissions from those impoundments are so low as to be difficult to differentiate from background radon levels at uranium recovery facilities. Therefore, we are proposing today that it is not necessary to require radon monitoring for any affected sources regulated under Subpart W. We seek comment on our conclusion that radon monitoring is not necessary for any of these sources as well as on any available cost-effective options for monitoring radon at non-conventional impoundments totally covered by liquids.

D. What are the notification, recordkeeping and reporting requirements?

New and existing affected sources are required to comply with the existing requirements of the General Provisions (40 CFR part 61, subpart A). The General Provisions include specific requirements for notifications, recordkeeping and reporting, including provisions for notification of construction and/or modification and startup as required by 40 CFR 61.07, 61.08 and 61.09.

Today we are also proposing that all affected sources will be required to maintain certain records pertaining to the design, construction and operation of the impoundments, both including conventional impoundments, and nonconventional impoundments, and heap leach piles. We are proposing that these records be retained at the facility and contain information demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1), including but not limited to, all tests performed that prove the liner is compatible with the material(s) being placed on the liner. For nonconventional impoundments we are proposing that this requirement would also include records showing compliance with the continuous one meter of liquid in the impoundment; [29] for heap leach piles, we are proposing that this requirement would include records showing that the 30% moisture content of the pile is continuously maintained. Documents showing that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1) are already required as part of the pre-construction application submitted under 40 CFR 61.07, so these records should already be available. Records showing compliance with the one meter liquid cover requirement for nonconventional impoundments and records showing compliance with the 30% moisture level required in heap leach piles can be created and stored during the daily inspections of the tailings and waste retention systems required by the NRC (and Agreement States) under the inspection requirements of 10 CFR 40, Appendix A, Criterion 8A.

Because we are proposing new record-keeping requirements for uranium recovery facilities, we are required by the Paperwork Reduction Act (PRA) to prepare an estimate of the burden of such record-keeping on the regulated entity, in both cost and hours necessary to comply with the requirements. We have submitted the Information Collection Request (ICR) containing this burden estimate and other supporting documentation to the Office of Management and Budget (OMB). See Section VII.B for more discussion of the PRA and ICR.

We believe the record-keeping requirements proposed today will not create a significant burden for operators of uranium recovery facilities. As described earlier, we are proposing to require retention of three types of records: (1) Records demonstrating that the impoundments and/or heap leach pile meet the requirements in section 192.32(a)(1) (e.g. the design and liner testing information); (2) records showing that one meter of water is maintained to cover the byproduct material stored in nonconventional impoundments; and (3) records showing that heap leach piles maintain a moisture content of at least 30%.

Documents demonstrating that the affected sources comply with section 192.32(a)(1) requirements are necessary for the facility to obtain regulatory approval from NRC (or an NRC Agreement State) and EPA to construct and operate the affected sources (this includes any revisions during the period of operations). Therefore, these records will exist independent of Subpart W requirements and will not need to be continually updated as a result of this record-keeping requirement in Subpart W; however, we are proposing to include this record-keeping requirement in Subpart W to require that the records be maintained at the facility during its operational lifetime (in some cases the records might be stored at a location away from the facility, such as corporate offices). This might necessitate creating copies of the original records and providing a location for storing them at the facility.

Keeping a record to provide confirmation that water to a depth of one meter is maintained above the byproduct material stored in nonconventional impoundments should also be relatively straightforward. This would involve placement of a measuring device or devices in or at the edge of the impoundment to allow observation of the water level relative to the level of byproduct material in the impoundment. Such devices need not be highly technical and might consist of, for example, measuring sticks with easily-observable markings placed at various locations, or marking the sides of the impoundment to illustrate different water depths. As noted earlier, NRC and Agreement State licenses require operators to inspect the facility on a daily basis. Limited effort should be necessary to make observations of water depth and record the information in inspection log books that are already kept on site and available to inspectors.

Similarly, daily inspections would provide a mechanism for recording moisture content of heap leach piles. However, because no heap leach facilities are currently operating, there is more uncertainty about exactly how the operator will determine that the heap has maintained a 30% moisture content. As discussed in more detail in Section IV.E.4 of this preamble, soil moisture probes are readily available and could be used for this purpose. Such probes could be either left in the heap leach pile, placed at locations that provide a

[29] The one meter liquid requirement pertains to having one meter of liquid cover any and all solid byproduct material. We do not anticipate a large quantity of solid byproduct material in these nonconventional impoundments (EPA–HQ–OAR–2008–0218–0088).

representative estimate for the heap as a whole, or facility personnel could use handheld probes to collect readings. The facility might also employ mass-balance estimates to provide a further check on the data collected.

We estimate the burden in hours and cost for uranium recovery facilities to comply with the proposed recordkeeping requirements are as follows:

TABLE 1—BURDEN HOURS AND COSTS FOR PROPOSED RECORDKEEPING REQUIREMENTS

[Annual figures except where noted]

Activity	Hours	Costs
Maintaining Records for the section 192.32(a)(1) requirements	*20	*$1,360
Verifying the one meter liquid requirement for nonconventional impoundments	288	12,958
Verifying the 30% moisture content at heap leach piles using multiple soil probes	2,068	86,548

* These figures represent a one-time cost to the facility.

Burden levels for heap leach piles are most uncertain because they depend on the chosen method of measurement (e.g., purchasing and maintaining multiple probes or a smaller number of handheld units) as well as the personnel training involved (e.g., a person using a handheld unit will likely need more training than someone who is simply recording readings from already-placed probes). We request comment on our estimates of burden, as well as suggestions of methods that could readily and efficiently be used to collect the required information. More discussion of the ICR and opportunities for comment may be found in Section VII.B.

E. When must I comply with these proposed standards?

All existing affected sources subject to this proposed rule would be required to comply with the rule requirements upon the date of publication of the final rule in the **Federal Register**. To our knowledge, there is no existing operating uranium recovery facility that would be required to modify its affected sources to meet the requirements of the final rule; however, we request any information regarding affected sources that would not meet these requirements. New sources would be required to comply with these rule requirements upon the date of publication of the final rule in the **Federal Register** or upon startup of the facility, whichever is later.

IV. Rationale for This Proposed Rule

A. How did we determine GACT?

As provided in CAA section 112(d)(5), we are proposing standards representing GACT for this area source category. In developing the proposed GACT standards, we evaluated the control technologies and management practices that are available to reduce HAP emissions from the affected sources and identified those that are generally available and utilized by operating uranium recovery facilities.

As noted in Section II.F., for this proposal we solicited information on the available controls and management practices for this area source category using written facility surveys (surveys authorized by section 114(a) of the CAA), reviews of published literature, and reviews of existing facilities (EPA–HQ–OAR–0218–0066). We also held discussions with trade association and industry representatives and other stakeholders at various public meetings.[30] Our determination of GACT is based on this information. We also considered costs and economic impacts in determining GACT (See Section VI.).

We identified two general management practices that reduce radon emissions from affected sources. These general management practices are currently being used at all existing uranium recovery facilities. First, limiting the area of exposed tailings in conventional impoundments limits the amount of radon that can be emitted. The work practice standards currently included in Subpart W require owners and operators of affected sources to implement this management practice by either limiting the number and area of existing, operating impoundments or covering dewatered tailings to allow for no more than 10 acres of exposed tailings. This is an existing requirement of Subpart W and of the NRC licensing requirements; hence, owners and operators of uranium recovery facilities are already incurring the costs associated with limiting the area of conventional impoundments (and as proposed, heap leach piles) to 40 acres or less (as well as no more than two conventional impoundments in operation at any one time), or limiting the area of exposed tailings to no more than 10 acres.

Second, covering uranium byproduct materials with liquids is a general management practice that is an effective method for limiting radon emissions. This general management practice is often used at nonconventional impoundments, which, as stated earlier, are also known as evaporation or holding ponds. These nonconventional impoundments also contain byproduct material, and thus their HAP emissions are regulated under Subpart W. They are also regulated under the NRC operating license. While they hold mostly liquids, they are still designed and constructed in the manner of conventional impoundments, meaning they meet the requirements of section 192.32(a)(1). While this management practice of covering uranium byproduct materials in impoundments with liquids is not currently required under Subpart W, facilities using this practice have generally shown its effectiveness in reducing emissions in both conventional impoundments (that make use of phased disposal) and nonconventional impoundments (i.e. holding or evaporation ponds). We are therefore proposing to require the use of liquids in nonconventional impoundments as a way to limit radon emissions.

Therefore, after review of the available information and from the evidence we have examined, we have determined that a combination of the management practices listed above will be effective in limiting radon emissions from this source category, and will do so in a cost effective manner. We also believe that since heap leach piles are in many ways similar to the design of conventional impoundments, the same combination of work practices (limitation to no more than two operating heap leach piles, each one no more than 40 acres) will limit radon emissions in heap leach piles. We discuss our reasons supporting these conclusions in more detail in Section IV.B.

[30] See *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html* for a list of presentations made at public meetings held by EPA and at various conferences open to the public.

B. Proposed GACT Standards for Operating Mill Tailings

1. Requirements at 40 CFR 192.32(a)(1)

As an initial matter, we determined that the requirements at 40 CFR 192.32(a)(1), which reference the RCRA requirements for the design and construction of liners at 40 CFR 264.221, continue to be an effective method of containment of tailings for all types of affected sources (EPA–HQ–OAR–2008–0218–0015). The liner requirements, described earlier in this document, remain in use for the permitting of hazardous waste land disposal units under RCRA. Because of the requirement for nearly impermeable boundaries between the tailings and the subsurface, and the requirement for leak detection between the liners, we have determined that the requirements contain enough safeguards to allow for the placement of tailings and also provide an early warning system in the event of a leak in the liner system (EPA–HQ–OAR–2008–0218–0015). For this reason we are proposing to require as GACT that conventional impoundments, non-conventional impoundments and heap leach piles all comply with the liner requirements in 40 CFR 192.32(a)(1). Previously, Subpart W contained this requirement but included a more general reference to 40 CFR 192.32(a); we are proposing to replace that general reference with a more specific reference to 40 CFR 192.32(a)(1) to narrow the requirements under this proposed rule to only the design and construction requirements for the liner of the impoundment contained in 40 CFR 192.32(a)(1).

The estimated average cost of the liner requirement for each type of impoundment at uranium recovery facilities is listed in the table below (EPA–HQ–OAR–2008–0218–0087):

TABLE 2—ESTIMATED LINER COSTS

Table 2—Proposed GACT standards costs per pound of U_3O_8

	Unit cost ($/lb U_3O_8)		
	Conventional	ISL	Heap Leach
GACT—Double Liners for Nonconventional Impoundments	$1.04	$3.07	$0.22
GACT—Maintaining 1 Meter of Water in Nonconventional Impoundments	0.013	0.010	0.0010
GACT—Liners for Heap Leach Piles	.....	.....	2.01
GACT—Maintaining Heap Leach Piles at 30% Moisture	.....	.....	0.0043
GACTs—Total for All Four	1.05	3.08	2.24

Table 2 presents a summary of the unit cost (per pound of U_3O_8) for implementing each GACT at each of the three types of uranium recovery facilities. In addition to presenting the GACT costs individually, Table 2 presents the total unit cost to implement all relevant GACTs at each type of facility.

Based on the Table 2, implementing all four GACTs would result in unit cost (per pound of U_3O_8) increases of about 2%, 6%, and 5% at conventional mills, ISL, and heap leach type uranium recovery facilities, respectively.

In making these cost estimates, we have assumed the following: (1) A conventional impoundment is no larger than 40 acres in size, which is the maximum size allowed for the phased disposal option; (2) a nonconventional impoundment is no larger than 80 acres in size (the largest size we have seen); and (3) a heap leach pile is no larger than 40 acres in size (again, the maximum size allowed under the phased disposal work practice standard, although as with conventional impoundments the owner or operator is limited to two of these affected sources to be in operation at any time).

We do not have precise data for the costs associated with the liner requirements at conventional impoundments using the continuous disposal work practice standard because currently none exist, but a reasonable maximum approximation would be the costs for the 80 acre nonconventional impoundment, since it is the largest we have seen. We believe that no additional costs would be incurred for building a conventional impoundment that will use the continuous disposal option above what we estimated for building a nonconventional impoundment but we ask for comment on whether this assumption is reasonable. We also ask for data on the costs of building a conventional impoundment using continuous disposal, and how those costs would differ from the estimates provided above, or whether the costs we have listed for building a conventional impoundment using phased disposal are a reasonable approximation of the costs for building a conventional impoundment using continuous disposal.

These liner systems are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC and NRC Agreement States through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC or NRC Agreement State license.

The liner systems we are proposing that heap leach piles must use are the same as those used for conventional and nonconventional impoundments. We estimate that the average costs associated with the construction of a 40 acre liner that complies with 40 CFR 192.32(a)(1)is approximately $15.3 million. When compared to the baseline capital costs associated with the facility (estimated at $356 million)(EPA–HQ–OAR–2008–0218–0087), the costs for constructing this type of liner system per facility is about 4% of the total baseline capital costs of a heap leach pile facility (EPA–HQ–OAR–2008–0218–0087).[31]

[31] For our purposes, baseline conditions are defined as a reference point that reflects the world without the proposed regulation. It is the starting point for conducting an economic analysis of the potential benefits and costs of a proposed regulation. The defined baseline influences first the level of emissions expected without regulatory intervention. It thereby also influences the projected level of emissions reduction that may be achieved as a consequence of the proposed regulation. Baselines have no standard definition besides the fact that they simply provide a reference scenario against which changes in economic and environmental conditions (in this case radon emissions) can be measured. In some instances, baselines have been established based on the assumption that economic, environmental and/or other conditions will continue on the present path or trend, purely as time dependant extensions of presently observed patterns. In other instances, baselines are derived from elaborate modeling

Continued

2. Conventional Impoundments

In the 1989 promulgation of Subpart W we required new conventional impoundments to comply with one of two work practice standards, phased disposal or continuous disposal. These work practice standards contain specific limits on the exposed area and/or number of operating conventional impoundments to limit radon emissions because we recognized that radon emissions from very large impoundments could impose unacceptable health effects if the piles were left dry and uncovered. We are proposing as the GACT standard that *all* conventional impoundments—both existing impoundments and new impoundments—comply with one of the two work practice standards, phased disposal or continuous disposal, because these methods for limiting radon emissions by limiting the area of exposed tailings continue to be effective methods for reducing radon emissions from these impoundments (reference EPA 520–1–86–009, August 1986). We are proposing that existing impoundments also comply with one of the two work practice standards because, as discussed earlier, we no longer believe that a distinction needs to be made for conventional impoundments based on the date when they were designed and/or constructed.

We are also not aware of any conventional impoundments either in existence or planned that use any other technologies or management practices to reduce radon emissions. Operators continue to use the general management practices discussed above for reducing radon emissions from their conventional impoundments, i.e., limiting the size and/or number of the impoundments, and covering the tailings with soil or keeping the tailings wet. These management practices form the basis of the work practice standards for conventional impoundments and continue to be very effective methods for limiting the amount of radon released to the environment.

These work practice standards are a cost-effective method for reducing radon emissions from conventional impoundments. In addition, the liner requirements for conventional impoundments are also required by the NRC in their licensing requirements at 10 CFR part 40. Therefore, we are proposing that GACT for conventional impoundments will be the same work practice standards as were previously included in Subpart W.

3. Non-Conventional Impoundments Where Tailings Are Contained in Ponds and Covered by Liquids

Today we are proposing a GACT standard specifically for use by any operating uranium recovery facility that has one or more non-conventional impoundments at its facility (i.e., those impoundments where tailings are contained in ponds and covered by liquids). Common names for these structures may include, but are not limited to, impoundments, evaporation ponds and holding ponds. These ponds contain uranium byproduct material and the HAP emissions are regulated by Subpart W.

Industry has argued in preambles to responses to the CAA section 114(a) letters [32] and elsewhere that Subpart W does not, and was never meant to, include these types of evaporation or holding ponds under the Subpart W requirements. Industry has asserted that the original Subpart W did not specifically reference evaporation or holding ponds but was regulating only conventional mill tailings impoundments. They argue that the ponds are temporary because they hold very little solid material but instead hold mostly liquids containing dissolved radionuclides (which emit very little radon), and at the end of the facility's life they are drained, and any solid materials, along with the liner system, are disposed in a properly licensed conventional impoundment.

EPA has consistently maintained that these non-conventional impoundments meet the existing applicability criteria for regulation under Subpart W. As defined at 40 CFR 61.251(g), uranium byproduct material or tailings means the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content. The holding or evaporation ponds located at conventional mills, ISL facilities and potentially heap leach facilities contain uranium byproduct materials, either in solid form or dissolved in solution, and therefore their HAP emissions are regulated under Subpart W. Today we reiterate that position and are proposing a GACT standard more specifically tailored for these types of impoundments.

We are proposing that these non-conventional impoundments (the evaporation or holding ponds) must maintain a liquid level in the impoundment of no less than one meter at all times during the operation of the impoundment. Maintaining this liquid level will ensure that radon-222 emissions from the uranium byproduct material in the pond are minimized. We are also proposing that there is no maximum area requirement for the size of these ponds since the chance of radon emissions is small. Our basis for this determination is that radon emissions from the pond will be expected to be very low since the liquid in the ponds acts as an effective barrier to radon emissions; given that radon-222 has a very short half-life (3.8 days), there simply is not enough time for approximately 98% of the radon produced by the solids or from the solution to migrate to the water surface and cross the water/air interface before decaying.

By requiring a minimum of one meter of water in all nonconventional impoundments that contain uranium byproduct material, the release of radon from these impoundments would be greatly reduced. Nielson and Rogers (1986) present the following equation for calculating the radon attenuation:

$$A = e^{\left(-\left[\frac{\lambda}{D}\right]^{0.5} d\right)}$$

Where:

A = Radon attenuation factor (unit less)
λ = Radon-222 decay constant (sec^{-1})
= 2.1×10^{-6} sec^{-1}
D = Radon diffusion coefficient (cm^2/sec)
= 0.003 cm^2/sec in water
d = Depth of water (cm)
= 100 cm

The above equation indicates that the attenuation of radon emanation by water (i.e., the amount by which a water cover will decrease the amount of radon emitted from the impoundment) depends on how quickly radon-222 decays, how quickly radon-222 can move through water (the diffusion coefficient), and the thickness of the layer of water.[33] Solving the above equation shows that one meter of water has a radon attenuation factor of about 0.07. That is, emissions can be expected to be reduced by about 93% compared to no water cover.

The benefit incurred by this requirement is that significantly less radon will be released to the atmosphere. The amount varies from facility to facility based on the size of the nonconventional impoundment, but

projections. Because in all cases their purpose is to project a view of the world without the proposed regulatory intervention, baselines are sometimes termed ''do nothing'' or ''business as usual'' scenarios.

[32] *http://www.epa.gov/radiation/neshaps/subpartw/rulemaking-activity.html.*

[33] For a detailed discussion of this topic, which includes the effects of pond water mixing, wind and convection, please see ''Risk Assessment Revision for 40 CFR Part 61 Subpart W-Radon Emissions from Operating Mill Tailings, Task 5 Radon Emission from Evaporation Ponds,''(EPA–HQ–OAR–2008–0218–0080).

across existing facilities radon can be expected to be reduced by approximately 24,600 curies, a decline of approximately 93%.

The estimated cost associated with complying with the proposed one meter of liquid that would be required to limit the amount of radon emissions to the air vary according to the size of the impoundment and the geographic area in which it is located. We estimate that this requirement will cost owners or operators of 80 acre nonconventional impoundments between $1,042 and $9,687 per year. This value varies according to the location of the impoundment, which will determine evaporation rates, which determines how much replacement water will be required to maintain the minimum amount of one meter. If the evaporated water is not replaced by naturally occurring precipitation, then it would need to be replaced with make-up water supplied by the nonconventional impoundment's operator.

The most obvious source of water is what is known as ''process water'' from the extraction of uranium from the subsurface. Indeed, management of this process water is one of the primary reasons for constructing the impoundment in the first place, as the process water contains uranium byproduct material that must also be managed by the facility. It is possible that an operator could maintain one meter of water in the impoundment solely through the use of process water. If so, this would not create any additional costs for the facility as the cost of the process water can be attributed to its use in the uranium extraction process. However, for purposes of estimating the economic impacts associated with our proposal, our cost estimate does not include process water as a source of water potentially added to the impoundment to replace water that has evaporated. Instead, we estimated the costs of using water from other sources. This method results in the most conservative cost estimate for compliance with the one meter requirement.

In performing the cost impacts for this requirement, three potential sources of impoundment make-up water were considered: (1) Municipal water suppliers; (2) offsite non-drinking-water suppliers; and (3) on-site water (EPA–HQ–OAR–2008–0218–0087). Depending on the source of water chosen, we estimate that this requirement will cost owners or operators of nonconventional impoundments between $1,042.00 and $9,687.00 per year.[34]

This value also varies according to the size and location of the nonconventional impoundment. Such impoundments currently range up to 80 acres in size. The requirement to maintain a minimum of one meter of liquid in the ponds is estimated to cost approximately $0.03 per pound of uranium produced. The annual cost of makeup water was divided by the base case facility yellowcake annual production rate to calculate the makeup water cost per pound of yellowcake produced (EPA–HQ–OAR–2008–0218–0087). We conclude that this proposed requirement is a cost-effective way to significantly reduce radon emissions from nonconventional impoundments, and is therefore appropriate to propose as a GACT standard for nonconventional impoundments.

4. Heap Leach Piles

The final affected source type for which we are proposing GACT standards is heap leach piles. While there are currently no operating uranium heap leach facilities in the United States, we are proposing to regulate the HAP emission at any future facilities using this type of uranium extraction under Subpart W since the moment that uranium extraction takes place in the heap, uranium byproduct materials are left behind. During the process of uranium extraction on a heap, as the acid drips through the ore, uranium is solubilized and carried away to the collection system where it is further processed. At the point of uranium movement out of the heap, what remains is uranium byproduct materials as defined by 40 CFR 61.251(g). In other words, what remains in the heap is the waste produced by the extraction or concentration of uranium from ore processed primarily for its source material content. Thus, Subpart W applies because uranium byproduct materials are being generated during and following the processing of the uranium ore in the heap.

As a result, we are proposing GACT standards for heap leach piles. We are proposing that these piles conform to the phased disposal work practice standard specified for conventional impoundments in 40 CFR 61.252(a)(1)(i)(which limits the number of active heap leach piles to two, and limits the size of each one to no more than 40 acres) and that the moisture content of the uranium byproduct material in the heap leach pile be greater than or equal to 30% moisture content. We believe that the phased disposal approach can be usefully applied here because it limits the amount of tailings that can be exposed at any one time, which limits the amount of radon that can be emitted. The phased disposal work practice standard is applicable for heap leach piles because heap leach piles are expected to be managed in a manner that is similar in many respects to conventional impoundments. Based on what we understand about the operation of potential future heap leach facilities, after the uranium has been removed from the heap leach pile, the uranium byproduct material that remains would be contained in the heap leach structure which would be lined according to the requirements of 40 CFR 192.32(a)(1). The heap leach pile would also be covered with soil at the end of its operational life to minimize radon emissions.

This is what is required to occur at conventional impoundments using the phased disposal standard. Limiting the size of the operating heap leach pile to 40 acres or less (and the number of operating heap leach piles at any one time to two) has the same effect as it does on conventional impoundments; that is, it limits the area of exposed uranium byproduct material and therefore limits the radon emissions from the heap leach pile. While we believe that the 40 acre limitation is appropriate for heap leach piles, we are requesting comment on what should be the maximum size (area) of a heap leach pile.

We are also proposing as GACT that the heap leach pile constantly maintain a moisture content of at least 30% by weight. By requiring a moisture content of at least 30%, the byproduct material in the heap leach pile will not become dewatered, and we think that the heap leach pile will be sufficiently saturated with liquid to reduce the amount of radon that can escape from the heap leach pile. However, we request further information on all the chemical mechanisms in place during the leaching operation, and whether the 30% moisture content is sufficient for minimizing radon emissions from the heap leach pile. We also request comment on the amount of time the 30% moisture requirement should be maintained by a facility. We are proposing the term ''operational life'' of the facility. We are aware of several operations that take place during the

[34] Municipal sources were the most expensive, with average unit costs of $0.0033 per gallon. Offsite non-drinking water sources were the cheapest, at $0.000069 per gallon on average. Various references were used for the comparisons. For more detail, please see Section 6.3.3 of the Background Information Document.

uranium extraction process at a heap leach pile. After an initial period of several months of allowing lixiviant to leach uranium from the pile, the heap leach pile is allowed to ''rest,'' which enables the geochemistry in the pile to equilibrate. At that point the heap leach pile may be subjected to another round of extraction by lixiviant, or it may be rinsed to flush out any remaining uranium that is in solution in the heap leach pile. After the rinsing, the pile is allowed to drain and a radon barrier required by 40 CFR 192.32 can be emplaced. We are proposing that the operational life of the heap leach pile be from the time that lixiviant is first placed on the heap leach pile until the time of the final rinse. We believe this incorporates a majority of the time when the heap leach pile is uncovered (no radon barrier has been constructed over the top of the heap) and when the ability for radon to be emitted is the greatest.

Because there is no ''process water'' component to a heap leach operation, as there is for an ISL, water for the heap leach pile must be supplied from an outside source. Even if an ISL and heap leach operation were to be located at the same site, we consider it unlikely that an operator would use ISL process water as the basis for an acidic heap leach solution. It is possible, in fact likely, that the solution used in the heap will be recycled (i.e., applied to the heap more than once), which could reduce the amount of outside water needed to some degree, although as we discuss later in this section, it would not seem that recycling solution would affect the overall moisture content. In calculating the high-end costs of heap leaching, we have not included this possibility in our estimates of economic impacts.

The unit costs for providing liquids to a heap leach pile are assumed to be the same as the unit costs developed for providing water to nonconventional impoundments. In estimating the cost impacts for this requirement, three potential sources of impoundment make-up water were considered: (1) Municipal water suppliers; (2) offsite non-drinking-water suppliers; and (3) on-site water. The only cost associated with maintaining the moisture level within the pile is the cost of the liquid. We assume that existing piping used to supply lixiviant to the pile during leaching would be used to supply water necessary for maintaining the moisture level. Also, we assume that the facility will use the in-soil method for moisture monitoring. The in-soil method and its costs are described below.

Soil moisture sensors have been used for laboratory and outdoor testing purposes and for agricultural applications for over 50 years. They are mostly used to measure moisture in gardens and lawns to determine when it is appropriate to turn on irrigation systems. Soil moisture sensors can either be placed in the soil or held by hand.

For example, one system would bury soil moisture sensors to the desired depth in the heap. Then, a portable soil moisture meter would be connected by cable to each buried sensor one at a time, i.e., a single meter can read any number of sensors. The portable soil moisture meter costs about $350, and each in-soil sensor about $35 or $45, depending on the length of the cable (either 5 or 10 ft). Finally, it is assumed that moisture readings would be performed during the NRC required daily inspections of the heap leach pile, which would require approximately 2,000 additional work hours per year per facility. Our estimates for costs of monitoring the heap include 100 sensors located within the heap, with a meter on each sensor. We chose 100 sampling stations because heaps are generally the same size as conventional impoundments, and Method 115 prescribed 100 measurements for the tailings area of a conventional impoundment. The total estimated costs for using this system, including labor, are approximately $86,500 per year per facility.

Alternatively, with a handheld soil moisture meter, two rods (up to 8 inches long) that are attached to the meter are driven into the soil at the desired location, and a reading is taken. A handheld meter of this type costs about $1,065, and replacement rods about $58 for a pair. A minimum of 100 sampling stations for measuring radon could be required. We did not estimate costs for this method, as we concluded that the length of time required walking around a heap leach pile and obtaining these measurements required more time than is found in an average work day, and would expose workers to potentially hazardous constituents contained in the lixiviant.

The base case heap leach facility includes a heap leach pile that will occupy up to 80 acres at a height of up to 50 feet. With an assumed porosity of 0.39 and a moisture content of 30% by weight, the effective surface area of the liquid within the heap pile is 33.7 acres.

Table 3 presents the calculated cost for make-up water to maintain the moisture level in the heap leach pile, such that the moisture content is at 30% by weight, or greater. The unit costs for water and the net evaporation rates used for these estimates are identical to those derived for evaporation ponds.

TABLE 3—HEAP LEACH PILE ANNUAL MAKEUP WATER COST

Cost type	Water cost ($/gal)	Net evaporation (in/yr)	Makeup water cost ($/yr)	Makeup water rate (gpm/ft^2)
Mean	$0.00010	45.7	$4,331	2.3E–05
Median	0.00010	41.3	3,946	2.1E–05
Minimum	0.000035	6.1	196	3.0E–06
Maximum	0.00015	96.5	13,318	4.8E–05

To place this amount of make-up water in perspective, during leaching and rinsing of the heap leach pile, liquid is dripped onto the pile at a rate of 0.005 gallons per minute per square foot (gpm/ft^2). This rate is significantly higher than the make-up water rates necessary to maintain the moisture content at 30% by weight, shown in Table 3. We conclude from this analysis that the leaching solution applied in a typical operation should be sufficient to maintain the moisture content of the heap leach pile to the required levels, and only in unusual circumstances (such as during the final rinse and draindown of the heap leach pile) would additional liquids need to be applied. However, in a circumstance that would require the additional application of liquid to maintain the 30% moisture limit, such as excessive evaporation, we estimate that the cost of requiring the owner/operator of a heap leach pile to maintain 30% moisture content in the pile will average approximately $4,000 per year.

We are asking for comment on exactly where in the pile the 30% moisture content should be achieved. We are also soliciting comments on whether the leaching operation itself liberates more radon into the air than the equivalent of a conventional impoundment. We assume that because low-grade ore is usually processed by heap leach, there would be less radon emitted from a heap leach pile than from a conventional impoundment of similar size. We request information on whether this is a correct assumption.

We are also aware that there could be a competing argument against regulating the heap leach pile under Subpart W while the lixiviant is being placed on the heap leach pile. While not directly correlative, the process of heap leach could be defined as active ''milling.'' The procedure being carried out on the heap is the extraction of uranium. In this view, the operation is focused on the production of uranium rather than on managing uranium byproduct materials. Therefore, under this view, the heap meets the definition of tailings under 40 CFR 61.251(g) only after the final rinse of the heap solutions occurs and the heap is preparing to close. In this scenario the heap leach pile would close under the requirements at 40 CFR part 192.32 and Subpart W would never apply. We are requesting comments on the relative merits of this interpretation.

It bears noting that, as with ISL facilities, collection and/or evaporation ponds (nonconventional impoundments) may exist at heap leach facilities that will also contain uranium byproduct materials. These ponds' HAP emissions will be regulated under Subpart W regardless of whether the heap leach pile is also subject to regulation under that subpart.

V. Other Issues Generated by Our Review of Subpart W

During our review of Subpart W we also identified several issues that need clarification in order to be more fully understood. The issues that we have identified are:

- Clarification of the term ''standby'' and how it relates to the operational phase of an impoundment;
- Amending the definition of ''operation'' of an impoundment so that it is clear when the owner or operator is subject to the requirements of Subpart W;
- Determining whether Subpart W adequately addresses protection from extreme weather events;
- Revising 40 CFR 61.252(b) and (c) to accurately reflect that it is only 40 CFR 192.32(a)(1)that is applicable to Subpart W; and
- Removing the phrase ''as determined by the Nuclear Regulatory Commission'' in 40 CFR 61.252(b)(1) and (2).

A. Clarification of the Term ''Standby''

There has been some confusion over whether the requirements of Subpart W apply to an impoundment that is in ''standby'' mode. This is the period of time that an impoundment may not be accepting tailings, but has not yet entered the ''closure period'' as defined by 40 CFR 192.31(h). This period of time usually takes place when the price of uranium is such that it may not be cost effective for the uranium recovery facility to continue operations, and yet the facility has not surrendered its operating license, and may re-establish operations once the price of uranium rises to a point where it is cost effective to do so. Since the impoundment has not entered the closure period, it could continue to accept tailings at any time; therefore, Subpart W requirements continue to apply to the impoundment. Today we are proposing to add a definition to 40 CFR 61.251 to define ''standby'' as:

Standby means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

B. Amending the Definition of ''Operation'' for a Conventional Impoundment

As currently written, 40 CFR 61.251(e) defines the operational period of a tailings impoundment. It states that ''operation'' means that an impoundment is being used for the continuing placement of new tailings or is in standby status for such placement (which means that as long as the facility has generated byproduct material at some point and placed it in an impoundment, it is subject to the requirements of Subpart W). An impoundment is in operation from the day that tailings are first placed in the impoundment until the day that final closure begins.

There has been some confusion over this definition. For example, a uranium mill announced that it was closing a pre-December 15, 1989, impoundment. Before initiating closure, however, it stated that it would keep the impoundment open to dispose of material generated by other closure activities at the site that contained byproduct material (liners, deconstruction material, etc) but not ''new tailings.'' The company argued that since it was not disposing of new tailings the impoundment was no longer subject to Subpart W. We disagree with this interpretation. While it may be true that the company was no longer disposing of new tailings in the impoundment, it has not begun closure activities; therefore, the impoundment is still open to disposal of byproduct material that emits radon and continues to be subject to all applicable Subpart W requirements.

To prevent future confusion, we are proposing today to amend the definition of ''operation'' in the Subpart W definitions at 40 CFR 61.251 as follows:

Operation means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

C. Weather Events

In the past, uranium recovery facilities have been located in the western regions of the United States. In these areas, the annual precipitation falling on the impoundment, and any drainage area contributing surface runoff to the impoundment, has usually been less than the annual evaporation from the impoundment. Also, these facilities have been located away from regions of the country where extreme rainfall events (e.g., hurricanes or flooding) could jeopardize the structural integrity of the impoundment, although there is a potential for these facilities to be affected by flash floods, tornadoes, etc. Now, however, uranium exploration and recovery in the U.S. has the potential to move eastward, into more climatologically temperate regions of the country, with south central Virginia being considered for a conventional uranium mill. In determining whether additional measures would be needed for impoundments operating in areas where precipitation exceeds evaporation, a review of the existing requirements was necessary.

The proposed revisions to Subpart W will continue to require owners and operators of all impoundments to follow the requirements of 40 CFR 192.32(a)(1). That particular regulation references the RCRA surface impoundment design and operations requirements of 40 CFR 264.221. At 40 CFR 264.221(g) and (h) are requirements that ensure proper design and operation of tailings impoundments. Section 264.221(g) states that impoundments must be designed, constructed, maintained and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and rain action (e.g., a two foot freeboard requirement); rainfall; run-on;

malfunctions of level controllers, alarms and other equipment; and human error. Section 264.221(h) states that impoundments must have dikes that are designed, constructed and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

Since impoundments at uranium recovery facilities have been and will continue to be required to comply with the requirements of 40 CFR 192.32(a)(1), they are already required to be designed to prevent failure during extreme weather events. As we stated in Section IV B.2., we believe the requirements of 40 CFR 192.32(a)(1) contain enough safeguards to allow for the placement of tailings and yet provide an early warning system in the event of a leak in the liner system. Therefore, we are proposing to include these requirements in the Subpart W requirements without modification.

D. Applicability of 40 CFR 192.32(a) to Subpart W

The requirements at 40 CFR 61.252(b) and (c) require compliance with 40 CFR 192.32(a). However, we are now proposing to focus the Subpart W requirements on the impoundment design and construction requirements found specifically at 40 CFR 192.32(a)(1). The remainder of 40 CFR 192.32(a) goes beyond this limited scope by including requirements for ground-water detection monitoring systems and closure of operating impoundments. These other requirements, along with all of the part 192 standards, are implemented and enforced by the NRC through its licensing requirements for uranium recovery facilities at 10 CFR part 40, Appendix A. However, when referenced in Subpart W, the requirements in 40 CFR 192.32(a)(1) would also be implemented and enforced by EPA as the regulatory authority administering Subpart W under its CAA authority. Therefore today we are proposing to revise 40 CFR 61.252 (b) and (c) to specifically define which portions of 40 CFR 192.32(a) are applicable to Subpart W. At the same time we are proposing to eliminate the phrase ''. . .as determined by the Nuclear Regulatory Commission'' from 40 CFR 61.252(b). This should eliminate confusion regarding what an applicant must submit to EPA under the CAA in its pre-construction and modification approval applications as required by 40 CFR 61.07, and better explain that EPA is the regulatory agency administering Subpart W under the CAA. This proposed change will have no effect on the licensing requirements of the NRC or its regulatory authority under UMTRCA to implement the part 192 standards through its licenses.

VI. Summary of Environmental, Cost and Economic Impacts

As discussed earlier, uranium recovery activities are carried out at several different types of facilities. We are proposing to revise Subpart W based on how uranium recovery facilities manage uranium byproduct materials during and after the processing of uranium ore at their particular facility. As discussed in Sections III and IV, we are proposing GACT requirements for three types of affected sources at uranium recovery facilities: (1) Conventional impoundments; (2) nonconventional impoundments; and (3) heap leach piles.

For purposes of analyzing the impacts of the proposed rule, we assumed that approximately five conventional milling facilities, 50 ISL facilities (although this is only a projection since only 12 currently exist) and one heap leach facility, each with at least one regulated impoundment, would become subject to the proposed rule. The following sections present our estimates of the proposed rule's air quality, cost and economic impacts. For more information, please refer to the Economic Impact Analysis report that is included in the public docket for this proposed rule (EPA–HQ–OAR–2008–0218–0087).

A. What are the air quality impacts?

We project that the proposed requirements will maintain or improve air quality surrounding the regulated facilities. The GACT standards being proposed today are based on control technologies and management practices that have been used at uranium recovery facilities for the past twenty or more years. These standards will minimize the amount of radon that is released to the air by keeping the impoundments wet or covered with soil and/or by limiting the area of exposed tailings. The requirements in this proposed rule should eliminate or reduce radon emissions at all three types of affected sources.

B. What are the cost and economic impacts?

Table 24 presents a summary of the unit cost (per pound of U_3O_8) for implementing each GACT at each of the three types of uranium recovery facilities. In addition to presenting the GACT costs individually, Table 24 presents the total unit cost to implement all relevant GACTs at each type of facility.

A reference facility for each type of uranium recovery facility is developed and described in Section 6.2, including the base cost estimate to construct and operate (without the GACTs) each of the three types of reference facilities. For comparison purposes, the unit cost (per pound of U_3O_8) of the three uranium recovery reference facilities is presented at the bottom of Table 4.

TABLE 4—PROPOSED GACT STANDARDS COSTS PER POUND OF U_3O_8

	Unit cost ($/lb U_3O_8)		
	Conventional	ISL	Heap leach
GACT—Double Liners for Nonconventional Impoundments	$1.04	$3.07	$0.22
GACT—Maintaining 1 Meter of Water in Nonconventional Impoundments	0.013	0.010	0.0010
GACT—Liners for Heap Leach Piles	.....	.....	2.01
GACT—Maintaining Heap Leach Piles at 30% Moisture	.....	.....	0.0043
GACTs—Total for All Four	1.05	3.08	2.24
Baseline Facility Costs (Section 6.2)	51.56	52.49	46.08

Based on the information in Table 24, implementing all four GACTs would result in unit cost (per pound of U_3O_8) increases of about 2%, 6%, and 5% at conventional, ISL, and heap leach type uranium recovery facilities, respectively.

The baseline costs were estimated using recently published cost data for actual uranium recovery facilities. For the model conventional mill, we used

data from the recently licensed new mill at the Piñon Ridge project in Colorado. For the model ISL facility, we used data from two proposed new facilities: (1) The Centennial Uranium project in Colorado; and (2) the Dewey-Burdock project in South Dakota. The Centennial project is expected to have a 14- to 15-year production period, which is a long duration for an ISL facility, while the Dewey-Burdock project is expected to have a shorter production period of about 9 years, which is more representative of ISL facilities. For the heap leach facility, we used data from the proposed Sheep Mountain project in Wyoming.

Existing Subpart W required facilities to perform annual monitoring using Method 115 to demonstrate that the radon flux standard at conventional impoundments constructed before December 15, 1989 was below 20 pCi/m^2-sec. The proposed removal of this monitoring requirement would result in a cost saving to the three facilities for which this requirement still applies: (1) Sweetwater; (2) White Mesa; and (3) Shootaring Canyon. Method 115 requires 100 measurements as the minimum number of flux measurements considered necessary to determine a representative mean radon flux value. For the three sites that are still required to perform Method 115 radon flux monitoring, the average annual cost to perform that monitoring is estimated to be about $9,730 for Shootaring and Sweetwater, and $19,460 for White Mesa. For all three sites the total annual average cost is estimated to be $38,920 per year, with a range from approximately $28,000 to $49,500 per year. For all three sites the total annual average cost savings resulting from removal of the flux monitoring requirement would be $39,920.

Baseline costs (explained in Section IV.B) for conventional impoundment liner construction [35] will remain the same, since the proposed rule does not impose additional requirements. Liners meeting the requirements at 40 CFR 192.32(a)(1) are already mandated by other regulations and, therefore, built into the baseline cost estimate. Therefore there are consequently no costs (or benefits) resulting from the inclusion of these requirements in Subpart W.

The average cost to construct one of these impoundments is $13.8 million. We estimate that this cost is approximately 3% of the total baseline capital costs to construct a conventional mill, estimated at $372 million.

We have estimated that for an average 80 acre nonconventional impoundment the average cost of construction of an impoundment is $23.7 million. Requiring impoundments to comply with the liner requirements in 40 CFR 192.32(a)(1) will contain the uranium byproduct material and reduce the potential for ground water contamination. The only economic impact attributable to the proposed rule is the cost of complying with the new requirement to maintain a minimum of one meter of water in the nonconventional impoundments during operation and standby. As shown in Section IV.B.3. of this preamble, as long as approximately one meter of water is maintained in the nonconventional impoundments the effective radon emissions from the ponds are so low that it is difficult to determine if there is any contribution above background radon values. In order to maintain one meter of liquid within a pond, it is necessary to replace the water that is evaporated from the pond. Depending on the source of water chosen,[36] we estimate that this requirement will cost owners or operators of nonconventional impoundments between $1,042 and $9,687 per year. This value also varies according to the size of the nonconventional impoundment, up to 80 acres, and the location of the impoundment. Evaporation rates vary by geographic location. However, the cost to maintain the one meter of liquid in a nonconventional impoundment is estimated to be less than 1% of the total annual production costs, estimated at $23.7 million. The requirement to maintain a minimum of one meter of liquid in the ponds is estimated to cost approximately $0.03 per pound of uranium produced.

Designing and constructing heap leach piles to meet the requirements at 40 CFR 192.32(a)(1) would minimize the potential for leakage of uranium enriched lixiviant into the ground water. Specifically, this would require that a double liner, with drainage collection capabilities, be provided under heap leach piles. Baseline costs (explained in Section IV.B) for heap leach pile liner construction will remain the same, since the proposed rule does not impose additional requirements. Liners meeting the requirements at 40 CFR 192.32(a)(1) are already mandated by other regulations and, therefore, built into the baseline cost estimate. Therefore there are consequently no costs (or benefits) resulting from the inclusion of these requirements in Subpart W. Baseline costs for construction will be essentially the same as for conventional impoundments. Since the liner systems are equivalent to the systems used for conventional and nonconventional impoundments, we have been able to estimate the average costs associated with the construction of heap leach pile impoundments that meet the liner requirements we are proposing, and compare them to the costs associated with the total production of uranium produced by the facility. The average cost of constructing such an impoundment is estimated to be approximately $15.3 million. The costs of constructing this type of liner system are about 4% of the estimated total baseline capital costs of a heap leach facility estimated at $356 million.

For heap leach piles, when the soil moisture content in the heap leach pile falls below about 30% by weight, the radon flux out of the heap leach pile increases because radon moves through the air faster (with less opportunity to decay) than through water. We concluded from our analysis that the leaching solution applied in a typical operation should be sufficient to maintain the moisture content of the heap leach pile to the required levels, and only in unusual circumstances would additional liquids need to be applied. However, in a circumstance that would require the additional application of liquid to maintain the 30% moisture limit, such as excessive evaporation, we estimate that the cost of requiring the owner/operator of a heap leach pile to maintain 30% moisture content in the pile will average approximately $4,000 per year. We also estimate that it will cost approximately $86,500 per year (which includes labor of approximately 2,000 hours) to perform the tests required to verify that the moisture content is being maintained. These costs are less than one percent of the total baseline capital costs of a heap leach facility, estimated at $356 million.

[35] These liner systems (conventional, nonconventional and heap leach piles)are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC license. Therefore, there are no projected costs (or benefits) beyond the baseline resulting from the inclusion of these requirements in Subpart W.

[36] Municipal sources were the most expensive, with average unit costs of $0.0033 per gallon. Offsite non-drinking water sources were the cheapest, at $0.000069 per gallon on average. For more detail, please see Section 6.3.3 of the Background Information Document.

In summary, we estimate that for conventional impoundments there will be no additional costs incurred through this proposed rule. There will be a cost savings of approximately $39,900 per year for the three existing conventional impoundments that are currently required to monitor for radon flux through the use of Method 115, since we are proposing to eliminate this requirement. For nonconventional impoundments we estimate that the additional costs incurred by this proposed rule will be to maintain one meter of liquid in each nonconventional impoundment, and we have estimated those costs between approximately $1,040 and $9,680 per year. For heap leach piles, additional costs incurred by this proposed rule would be for the maintaining and monitoring of the continuous 30% moisture content requirement, which we estimate will impose a one-time cost of approximately $35,000 for equipment and approximately $86,000 per year to monitor the moisture content.

C. What are the non-air environmental impacts?

Water quality would be maintained by implementation of this proposed rule. This proposed rule does contain requirements (by reference) related to water discharges and spill containment. In fact, the liner requirements cross referenced at 40 CFR 192.32(a)(1) will significantly decrease the possibility of contaminated liquids leaking from impoundments into ground water (which can be a significant source of drinking water). Section 192.32(a)(1) includes a cross-reference to the surface impoundment design and construction requirements of hazardous waste surface impoundments regulated under the Resource Conservation and Recovery Act (RCRA), found at 40 CFR 264.221. Those requirements state that the impoundment shall be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life of the impoundment. There are other requirements for the design and operation of the impoundment, and these include construction specifications, slope requirements, sump and liquid removal requirements.

These liner systems (conventional, nonconventional and heap leach piles)are already required by 40 CFR 192.32(a)(1), which, as explained above, are requirements promulgated by EPA under UMTRCA that are incorporated into NRC regulations and implemented and enforced by NRC through their licensing requirements. Therefore, we are not placing any additional liner requirements on facilities or requiring them to incur any additional costs to build their conventional or nonconventional impoundments or heap leach piles above and beyond what an owner or operator of these impoundments must already incur to obtain an NRC license.

Including a double liner in the design of all onsite impoundments that would contain uranium byproduct material would reduce the potential for ground-water contamination. Although the amount of the potential reduction is not quantifiable, it is important to take this into consideration due to the significant use of ground water as a source of drinking water.

VII. Statutory and Executive Orders Review

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is a ''significant regulatory action.'' The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may ''raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.'' Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document prepared by EPA has been assigned EPA ICR number 2464.01.

The information to be collected for the proposed rulemaking today is based on the requirements of the Clean Air Act. Section 114 authorizes the Administrator of EPA to require any person who owns or operates any emission source or who is subject to any requirements of the Act to:

—Establish and maintain records
—Make reports, install, use, and maintain monitoring equipment or method
—Sample emissions in accordance with EPA-prescribed locations, intervals and methods
—Provide information as may be requested

EPA's regional offices use the information collected to ensure that public health continues to be protected from the hazards of radionuclides by compliance with health based standards and/or Generally Available Control Technology (GACT).

The proposed rule would require the owner or operator of a uranium recovery facility to maintain records that confirm that the conventional impoundment(s), nonconventional impoundment(s) and heap leach pile(s) meet the requirements in section 192.32(a)(1). Included in these records are the results of liner compatibility tests, measurements confirming that one meter of liquid has been maintained in nonconventional impoundments and records confirming that heap leach piles have constantly maintained at least 30% moisture content during the operating life of the heap leach pile. This documentation should be sufficient to allow an independent auditor (such as an EPA inspector) to verify the accuracy of the determination made concerning the facility's compliance with the standard. These records must be kept at the mill or facility for the operational life of the facility and, upon request, be made available for inspection by the Administrator, or his/her authorized representative. The proposed rule would not require the owners or operators of operating impoundments and heap leach piles to report the results of the compliance inspections or calculations required in Section 61.255. The recordkeeping requirements require only the specific information needed to determine compliance. We have taken this step to minimize the reporting requirements for small business facilities.

The annual proposed monitoring and recordkeeping burden to affected sources for this collection (averaged over the first three years after the effective date of the proposed rule) is estimated to be 10,400 hours with a total annual cost of $400,000. This estimate includes a total capital and start-up cost component annualized over the facility's expected useful life, a total operation and maintenance component, and a purchase of services component. We estimate that this total burden will be spread over 21 facilities that will be required to keep records. Of this total burden, however, 4,150 hours (and $93,000) will be incurred by the one heap leach uranium recovery facility,

due to the requirements for purchasing, installing and monitoring the soil moisture sensors, as well as training staff on how to operate the equipment.

Burden is defined at 5 CFR 1320.3(b). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this rule, which includes this ICR, under Docket ID number EPA–HQ–OAR–2008–0218. Submit any comments related to the ICR to EPA and OMB. See **ADDRESSES** section at the beginning of this notice for where to submit comments to EPA. Send comments on the ICR to OMB to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW., Washington, DC 20503, Attention: Desk Office for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after May 2, 2014, a comment to OMB is best assured of having its full effect if OMB receives it by June 2, 2014. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business whose company has less than 500 employees and is primarily engaged in leaching or beneficiation of uranium, radium or vanadium ores as defined by NAIC code 212291; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This proposed rule is estimated to impact approximately 18 uranium recovery facilities that are currently operating or plan to operate in the future.

To evaluate the significance of the economic impacts of the proposed revisions to Subpart W, separate analyses were performed for each of the three proposed GACTs.

The GACT for uranium recovery facilities that use conventional milling techniques proposes that only phased disposal units or continuous disposal units be used to manage the tailings. For either option, the disposal unit must be lined and equipped with a leak detection system, designed in accordance with part 192.32(a)(1). If phased disposal is the option chosen, the rule limits the disposal unit to a maximum of 40 acres, with no more than two units open at any given time. If continuous disposal is chosen, no more than 10 acres may be open at any given time. Finally, the Agency is proposing to eliminate the distinction that was made in the 1989 rule between impoundments constructed pre-1989 and post-1989 since all of the remaining pre-1989 impoundments comply with the proposed GACT. The elimination of this distinction also eliminates the requirement that pre-1989 disposal units be monitored on an annual basis to demonstrate that the average Rn-222 flux does not exceed 20 $pCi/m^2/sec$.

The conventional milling GACT applies to three existing mills and one proposed mill that is in the process of being licensed. The four conventional mills are: the White Mesa mill owned by Energy Fuels Resources (USA); the Shootaring Canyon mill owned by Uranium One, Inc.; the Sweetwater mill owned by Kennecott Uranium Co.; and the proposed Piñon Ridge mill owned by Energy Fuels, Inc. Of the three companies that own conventional mills, none are classified as small businesses using fewer than 500 employees as the classification criterion.

Energy Fuels White Mesa mill uses a phased disposal system that complies with the proposed GACT. When its existing open unit is full it will be contoured and covered and a new unit, constructed in accordance with the proposed GACT, will be opened to accept future tailings. Energy Fuels is proposing a phased disposal system to manage its tailings; this system also complies with the proposed GACT.

Based on the fact that both small entities are in compliance with the proposed GACT, we conclude that the rulemaking will not impose any new economic impacts on either facility. For Energy Fuels Mines, the proposed rule will actually result in a cost saving as it will no longer have to perform annual monitoring to determine the average radon flux from its impoundments.

The GACT for evaporation ponds at uranium recovery facilities requires that the evaporation ponds be constructed in accordance with design requirements in part 192.32(a)(1) and that a minimum of 1 meter of liquid be maintained in the ponds during operation and standby. The key design requirements for the ponds are for a double-liner with a leak detection system between the two liners.

In addition to the four conventional mills identified above, the GACT for evaporation ponds applies to in-situ leach facilities and heap leach facilities. Currently, there are five operating ISL facilities and no operating heap leach facilities. The operating ISLs are Crow Butte and Smith Ranch owned by Cameco Resources, Alta Mesa owned by Mestena Uranium, LLC, Willow Creek owned by Uranium One, Inc., and Hobson owned by Uranium Energy Corp. Again using the fewer than 500 employees' criterion, Mestena Uranium, LLC and Uranium Energy Corp are both small businesses, while Cameco Resources and Uranium One, Inc. are both large businesses.

All of the evaporation ponds at the four conventional mills and the five ISL facilities were built in conformance with part 192.32(a)(1). Therefore, the only economic impact is the cost of complying with the new requirement to maintain a minimum of 1 meter of water in the ponds during operation and standby.

The proposed revisions to Subpart W apply to five currently operating ISL facilities. The operating facilities are Crow Butte (Nebraska) and Smith Ranch (Wyoming), owned by Cameco Resources; Alta Mesa (Texas), owned by Mestena Uranium, LLC; Willow Creek (Wyoming), owned by Uranium One, Inc.; and Hobson (Texas), owned by Uranium Energy Corp. Again using the fewer than 500 employees' criterion, Mestena Uranium, LLC and Uranium Energy Corp are both small businesses, while Cameco Resources and Uranium One, Inc. are both large businesses.

In addition to the five operating ISL facilities, three additional ISL facilities have been licensed, all in the state of Wyoming. These are: Lost Creek, owned by Ur-Energy Inc.; Moore Ranch, owned by Uranium One, Inc.; and Nichols Ranch, owned by Uranerz Uranium Corp. Of these three companies, both Ur-Energy Inc. and Uranerz Uranium Corp. are small businesses.

Eleven other ISL facilities have been proposed for licensing. These include: Dewey-Burdock (South Dakota) and Centennial (Colorado), both owned by Powertech Uranium Corp.; and Kingsville Dome, Los Finados, Rosito, and Vasques (Texas), all owned by Uranium Resources Inc.; Crownpoint (New Mexico), also owned by Uranium Resources Inc., Church Rock (New Mexico), owned by Strathmore Minerals; Ross (Wyoming), owned by Strata Energy, Inc., Goliad (Texas), owned by Uranium Energy Corp.; and Antelope-Jab (Wyoming), owned by Uranium One, Inc. All of these companies, except for Uranium One, Inc. are small businesses.

According to the licensing documents submitted by the owners of the proposed ISL facilities, all will be constructed in conformance with part 192.32(a)(1). Therefore the only economic impact is the cost of complying with the new requirement to maintain a minimum of 1 meter of water in the ponds during operation and standby.

The requirement to maintain a minimum of 1 meter of liquid in the ponds is estimated to cost up to $0.03 per pound of U_3O_8 produced. This cost is not a significant impact on any of these small entities.

Although there are no heap leach facilities currently licensed, Energy Fuels, Inc. is expected to submit a licensing application for the Sheep Mountain Project. From the preliminary documentation that Titan presented (now owned by Energy Fuels), the facility will have an Evaporation Pond, a Collection Pond, and a Raffinate Pond. All three ponds will be double lined with leak detection. However, as Energy Fuels is a large business, it does not affect the determination of impacts on small businesses.

The GACT for heap leach facilities applies the phased disposal option of the GACT for conventional mills to these facilities and adds the requirement that the heap leach pile be maintained at a minimum 30 percent moisture content by weight during operations.

As noted previously, there are no heap leach facilities currently in existence, and the only one that is known to be preparing to submit a license application is being proposed by Energy Fuels, which is a large business.

Of the 20 facilities identified above, 15 are owned by small businesses. No small organizations or small governmental entities have been identified that would be impacted by the proposed GACTs. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local and tribal governments, in the aggregate, or the private sector in any one year. The proposed rule imposes no enforceable duties on any State, local or Tribal governments or the private sector. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments nor does it impose obligations upon them.

E. Executive Order 13132: Federalism

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the facilities subject to this action are owned and operated by State governments, and, nothing in the proposed rule will supersede State regulations. Thus, Executive Order 13132 does not apply to this proposed rule.

In the spirit of Executive Order 13132 and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The action imposes requirements on owners and operators of specified area sources and not tribal governments. Thus, Executive Order 13175 does not apply to this action.

EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This action is not subject to EO 13045 because it is based solely on technology performance.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This proposed rule will not adversely directly affect productivity, competition, or prices in the energy sector.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

We request public comment on this aspect of the proposed rulemaking, and specifically, ask you to identify potentially applicable voluntary consensus standards and to explain why such standards could be used in this regulation.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. This proposed rule would reduce toxics emissions of radon from nonconventional impoundments and heap leach piles and thus decrease the amount of such emissions to which all affected populations are exposed.

List of Subjects in 40 CFR Part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

Dated: April 17, 2014.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency proposes to amend title 40, Chapter I of the Code of Federal Regulations as follows:

PART 61—[NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS]

■ 1. The authority citation for part 61 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart W—[National Emission Standards for Radon Emissions From Operating Mill Tailings]

■ 2. Section 61.251 is amended by revising the definition for (e) and adding new definitions for (h–m) as follows:

§ 61.251 Definitions.

* * * * *

(e) *Operation.* Operation means that an impoundment is being used for the continued placement of uranium byproduct materials or tailings or is in standby status for such placement. An impoundment is in operation from the day that uranium byproduct materials or tailings are first placed in the impoundment until the day that final closure begins.

* * * * *

(h) *Conventional Impoundment.* A conventional impoundment is a permanent structure located at any uranium recovery facility which contains mostly solid uranium byproduct material from the extraction of uranium from uranium ore. These impoundments are left in place at facility closure.

(i) *Non-Conventional Impoundment.* A non-conventional impoundment can be located at any uranium recovery facility and contains uranium byproduct material suspended in and/or covered by liquids. These structures are commonly known as holding ponds or evaporation ponds. They are removed at facility closure.

(j) *Heap Leach Pile.* A heap leach pile is a pile of uranium ore placed on an engineered structure and stacked so as to allow uranium to be dissolved and removed by leaching liquids.

(k) *Standby.* Standby means the period of time that an impoundment may not be accepting uranium byproduct materials but has not yet entered the closure period.

(l) *Uranium Recovery Facility.* A uranium recovery facility means a facility licensed by the NRC or an NRC Agreement State to manage uranium byproduct materials during and following the processing of uranium ores. Common names for these facilities are a conventional uranium mill, an in-situ leach (or recovery) facility and a heap leach facility or pile.

(m) *Heap Leach Pile Operational Life.* The operational life of a heap leach pile means the time that lixiviant is first placed on the heap leach pile until the time of the final rinse.

■ 3. Section 61.252 is revised to read as follows:

§ 61.252 Standard.

(a) Conventional Impoundments.

(1) Conventional impoundments shall be designed, constructed and operated to meet one of the two following management practices:

(i) *Phased disposal* in lined tailings impoundments that are no more than 40 acres in area and shall comply with the requirements of 40 CFR 192.32(a)(1). The owner or operator shall have no more than two conventional impoundments, including existing impoundments, in operation at any one time.

(ii) *Continuous disposal* of tailings such that tailings are dewatered and immediately disposed with no more than 10 acres uncovered at any time and shall comply with the requirements of 40 CFR 192.32(a)(1).

(b) *Non-Conventional Impoundments.* Non-conventional impoundments shall meet the requirements of 40 CFR 192.32(a)(1). During operation and until final closure begins, the liquid level in the impoundment shall not be less than one meter.

(c) *Heap Leach Piles.* Heap leach piles shall comply with the phased disposal management practice in 40 CFR 61.252(a)(1)(i). Heap leach piles shall be constructed in lined impoundments that are no more than 40 acres in area and shall comply with the requirements of 40 CFR 192.32(a)(1). The owner or operator shall have no more than two heap leach piles, including existing heap leach piles, in operation at any one time. The moisture content of heap leach piles shall be maintained at 30% or greater. The moisture content shall be determined on a daily basis, and performed using generally accepted geotechnical methods. The moisture content requirement shall apply during the heap leach pile operational life.

§ 61.253 [Removed]

■ 4. Section 61.253 is removed.

§ 61.254 [Removed]

■ 5. Section 61.254 is removed.

■ 6. Section 61.255 is revised to read as follows:

§ 61.255 Recordkeeping requirements.

(a) The owner or operator of any uranium recovery facility must maintain records that confirm that the conventional impoundment(s), nonconventional impoundment(s) and heap leach pile(s) at the facility meet the requirements in 40 CFR 192.32(a)(1). These records shall include, but not be limited to, the results of liner compatibility tests.

(b) The owner or operator of any uranium recovery facility with nonconventional impoundments must maintain records that include measurements confirming that one meter of liquid has been maintained in the nonconventional impoundments at the facility.

(c) The owner or operator of any heap leach facility shall maintain records confirming that the heap leach piles maintained at least 30% moisture content by weight during the heap leach pile operational life.

(d) The records required in paragraphs (a), (b) and (c) above must be kept at the uranium recovery facility for the operational life of the facility and must be made available for inspection by the Administrator, or his authorized representative.

[FR Doc. 2014–09728 Filed 5–1–14; 8:45 am]

BILLING CODE 6560–50–P

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Heads-Up-Administrator"s Signature on NESHAP Subpart W Proposed Rule
Date: Tuesday, January 10, 2017 8:10:46 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:27 PM
To: Collections.SubW
Subject: FW: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

Collected by Marilyn Ginsberg.

From: Rosnick, Reid
Sent: Thursday, April 17, 2014 9:49 AM
To: Benner, Tim <Benner.Tim@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Carlson, Albion <Carlson.Albion@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Diaz, Angelique <Diaz.Angelique@epa.gov>; Dye, Robert <Dye.Robert@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; Garlow, Charlie <Garlow.Charlie@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Hoffman, Stephen <Hoffman.Stephen@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Anoma, Valentine <Anoma.Valentine@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>; Diaz, Angelique <Diaz.Angelique@epa.gov>; Aquino, Marcos <Aquino.Marcos@epa.gov>; Button, Rich <Button.Rick@epa.gov>; Generette, Lloyd <Generette.Lloyd@epa.gov>; Giardina, Paul <Giardina.Paul@epa.gov>; Honnellio, Anthony <Honnellio.Anthony@epa.gov>; Murphy, Michael <murphy.michael@epa.gov>; Povetko, Oleg <Povetko.Oleg@epa.gov>; Rosenblum, Shelly <Rosenblum.Shelly@epa.gov>
Subject: Heads-Up-Administrator's Signature on NESHAP Subpart W Proposed Rule

PER ADMINISTRATOR's REPORT---OAR will be releasing/signing a revision to propose Limiting Radon Emissions from Uranium Mill Tailings to an existing Hazardous Air Pollutants Rule soon. OAR anticipates industry to challenge the rule.

There are 12 existing facilities that are currently operating at a technology-based standard. Air program indicated states/tribes will generally be supportive (**YES**), industry opposed **(YES, may challenge the portions of the rule)**, environs in favor **(likely express frustration that the timeline the EPA used did not result in a new form of the standard and that the Agency is proposing a technology-based standard.)**

Where are the 12 facilities located (city, state)?
White Mesa Mill, Blanding, UT

Shootaring Canyon, Ticaboo, UT
Sweetwater Mill, Rawlins, WY
Alta Mesa, Brooks County TX
Crow Butte, Dawes County, NE
Hobson/La Palangana, South TX
Willow Creek, Christensen, WY
Smith Ranch, Converse County, WY
Uranium One, Luderman, WY
Lost Creek, Lost Creek, NE
Cameco, Marsland, NE
Powertech, Dewey Burdock, SD

As soon as the rule has been signed I will forward a copy.

Reid

_____

Reid J. Rosnick
US Environmental Protection Agency
Radiation Protection Division
202.343.9563
rosnick.reid@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: EPA Response to High Levels of Radon from White Mesa Liquid Effluents
Date:	Tuesday, January 10, 2017 8:11:39 AM
Attachments:	UMtUtr_CalculationsBrief.150210.pdf

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:15 PM
To: Collections.SubW
Subject: FW: EPA Response to High Levels of Radon from White Mesa Liquid Effluents

Collected by Marilyn Ginsberg.

From: sarah@uraniumwatch.org [mailto:sarah@uraniumwatch.org]
Sent: Tuesday, April 07, 2015 1:55 PM
To: Rosnick, Reid <Rosnick.Reid@epa.gov>
Cc: Diaz, Angelique <Diaz.Angelique@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Blake, Wendy <Blake.Wendy@epa.gov>; Cherepy, Andrea <Cherepy.Andrea@epa.gov>; Benner, Tim <Benner.Tim@epa.gov>; Ferris, Lena <Ferris.Lena@epa.gov>; Garlow, Charlie <Garlow.Charlie@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Hoffman, Stephen <Hoffman.Stephen@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; Giles-AA, Cynthia <Giles-AA.Cynthia@epa.gov>; Michael Goo <goo.michael@epa.gov>; Stanislaus, Mathy <Stanislaus.Mathy@epa.gov>; Bob Dye <robert.dye@epa.gov>; Phil Goble <pgoble@utah.gov>; rlundberg@utah.gov; Bryce Bird <bbird@utah.gov>; Amanda Smith <amandasmith@utah.gov>; Dan McNeil <007danimal@gmail.com>; Brown, Terry <Brown.Terry@epa.gov>
Subject: EPA Response to High Levels of Radon from White Mesa Liquid Effluents

Dear Reid,

Sorry I missed the Subpart W quarterly call last week.

One question I had is why you and other Subpart W review staff have not contacted Energy Fuels Resources Inc. and again requested the information that the EPA requested in the May 2009. At that time the EPA informed Denison Mines that if they did not respond to the request for information, they would be subject to enforcement action. However, the EPA never followed through.

I understand that the EPA would not want information regarding the

radium content of the liquid effluents at White Mesa as requested in 2009, but your failure to obtain that information is an egregious omission. Such egregious errors and omissions are adding up.

Also, I would like to know how the EPA is going to address the current health and safety concerns at the White Mesa Mill that are caused by the high levels of radon emissions from the liquid impoundments. The Ute Mt. Ute Tribe and Uranium Watch have brought these concerns to the EPA, yet the EPA has taken no action. The Ute Mt. Ute Tribe recently expressed those concerns in a February 10, 2015, Calculations Brief. *See* attached.

It appears that the EPA has no intention of taking any action, and would rather have the whole problem go away. One way to make the problem of radon emissions to go away is for you to claim that the gross radium alpha in the recent White Mesa Mill Annual Tailings Wastewater Reports represents other radionuclides besides radium. However, given the high gross alpha radium levels in 2014, there is no way that you can explain how those levels do not result in high levels of radon emissions: far beyond the 20 pico Curie per square meter per second standard and far beyond "zero."

The Division of Radiation Control staff informs me that the gross radium alpha in those reports accounts for radium and does not include uranium or radon. Putting the EPA formula for determining the radon emissions from White Mesa liquid effluents with the data for Cells 1, 4A, and 4B, you have an immediate health and safety concern that is not going to go away.

When I talk with staff at Region 8, I am referred to you. Therefore, I would like to know what, exactly, is the EPA response to the high levels of radon emissions from the White Mesa Mill liquid effluent impoundments.

The proposed Subpart W rule would, in fact, do nothing to correct the problem. The is because the EPA, contrary to the provisions of the CAA, has not proposed a radon emission limit for "new" or "existing" impoundments and continues to maintain that the emissions from liquid effluents are "zero," despite evidence to the contrary.

There must be a timely response to this new information regarding the radon emissions from 135 acres of White Mesa liquid effluents. The community in the vicinity of the White Mesa Mill cannot wait until the completion of the Subpart W rulemaking for these radon emissions to be addressed, if they would be addressed at all.

Sincerely,

Sarah Fields
Program Director
Uranium Watch
PO Box 344
Moab, Utah 84532
435-260-8384

February 10, 2015

Air and Radiation Docket
Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington D.C. 20460

SUPPLEMENT TO CALCULATION BRIEF (JULY 7, 2014)

INTRODUCTION

On July 7, 2014, the Ute Mountain Ute Tribe (Tribe) submitted a Calculation Brief to the Environmental Protection Agency (EPA) as part of a larger effort to prepare for a government-to-government consultation meeting regarding the EPA's 40 C.F.R. Part 61, Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings (Proposed Rule). In the Calculation Brief, the Tribe discussed its initial radon flux calculations for Tailings Cell 1 at the White Mesa Mill using the actual radium pond concentration reported to the Utah Division of Radiation Control in 2013. The Tribe initially determined that Tailings Cell 1 at the White Mesa Mill is a significant source of radon-222 emissions and expressed concern that the EPA was proposing to use a 1 meter liquid cover as the only control on radon-222 emissions from non-conventional impoundments based on a finding that keeping 1 meter of liquid on existing impoundments "has been sufficient to limit the amount of radon emitted from the ponds, in many cases, to almost zero." 79 Fed. Reg. at 25,398. At the July 10, 2014 consultation meeting between the Tribe and the EPA, the EPA was not prepared to substantively respond to issues raised in the Calculation Brief.

On October 29, 2014, the Tribe submitted written comments on the Proposed Rule. The Tribe's comments included a section regarding the EPA's proposed use of a 1-meter cover as the sole work practice standard to control radon emissions from non-conventional impoundments. In that Section, the Tribe used the site-specific analysis at the White Mesa Mill (from the Calculation Brief) to demonstrate that the placement of a 1-meter liquid cover (especially if that liquid is radium-laced process water from conventional milling activities) will not sufficiently control radon-222 emissions from non-conventional impoundments to near zero, and it may allow some non-conventional impoundments to exist with annual mean radon flux numbers that grossly exceed the 20 pCi/(m^2s) numerical flux standard.

The purpose of this Supplement to the July 7, 2014 Calculation Brief is to update the Tribe's July 2014 calculation work using the 2014 Annual Tailings Wastewater Monitoring Report (which reflects the most recent tailings cell chemistry data—collected in August of 2014).

SUMMARY OF THE 2014 ANNUAL TAILINGS WASTEWATER MONITORING REPORT

The 2014 Annual Tailings Wastewater Monitoring Report (2014 Report) shows a large increase in the Gross Radium Alpha content in Tailings Cells 1, 4A, and 4B, and a decrease in the Gross Radium Alpha content in Tailings Cell 3. *See* Table 1.

TABLE 1: Increase in Gross Radium Alpha, 2013-2014

Cell	2013 Gross Radium Alpha	2014 Gross Radium Alpha
Cell 1	32,700 pCi/L	331,000 pCi/L
Cell 3	81,900 pCi/L	19,700 pCi/L
Cell 4A	15,800 pCi/L	240,000 pCi/L
Cell 4B	14,600 pCi/L	148,000 pCi/L

Source: 2013 Annual Wastewater Monitoring Report; Groundwater Quality Discharge Permit UGW370004, White Mesa Uranium Mill, November 2013. Web Access 2013; 2014 Annual Wastewater Monitoring Report; Groundwater Quality Discharge Permit UGW370004, White Mesa Uranium Mill, November 24, 2014. Web Access 2014.

In the 2014 Report, the White Mesa Mill owner explained the observed increase in Gross Radium Alpha activity by correlating it to an increase in total dissolved solids (TDS) and asserting that the increase in both TDS and Gross Radium Alpha were caused by drought conditions and a decrease in the amount of fresh water added to the Mill process. However, past increases in measured concentration of TDS in the White Mesa Mill tailings impoundments have not resulted in the kind of increases in Gross Radium Alpha that were observed between 2013 and 2014, and the White Mesa Mill owner's explanation for the marked increase in Gross Radium Alpha remains speculative.

UPDATED CALCULATION OF ANNUAL MEAN RADON FLUX, WHITE MESA MILL

Using the Gross Radium Alpha content from the 2014 Report, the Tribe was able update its July 2014 initial calculation of the annual mean radon flux for Tailings Cell 1. Using the 2010 EPA Risk Assessment formulas for determining radon emissions and an annual wind speed of 2.7 m/sec collected at the White Mesa Air Monitoring Station, the Tribe also calculated the annual mean radon flux for Tailings Cells 3, 4A, and 4B.

TABLE 2 Initial Calculations of Annual Mean Radon Flux Using 2014 Data

Cell	2013 Calculated Annual Mean Radon Flux (Initial)	2014 Calculated Annual Mean Radon Flux (Initial)
Cell 1	125.8 pCi/(m^2s)	1,257.4 pCi/(m^2s)
Cell 3	311.1 pCi/(m^2s)*	74.8 pCi/(m^2s)*
Cell 4A	60.0 pCi/(m^2s)*	911.7 pCi/(m^2s)*
Cell 4B	55.5 pCi/(m^2s)	562.2 pCi/(m^2s)

* Calculated Radon Flux for liquid-covered regions of these impoundments

The Tribe believes that additional work assessing the radon flux of these Tailings Cells will likely yield even higher annual mean radon flux numbers for the reasons noted in Section 1.3 of the Calculation Brief.

UPDATED CALCULATED ANNUAL MEAN RADON FLUX AND NON-CONVENTIONAL IMPOUNDMENTS

In the Calculation Brief and in the October 29, 2014 comments, the Tribe urged the EPA to reconsider its finding that a 1-meter liquid cover will reduce radon emissions from liquid covered impoundment "in many cases to almost zero." The Tribe's revised calculations using the 2014 tailings cell chemistry data more clearly demonstrate why the EPA cannot move forward with the Proposed Rule without evaluating control technologies or emissions limits other than a 1-meter liquid cover to address significant emissions off liquid-covered impoundments at the White Mesa Mill.

UPDATED CALCULATED ANNUAL RADON FLUX AND CONVENTIONAL IMPOUNDMENTS

The Tribe's calculations for Tailings Cells 3 and 4A at the White Mesa Mill also raise additional concerns about the efficacy of Method 115 Monitoring for conventional impoundments and about the EPA's assumption that the acreage limitations in the phased disposal work practice standards are adequately controlling radon emissions for conventional impoundments.

Concerns Regarding Method 115 Monitoring for Conventional Impoundments

When facilities like the White Mesa Mill use Method 115 to monitor the radon flux from "existing impoundments", *see* 40 C.F.R. §§ 61.252(a), 61.253, those facilities are currently allowed to assume that the radon flux from liquid-covered regions of the existing, conventional impoundments is zero. Method 115, 2.1.3(a). Section 2.1.7 of Method 115 allows those facilities to calculate the mean radon flux of the conventional impoundment using the total area of the impoundment (including the area of the liquid-covered regions). Section 2.1.3(a)'s assumption of a zero radon flux and 2.1.7's calculation equation including the total impoundment area result in the dilution of the radon flux measured in other regions of the impoundment. When the emissions from the liquid-covered areas of the impoundment are above zero, Sections 2.1.3(a) and 2.1.7 of Method 115 also result in a dilution or a decrease in the mean radon flux for the entire impoundment.

The Tribe's calculation of the radon emissions from the liquid-covered region of Tailings Cell 3 demonstrates that the actual radon emissions from this Tailings Cell, taking into account the measured emissions from the other (dry or saturated) areas of this impoundment and the calculated emissions from any liquid-covered region of the impoundment, are much higher than the emissions reported by the White Mesa Mill owner to the Utah Division of Air Quality. Accordingly, the Tribe requests that, as a part of the EPA's evaluation of emissions from liquid-

covered regions of tailings impoundments, the EPA reconsider Method 115's assumption that liquid-covered regions of conventional impoundments are assumed to have zero emissions.[1]

Concerns Regarding Phased Disposal Work Practice Standard Efficacy

In the Proposed Rule, the EPA assumed that the phased disposal work practice standard acreage limitation was working to control radon emissions from newer conventional impoundments like Tailings Cell 4A at the White Mesa Mill. *See* October 29, 2014 Comments at 17. In the October 2014 Comments, the Tribe asserted that the EPA could not determine whether the 40-acre limitation on tailings impoundments was working to control radon-222 emissions because the current work practice standard does not require Method 115 or other monitoring on these impoundments. However, the Tribe was able to calculate the annual mean radon flux from the liquid in Cell 4A, and that calculation shows that the anticipated annual mean radon flux, at least from the liquid-covered areas of the impoundment, is 911.7 pCi/(m^2s). Accordingly, the Tribe requests that, as a part of the EPA's evaluation of emissions from liquid-covered tailings impoundments, the EPA reconsider whether the 40-acre limitation on tailings impoundments is sufficient—without additional monitoring or measurement of radon emissions—to control radon emissions to 20 pCi/(m^2s) and to control adverse impacts to the environment and human health near these tailings impoundments.

IMMEDIATE CONCERNS ABOUT PUBLIC HEALTH NEAR THE WHITE MESA MILL

When the Tribe performed its initial calculation of the annual radon flux from Tailings Cell 1 using the 2013 tailings cell chemistry data, the Tribe immediately expressed its concern to the EPA that the radon emissions from the White Mesa Mill were at unsafe levels for White Mesa community members and to human health in other areas of southeastern Utah. The drastic increase in the calculated emissions between 2013 and 2014 has elevated the Tribe's concerns about the health and safety of Ute Mountain Ute Tribal members living close to the White Mesa Mill, and the Tribe believes that the EPA should consider taking emergency actions to protect human health and the environment in southeastern Utah.

CONCLUSION

On January 13, 2015, the Tribe sent the EPA administrator a request for a second government-to-government consultation meeting regarding the Subpart W rulemaking activity. At that consultation meeting, the Tribe will expect the EPA to substantively respond to the Tribe's Calculation Brief and to this Supplement. The Tribe looks forward to communicating at a government-to-government level about the important issues raised in the Calculation Brief, the October 2014 Comments, and this Supplement.

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[1]The Tribe recognizes that the EPA has proposed removing the 40 C.F.R. § 252(a) "existing impoundment" standard and the 40 C.F.R. § 253 requirement to use Method 115 monitoring. The Tribe has provided public comments urging the EPA to reconsider removing the "existing impoundment" standard and to consider imposing Method 115 monitoring and an emissions standard for conventional tailings impoundments. The Tribe also notes here that the State of Utah is currently requiring the White Mesa Mill to use Method 115 monitoring on Tailings Cell 2, and that this deficiency in Method 115 monitoring may impact monitoring efforts during impoundment and facility closure.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Discussion of Subpart W Draft Analytic Blueprint
Date:	Tuesday, January 10, 2017 8:12:21 AM
Attachments:	Discussion of Subpart W Draft Analytic Blueprint.msg

---

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:13 PM
To: Collections.SubW
Subject: FW: Discussion of Subpart W Draft Analytic Blueprint

Collected by Marilyn Ginsberg.

From: Rosnick, Reid

To: Johnson, Ann; Ayres, Sara; Benner, Tim; Brozowski, George; Dye, Robert; Eagles, Tom; Ginsberg, Marilyn; Hooper, Charles A.; Joglekar, Rajani; Law, Donald; Peake, Tom; Rosencrantz, Ingrid; Stahle, Susan; Walker, Stuart; Zhen, Davis; Fairchild, Susan

Cc: Schultheisz, Daniel

Subject: Discussion of Subpart W Draft Analytic Blueprint

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Path Forward on Subpart W Rulemaking
Date: Tuesday, January 10, 2017 8:12:34 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:12 PM
To: Collections.SubW
Subject: FW: Path Forward on Subpart W Rulemaking

Collected by Marilyn Ginsberg.

-----Original Appointment-----
From: Ginsberg, Marilyn
Sent: Thursday, August 28, 2014 10:20 AM
To: Rosnick, Reid
Subject: Accepted: Path Forward on Subpart W Rulemaking
When: Tuesday, September 02, 2014 1:00 PM-1:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 866-299-3188, code 2023439563#

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Path Forward on Subpart W Rulemaking (Rescheduled)
Date:	Tuesday, January 10, 2017 8:12:47 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:12 PM
To: Collections.SubW
Subject: FW: Path Forward on Subpart W Rulemaking (Rescheduled)

Collected by Marilyn Ginsberg.

-----Original Appointment-----
From: Ginsberg, Marilyn
Sent: Tuesday, September 02, 2014 12:36 PM
To: Rosnick, Reid
Subject: Accepted: Path Forward on Subpart W Rulemaking (Rescheduled)
When: Wednesday, September 03, 2014 1:00 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 866-299-3188, Code 2023439563#

Probably will be late to the call

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Discussion of Subpart W Draft Analytic Blueprint
Date: Tuesday, January 10, 2017 8:13:02 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:11 PM
To: Collections.SubW
Subject: FW: Discussion of Subpart W Draft Analytic Blueprint

Collected by Marilyn Ginsberg.

-----Original Appointment-----
From: Ginsberg, Marilyn
Sent: Friday, September 11, 2015 3:39 PM
To: Rosnick, Reid
Subject: Accepted: Discussion of Subpart W Draft Analytic Blueprint
When: Tuesday, September 29, 2015 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 866-299-3188, code 2023439563#

From:	Schultheisz, Daniel
To:	Johnson, Ann; Ayres, Sara; Hooper, Charles A.; Zhen, Davis; Eagles, Tom; Egidi, Philip; Fairchild, Susan; Brozowski, George; Law, Donald; Ginsberg, Marilyn; Peake, Tom; Rosencrantz, Ingrid; Seidman, Emily; Walker, Stuart; Stahle, Susan; Benner, Tim
Subject:	Subpart W Workgroup Meeting

To discuss status of review of draft materials sent on April 8 and answer any questions.

This call should probably not take very long. If you can't make it, perhaps you can send me a note to let me know if you have any questions so far.

Thanks.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Update
Date: Tuesday, January 10, 2017 8:13:29 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:07 PM
To: Collections.SubW
Subject: FW: Subpart W Update

Collected by Marilyn Ginsberg.

From: Schultheisz, Daniel
Sent: Thursday, November 10, 2016 8:44 AM
To: Johnson, Ann <Johnson.Ann@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>; Hooper, Charles A. <Hooper.CharlesA@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Brozowski, George <brozowski.george@epa.gov>; Law, Donald <Law.Donald@epa.gov>; Ginsberg, Marilyn <Ginsberg.Marilyn@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>; Seidman, Emily <seidman.emily@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Stahle, Susan <Stahle.Susan@epa.gov>; Benner, Tim <Benner.Tim@epa.gov>; Mills, Jason <Mills.Jason@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>
Subject: Subpart W Update

To the Subpart W Workgroup:

OMB officially cleared Subpart W this week. We are now working to get the package prepared to submit for signature. Thanks for all your assistance.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Contact for Ute Mountain Ute Tribe
Date:	Tuesday, January 10, 2017 8:13:39 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:07 PM
To: Collections.SubW
Subject: Fw: Contact for Ute Mountain Ute Tribe

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 4:23 PM
To: Nesky, Anthony
Subject: RE: Contact for Ute Mountain Ute Tribe

No, let's send the mailing.

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 4:16 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Contact for Ute Mountain Ute Tribe

Might it be better to send him a personal note, rather than I mass mailing? I can do it if you want.

Tony

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 4:00 PM
To: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Contact for Ute Mountain Ute Tribe

Scott Clow, Environmental Programs Director
sclow@utemountain.org

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Workgroup Meeting
Date: Tuesday, January 10, 2017 8:13:16 AM
Attachments: Subpart W Workgroup Meeting.msg

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 7:08 PM
To: Collections.SubW
Subject: FW: Subpart W Workgroup Meeting

Collected by Marilyn Ginsberg.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Contact for Ute Mountain Ute Tribe
Date: Tuesday, January 10, 2017 8:13:52 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:06 PM
To: Collections.SubW
Subject: Fw: Contact for Ute Mountain Ute Tribe

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 4:15 PM
To: Schultheisz, Daniel
Subject: RE: Contact for Ute Mountain Ute Tribe

Might it be better to send him a personal note, rather than I mass mailing? I can do it if you want.

Tony

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 4:00 PM
To: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Contact for Ute Mountain Ute Tribe

Scott Clow, Environmental Programs Director
sclow@utemountain.org

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Contact for Ute Mountain Ute Tribe
Date: Tuesday, January 10, 2017 8:14:05 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:06 PM
To: Collections.SubW
Subject: Fw: Contact for Ute Mountain Ute Tribe

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 4:00 PM
To: Nesky, Anthony
Subject: Contact for Ute Mountain Ute Tribe

Scott Clow, Environmental Programs Director
sclow@utemountain.org

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Link to Final Rule Subpart W
Date: Tuesday, January 10, 2017 8:14:15 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:06 PM
To: Collections.SubW
Subject: Fw: Link to Final Rule Subpart W

From: Childers, Pat
Sent: Tuesday, December 20, 2016 3:56 PM
To: Schultheisz, Daniel
Subject: Re: Link to Final Rule Subpart W

Done

Sent from my iPhone

On Dec 20, 2016, at 3:54 PM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Pat:
>
> The Subpart W final rule was signed today and the link is active at https://www.epa.gov/radiation/subpart-w-rulemaking-activity. Would it be possible for you to send a note to the NTAA to let them know? We are sending an announcement to our listserv as well. Thanks.
>
> Dan Schultheisz
> U.S. Environmental Protection Agency
> Office of Radiation and Indoor Air
> Radiation Protection Division
> (202) 343-9349

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Link to Final Rule Subpart W
Date:	Tuesday, January 10, 2017 8:14:25 AM
Importance:	High

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:06 PM
To: Collections.SubW
Subject: Fw: Link to Final Rule Subpart W

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 3:54 PM
To: Childers, Pat
Subject: FW: Link to Final Rule Subpart W

Pat:

The Subpart W final rule was signed today and the link is active at https://www.epa.gov/radiation/subpart-w-rulemaking-activity. Would it be possible for you to send a note to the NTAA to let them know? We are sending an announcement to our listserv as well. Thanks.

Subpart W Rulemaking Activity | Radiation Protection | US EPA

www.epa.gov

Background and supporting materials related to Subpart W rulemaking activity, including non-privileged records, conference call minutes, presentations and other ...

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division

(202) 343-9349

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Link to Final Rule Subpart W
Date:	Tuesday, January 10, 2017 8:14:37 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:05 PM
To: Collections.SubW
Subject: Fw: Link to Final Rule Subpart W

From: Millett, John
Sent: Tuesday, December 20, 2016 3:40 PM
To: Nesky, Anthony; Jones, Enesta
Cc: Peake, Tom; Schultheisz, Daniel; Egidi, Philip; Wieder, Jessica; White, Rick; Edwards, Jonathan; Perrin, Alan; Veal, Lee
Subject: RE: Link to Final Rule Subpart W

Excellent! Thanks!

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 3:39 PM
To: Millett, John <Millett.John@epa.gov>; Jones, Enesta <Jones.Enesta@epa.gov>
Cc: Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Egidi, Philip <Egidi.Philip@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; White, Rick <White.Rick@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>
Subject: Link to Final Rule Subpart W
Importance: High

https://www.epa.gov/radiation/subpart-w-rulemaking-activity

Subpart W Rulemaking Activity | Radiation Protection | US EPA

www.epa.gov

Background and supporting materials related to Subpart W rulemaking activity, including non-privileged records, conference call minutes, presentations and other ...

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Link to Final Rule Subpart W
Date:	Tuesday, January 10, 2017 8:14:46 AM
Importance:	High

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:05 PM
To: Collections.SubW
Subject: Fw: Link to Final Rule Subpart W

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 3:38 PM
To: Millett, John; Jones, Enesta
Cc: Peake, Tom; Schultheisz, Daniel; Egidi, Philip; Wieder, Jessica; White, Rick; Edwards, Jonathan; Perrin, Alan; Veal, Lee
Subject: Link to Final Rule Subpart W

https://www.epa.gov/radiation/subpart-w-rulemaking-activity

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Background and supporting materials related to Subpart W rulemaking activity, including non-privileged records, conference call minutes, presentations and other ...

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: All Subpart W pages are now PUBLISHED! [end]
Date:	Tuesday, January 10, 2017 8:14:57 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:05 PM
To: Collections.SubW
Subject: Fw: All Subpart W pages are now PUBLISHED! [end]

From: Shogren, Angela
Sent: Tuesday, December 20, 2016 3:34 PM
To: Nesky, Anthony
Cc: Thornton, Marisa; Schultheisz, Daniel
Subject: All Subpart W pages are now PUBLISHED! [end]

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Rulemaking Activity | Radiation Protection | US EPA
Date: Tuesday, January 10, 2017 8:15:09 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:04 PM
To: Collections.SubW
Subject: Fw: Subpart W Rulemaking Activity | Radiation Protection | US EPA

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 2:43 PM
To: Millett, John; Jones, Enesta; Wieder, Jessica; Schultheisz, Daniel
Subject: RE: Subpart W Rulemaking Activity | Radiation Protection | US EPA

We're still uploading documents to the wonderful document pages. We'll shoot the links to you as soon as we are done.

Tony

From: Millett, John
Sent: Tuesday, December 20, 2016 2:42 PM
To: Jones, Enesta <Jones.Enesta@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Subpart W Rulemaking Activity | Radiation Protection | US EPA

Adding Tony and Dan – checking on subpart W web posting . . .

From: Jones, Enesta
Sent: Tuesday, December 20, 2016 2:40 PM
To: Millett, John <Millett.John@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Subpart W Rulemaking Activity | Radiation Protection | US EPA

Still not updated?
https://www.epa.gov/radiation/subpart-w-rulemaking-activity

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W Rulemaking Activity | Radiation Protection | US EPA
Date:	Tuesday, January 10, 2017 8:15:19 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:04 PM
To: Collections.SubW
Subject: Fw: Subpart W Rulemaking Activity | Radiation Protection | US EPA

From: Millett, John
Sent: Tuesday, December 20, 2016 2:42 PM
To: Jones, Enesta; Wieder, Jessica; Nesky, Anthony; Schultheisz, Daniel
Subject: RE: Subpart W Rulemaking Activity | Radiation Protection | US EPA

Adding Tony and Dan – checking on subpart W web posting . . .

From: Jones, Enesta
Sent: Tuesday, December 20, 2016 2:40 PM
To: Millett, John <Millett.John@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Subpart W Rulemaking Activity | Radiation Protection | US EPA

Still not updated?
https://www.epa.gov/radiation/subpart-w-rulemaking-activity

Subpart W Rulemaking Activity | Radiation Protection | US EPA

www.epa.gov

Background and supporting materials related to Subpart W rulemaking activity, including non-privileged records, conference call minutes, presentations and other ...

Enesta Jones
U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:15:31 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:03 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Lee, Raymond
Sent: Tuesday, December 20, 2016 1:09 PM
To: Schultheisz, Daniel
Subject: Re: Signed - NESHAP Subpart W

CONGRATS Dan! Awesome news.

Sent by EPA Wireless E-mail Services

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:12:03 PM
To: Lee, Raymond
Subject: FW: Signed - NESHAP Subpart W

Meant to copy you as well.

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; White, Rick <White.Rick@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Prepare to release the website etc.

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>
Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly

<Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:15:45 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:03 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Peake, Tom
Sent: Tuesday, December 20, 2016 12:43 PM
To: Schultheisz, Daniel; Perrin, Alan; Veal, Lee; White, Rick; Nesky, Anthony; Wieder, Jessica; Shogren, Angela
Cc: Reid Rosnick
Subject: RE: Signed - NESHAP Subpart W

Yeah!

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; White, Rick <White.Rick@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Prepare to release the website etc.

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben

<Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>

Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber

<Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Final Subpart W to pdf and post with disclaimer (eom)
Date: Tuesday, January 10, 2017 8:16:00 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:02 PM
To: Collections.SubW
Subject: Fw: Final Subpart W to pdf and post with disclaimer (eom)

From: Nesky, Anthony
Sent: Tuesday, December 20, 2016 12:13 PM
To: Schultheisz, Daniel
Subject: RE: Final Subpart W to pdf and post with disclaimer (eom)

Got it!

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:13 PM
To: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Final Subpart W to pdf and post with disclaimer (eom)

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:16:13 AM
Attachments: December 20 2016 NESHAP Subpart W.pdf

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:02 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:12 PM
To: Lee, Raymond
Subject: FW: Signed - NESHAP Subpart W

Meant to copy you as well.

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; White, Rick <White.Rick@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Prepare to release the website etc.

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa

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<Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

List of Subjects in 40 CFR part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:16:23 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:01 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Muellerleile, Caryn
Subject: RE: Signed - NESHAP Subpart W

Thanks for all your help.

From: Muellerleile, Caryn
Sent: Tuesday, December 20, 2016 11:59 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: FW: Signed - NESHAP Subpart W

Congrats!

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan

<Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>

Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>; Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark

<Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, "Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings" (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:16:38 AM
Attachments: December 20 2016 NESHAP Subpart W.pdf

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:01 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Schultheisz, Daniel
Sent: Tuesday, December 20, 2016 12:00 PM
To: Perrin, Alan; Veal, Lee; Peake, Tom; White, Rick; Nesky, Anthony; Wieder, Jessica; Shogren, Angela
Subject: FW: Signed - NESHAP Subpart W

Prepare to release the website etc.

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>
Cc: Chappell, Regina <Chappell.Regina@epa.gov>; Adams, Darryl <Adams.Darryl@epa.gov>;

Baldwin, Mark <Baldwin.Mark@epa.gov>; Birgfeld, Erin <Birgfeld.Erin@epa.gov>; Bowles, Jack <Bowles.Jack@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Brown, Stephanie N. <Brown.StephanieN@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Cortelyou-Lee, Jan <Cortelyou-Lee.Jan@epa.gov>; Davis, Alison <Davis.Alison@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Dibble, Christine <Dibble.Christine@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dunham, Sarah <Dunham.Sarah@epa.gov>; Eagles, Tom <Eagles.Tom@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Free, Laura <Free.Laura@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>; Haman, Patricia <Haman.Patricia@epa.gov>; Hanley, Mary <Hanley.Mary@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Henigin, Mary <Henigin.Mary@epa.gov>; Hufford, Drusilla <Hufford.Drusilla@epa.gov>; Jutras, Nathaniel <Jutras.Nathaniel@epa.gov>; Kenny, Shannon <Kenny.Shannon@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>; Krieger, Jackie <Krieger.Jackie@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>; Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Maddox, Donald <Maddox.Donald@epa.gov>; Mazakas, Pam <Mazakas.Pam@epa.gov>; McMichael, Nate <McMichael.Nate@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Metzger, Philip <Metzger.Philip@epa.gov>; Milbourn, Cathy <Milbourn.Cathy@epa.gov>; Millett, John <Millett.John@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Morin, Jeff <Morin.Jeff@epa.gov>; Morris, Stephanie <Morris.Stephanie@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>; Mylan, Christopher <Mylan.Christopher@epa.gov>; Noonan, Jenny <Noonan.Jenny@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Page, Steve <Page.Steve@epa.gov>; Jones, Knolyn <Jones.Knolyn@epa.gov>; Emerson, Michael <Emerson.Michael@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Rimer, Kelly <Rimer.Kelly@epa.gov>; Rush, Alan <Rush.Alan@epa.gov>; Schillo, Bruce <Schillo.Bruce@epa.gov>; Schmidt, Lorie <Schmidt.Lorie@epa.gov>; Scoville, Pat <Scoville.Pat@epa.gov>; South, Peter <South.Peter@epa.gov>; Klasen, Matthew <Klasen.Matthew@epa.gov>; Washington, Stephanie <Washington.Stephanie@epa.gov>; Washington, Valerie <Washington.Valerie@epa.gov>; Wortman, Eric <Wortman.Eric@epa.gov>; Shenkman, Ethan <Shenkman.Ethan@epa.gov>; Kim, Hyon <Kim.Hyon@epa.gov>; Hambrick, Amy <Hambrick.Amy@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Gaines, Cynthia <Gaines.Cynthia@epa.gov>; Leavy, Jacqueline <Leavy.Jacqueline@epa.gov>; Naples, Eileen <Naples.Eileen@epa.gov>; Lee, Michael <lee.michaelg@epa.gov>; Srinivasan, Gautam <Srinivasan.Gautam@epa.gov>; Doster, Brian <Doster.Brian@epa.gov>; Smith, Kristi <Smith.Kristi@epa.gov>; Rodman, Sonja <Rodman.Sonja@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Iglesias, Amber <Iglesias.Amber@epa.gov>; Tsirigotis, Peter <Tsirigotis.Peter@epa.gov>; Thompson, Fred <Thompson.Fred@epa.gov>; Hautamaki, Jared <Hautamaki.Jared@epa.gov>; VonDemHagen, Rebecca <VonDemHagen.Rebecca@epa.gov>; Threet, Derek <Threet.Derek@epa.gov>; Elman, Barry <Elman.Barry@epa.gov>; VanLare, Paula <VanLare.Paula@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Bailey, KevinJ <Bailey.KevinJ@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Perez, Idalia <Perez.Idalia@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>; Burden, Susan <Burden.Susan@epa.gov>; Zenick, Elliott <Zenick.Elliott@epa.gov>; Harvey, Reid <Harvey.Reid@epa.gov>; Clarke, Deirdre <clarke.deirdre@epa.gov>; Davis, Matthew <Davis.Matthew@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>

Subject: Signed - NESHAP Subpart W

The final rule titled, “Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings” (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

List of Subjects in 40 CFR part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:16:50 AM
Attachments: December 20 2016 NESHAP Subpart W.pdf

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:00 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Muellerleile, Caryn
Sent: Tuesday, December 20, 2016 11:58 AM
To: Schultheisz, Daniel
Subject: FW: Signed - NESHAP Subpart W

Congrats!

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Garbow, Avi <Garbow.Avi@epa.gov>; McCabe, Janet <McCabe.Janet@epa.gov>; Goffman, Joseph <Goffman.Joseph@epa.gov>; Shaw, Betsy <Shaw.Betsy@epa.gov>; Niebling, William <Niebling.William@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Vaught, Laura <Vaught.Laura@epa.gov>; Wachter, Eric <Wachter.Eric@epa.gov>; Pieh, Luseni <Pieh.Luseni@epa.gov>; Jordan, Deborah <Jordan.Deborah@epa.gov>; Scaggs, Ben <Scaggs.Ben@epa.gov>; Purchia, Liz <Purchia.Liz@epa.gov>; Harrison, Melissa <Harrison.Melissa@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Beauvais, Joel <Beauvais.Joel@epa.gov>; Ragland, Micah <Ragland.Micah@epa.gov>; Grantham, Nancy <Grantham.Nancy@epa.gov>; Distefano, Nichole <DiStefano.Nichole@epa.gov>; Asher, Jonathan <Asher.Jonathan@epa.gov>; Vargas, Melissa <vargas.melissa@epa.gov>; Brown, Tristan <Brown.Tristan@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Herckis, Arian <Herckis.Arian@epa.gov>; Benenati, Frank <benenati.frank@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Spalding, Curt <Spalding.Curt@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>
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Subject: Signed - NESHAP Subpart W

The final rule titled, “Revisions to National Emission Standards for Radon Emissions from Operating Mill Tailings” (SAN 5281) was signed this morning. A copy of the signature page is attached. Please call with any questions.

Thanks,
Kristien

Kristien Knapp
Special Assistant, Office of the Administrator
U.S. Environmental Protection Agency
Office: (202) 564-3277
Cell: (202) 379-8531

List of Subjects in 40 CFR part 61

Environmental protection, Air pollution control, Hazardous substances, Radon, Tailings, Byproduct, Uranium, Reporting and recordkeeping requirements.

DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Signed - NESHAP Subpart W
Date: Tuesday, January 10, 2017 8:17:00 AM
Attachments: December 20 2016 NESHAP Subpart W.pdf

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 3:00 PM
To: Collections.SubW
Subject: Fw: Signed - NESHAP Subpart W

From: Knapp, Kristien
Sent: Tuesday, December 20, 2016 11:56 AM
To: Meiburg, Stan; Fritz, Matthew; Garbow, Avi; McCabe, Janet; Goffman, Joseph; Shaw, Betsy; Niebling, William; Rupp, Mark; Vaught, Laura; Wachter, Eric; Pieh, Luseni; Jordan, Deborah; Scaggs, Ben; Purchia, Liz; Harrison, Melissa; Rennert, Kevin; Beauvais, Joel; Ragland, Micah; Grantham, Nancy; Distefano, Nichole; Asher, Jonathan; Vargas, Melissa; Brown, Tristan; Banister, Beverly; Herckis, Arian; Benenati, Frank; Strauss, Alexis; Spalding, Curt; Szaro, Deb
Cc: Chappell, Regina; Adams, Darryl; Baldwin, Mark; Birgfeld, Erin; Bowles, Jack; Brooks, Phillip; Brown, Stephanie N.; Cook, Leila; Cortelyou-Lee, Jan; Davis, Alison; Dennis, Allison; Dibble, Christine; Drinkard, Andrea; Dunham, Sarah; Eagles, Tom; Edwards, Jonathan; Flynn, Mike; Free, Laura; Grundler, Christopher; Haman, Patricia; Hanley, Mary; Hengst, Benjamin; Henigin, Mary; Hufford, Drusilla; Jutras, Nathaniel; Kenny, Shannon; Kime, Robin; Krieger, Jackie; Hart, Daniel; Lewis, Josh; Lubetsky, Jonathan; Maddox, Donald; Mazakas, Pam; McMichael, Nate; Mcquilkin, Wendy; Metzger, Philip; Milbourn, Cathy; Millett, John; Morgan, Ruthw; Morin, Jeff; Morris, Stephanie; Muellerleile, Caryn; Sutton, Tia; Mylan, Christopher; Noonan, Jenny; Owens, Nicole; Page, Steve; Jones, Knolyn; Emerson, Michael; Pritchard, Eileen; Rimer, Kelly; Rush, Alan; Schillo, Bruce; Schmidt, Lorie; Scoville, Pat; South, Peter; Klasen, Matthew; Washington, Stephanie; Washington, Valerie; Wortman, Eric; Shenkman, Ethan; Kim, Hyon; Hambrick, Amy; Orlin, David; Gaines, Cynthia; Leavy, Jacqueline; Naples, Eileen; Lee, Michael; Srinivasan, Gautam; Doster, Brian; Smith, Kristi; Rodman, Sonja; Cyran, Carissa; Iglesias, Amber; Tsirigotis, Peter; Thompson, Fred; Hautamaki, Jared; VonDemHagen, Rebecca; Threet, Derek; Elman, Barry; VanLare, Paula; Nickerson, William; Bailey, KevinJ; Corrales, Mark; Perez, Idalia; Burch, Julia; Burden, Susan; Zenick, Elliott; Harvey, Reid; Clarke, Deirdre; Davis, Matthew; Schultheisz, Daniel
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DEC 2 0 2016

Dated:

Gina McCarthy,

Administrator.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W documents to be added to the website when the rule is signed--Rule will probably be signed on Tuesday
Date:	Tuesday, January 10, 2017 8:17:11 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:59 PM
To: Collections.SubW
Subject: Fw: Subpart W documents to be added to the website when the rule is signed--Rule will probably be signed on Tuesday

---

From: Nesky, Anthony
Sent: Monday, December 19, 2016 4:41 PM
To: Thornton, Marisa
Cc: Shogren, Angela; Romero, Carmen; Schultheisz, Daniel; Wieder, Jessica; White, Rick
Subject: RE: Subpart W documents to be added to the website when the rule is signed--Rule will probably be signed on Tuesday

It looks like the Subpart W rule will signed tomorrow. We'll be busy!

Tony

From: Nesky, Anthony
Sent: Friday, December 16, 2016 5:23 PM
To: Thornton, Marisa <Thornton.Marisa@epa.gov>
Cc: Shogren, Angela <Shogren.Angela@epa.gov>; Romero, Carmen <Romero.Carmen@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Subpart W documents to be added to the website when the rule is signed

Dear Marisa:

When Subpart W is signed, we will need to add the following documents to https://www.epa.gov/radiation/subpart-w-rulemaking-activity-documents

Here are the metadata.

Attachment 1:

Title: Technical and Regulatory Support to Develop a Rulemaking to Potentially Modify the NESHAP Subpart W Standard for Radon Emissions from Operating Mill Tailings
Author: US EPA; OAR; ORIA; Radiation Protection Division
Subject: Background Information Document and Economic Impact Analysis for Final Rule, NESHAP Subpart W
Keywords:radiation protection standards; uranium; mill tailings, generally applicable control standards (GACT), rulemaking

Description for the document field: Background Information Document and Economic Impact Analysis for the December 2016 revision of NESHAP Subpart W

Attachment 2:
Title: National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Radionuclides National Emission Standards for Radon from Operating Mill Tailings
40 CFR Part 61, Subpart W :Background Information for Final Rule Summary of Public Comments and Responses
Author: US EPA; OAR; ORIA; Radiation Protection Division
Subject: Final Rule Summary of Public Comments and Responses
Keywords:radiation protection standards; uranium; mill tailings, generally applicable control standards (GACT), rulemaking

Description for the document field: This document contains a summary of public comments received about revision of Subpart W and EPA's responses to them.

Thanks for your help with this!

Tony

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 2:55 PM
To: Nesky, Anthony
Subject: Documents for the docket

Tony:

These two documents (BID-EIA and response to comments) need to be put in the docket.

I also need you to change, if you can, the Title field in FDMS for the redline-strikeout showing the revisions made as a result of OMB review. I don't remember what the title was when we were looking at it yesterday, but it should say "Documentation of changes made during E.O. 12866 review NESHAP Subpart W final rule FRN."

We may have more to do Monday. Thanks. Have a good weekend.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: APPROVED for Signature (OEX) - "NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)" (5281)
Date: Tuesday, January 10, 2017 8:17:26 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:57 PM
To: Collections.SubW
Subject: Fw: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

From: Schultheisz, Daniel
Sent: Monday, December 19, 2016 4:17 PM
To: Perrin, Alan; Veal, Lee; Peake, Tom
Cc: Nesky, Anthony; Wieder, Jessica
Subject: FW: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

OP sent the rule up. Probably too late for signature today.

From: Muellerleile, Caryn
Sent: Monday, December 19, 2016 4:12 PM
To: Rees, Sarah <rees.sarah@epa.gov>; Nickerson, William <Nickerson.William@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>; Corrales, Mark <Corrales.Mark@epa.gov>; Boyle, Kathryn <Boyle.Kathryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Curry, Bridgid <Curry.Bridgid@epa.gov>; Pritchard, Eileen <Pritchard.Eileen@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>
Cc: Knapp, Kristien <Knapp.Kristien@epa.gov>; Cyran, Carissa <Cyran.Carissa@epa.gov>; Morgan, Ruthw <morgan.ruthw@epa.gov>; Mcquilkin, Wendy <Mcquilkin.Wendy@epa.gov>; Morris, Joseph <Morris.Joseph@epa.gov>; Lee, Raymond <Lee.Raymond@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

Today, OP approved OAR's 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281) for Administrator's signature. This tier 3 final rule has been delivered to OEX. ADP Tracker

has been updated.

Caryn Muellerleile
Regulatory Management Division
Office of Policy
US Environmental Protection Agency
1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: APPROVED for Signature (OEX) - "NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)" (5281)
Date:	Tuesday, January 10, 2017 8:17:36 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:57 PM
To: Collections.SubW
Subject: Fw: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

From: Muellerleile, Caryn
Sent: Monday, December 19, 2016 4:11 PM
To: Rees, Sarah; Nickerson, William; Johnson, Ann; Corrales, Mark; Boyle, Kathryn; Owens, Nicole; Curry, Bridgid; Pritchard, Eileen; Kime, Robin
Cc: Knapp, Kristien; Cyran, Carissa; Morgan, Ruthw; Mcquilkin, Wendy; Morris, Joseph; Lee, Raymond; Schultheisz, Daniel
Subject: APPROVED for Signature (OEX) - 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281)

Today, OP approved OAR's 'NESHAP for Operating Uranium Mill Tailings - Amendments (Subpart W)' (5281) for Administrator's signature. This tier 3 final rule has been delivered to OEX. ADP Tracker has been updated.

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US Environmental Protection Agency
1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Documents for the docket
Date: Tuesday, January 10, 2017 8:17:46 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:56 PM
To: Collections.SubW
Subject: Fw: Documents for the docket

From: Nesky, Anthony
Sent: Monday, December 19, 2016 10:45 AM
To: Schultheisz, Daniel
Subject: Re: Documents for the docket

Done. I'll be in the office around noon

Sent from my iPhone

> On Dec 16, 2016, at 2:55 PM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:
>
> Tony:
>
> These two documents (BID-EIA and response to comments) need to be put in the docket.
>
> I also need you to change, if you can, the Title field in FDMS for the redline-strikeout showing the revisions made as a result of OMB review. I don't remember what the title was when we were looking at it yesterday, but it should say "Documentation of changes made during E.O. 12866 review NESHAP Subpart W final rule FRN."
>
> We may have more to do Monday. Thanks. Have a good weekend.
>
> Dan
> <NESHAP Subpart W Final Rule BID-EIA December 2016.pdf>
> <SubpartW_comments_FINAL_Dec2016.pdf>

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W package is moving forward for signature
Date: Tuesday, January 10, 2017 8:17:57 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:55 PM
To: Collections.SubW
Subject: Fw: Subpart W package is moving forward for signature

---

From: Wieder, Jessica
Sent: Monday, December 19, 2016 8:00 AM
To: Jones, Enesta; Millett, John
Cc: Nesky, Anthony; Schultheisz, Daniel; White, Rick
Subject: Re: Subpart W package is moving forward for signature

No. I do not believe this was signed on Friday. Tony and I will keep you posted.

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Jones, Enesta
Sent: Monday, December 19, 2016 7:42:44 AM
To: Millett, John
Cc: Nesky, Anthony; Schultheisz, Daniel; White, Rick; Wieder, Jessica
Subject: Re: Subpart W package is moving forward for signature

Hi-was this signed on Friday?

Enesta Jones

U.S. EPA
Office of Media Relations
Office: 202.564.7873
Cell: 202.236.2426

"The root of all joy is gratefulness."

On Dec 16, 2016, at 10:45 AM, Millett, John <Millett.John@epa.gov> wrote:

> Looping E-nesta . . .
>
> ---
>
> **From:** Millett, John
> **Sent:** Friday, December 16, 2016 10:43 AM
> **To:** Nesky, Anthony <Nesky.Tony@epa.gov>; jones.earnesta@epa.gov
> **Cc:** Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
> **Subject:** RE: Subpart W package is moving forward for signature
>
> Great – if it gets signed after 2:30 today, which I think is likely, I'd like to hold off on web posting and heads up notifications till Monday.
>
> Does that work for folks?
>
> ---
>
> **From:** Nesky, Anthony
> **Sent:** Friday, December 16, 2016 9:55 AM
> **To:** Millett, John <Millett.John@epa.gov>; jones.earnesta@epa.gov
> **Cc:** Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
> **Subject:** Subpart W package is moving forward for signature
>
> Sent from my iPhone
>
> Begin forwarded message:
>
> > **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> > **Date:** December 16, 2016 at 9:42:43 AM EST
> > **To:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>

Cc: "Peake, Tom" <Peake.Tom@epa.gov>
Subject: RE: Tony Nesky is teleworking today--202.343.9597

Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.

-----Original Message-----
From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:29 AM
To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
Subject: Tony Nesky is teleworking today--202.343.9597

Teleworking today

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Documents for the docket
Date: Tuesday, January 10, 2017 8:18:16 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:55 PM
To: Collections.SubW
Subject: Fw: Documents for the docket

From: Nesky, Anthony
Sent: Friday, December 16, 2016 4:55 PM
To: Schultheisz, Daniel
Subject: Re: Documents for the docket

They're in the Docket!

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 2:55 PM
To: Nesky, Anthony
Subject: Documents for the docket

Tony:

These two documents (BID-EIA and response to comments) need to be put in the docket.

I also need you to change, if you can, the Title field in FDMS for the redline-strikeout showing the revisions made as a result of OMB review. I don't remember what the title was when we were looking at it yesterday, but it should say "Documentation of changes made during E.O. 12866 review NESHAP Subpart W final rule FRN."

We may have more to do Monday. Thanks. Have a good weekend.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: New Subpart W pages drafted and almost ready to launch.
Date: Tuesday, January 10, 2017 8:18:29 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:54 PM
To: Collections.SubW
Subject: Fw: New Subpart W pages drafted and almost ready to launch.

From: Nesky, Anthony
Sent: Friday, December 16, 2016 1:35 PM
To: Peake, Tom; Schultheisz, Daniel; Wieder, Jessica; Thornton, Marisa; Romero, Carmen
Cc: White, Rick
Subject: New Subpart W pages drafted and almost ready to launch.

I have drafted webpages with the website content you approved last week.: We will have to add the fact sheet, signed rule, as well as the BID and Economic Analysis.

Dan, could you please send me the BID and Economic Analysis as soon as they are ready?

Here are the pages. Click on the link. You will be directed to a Page Not Found page where you will enter your LAN ID and password. Then click on the links again to view the pages.

Subpart W Rulemaking History Page

https://wcms.epa.gov/node/78045/revisions/467721/view

Subpart W page

https://wcms.epa.gov/node/74035/revisions/454877/view

I made one minor change to the Subpart W Regulations page from the previous version. I removed the existing description of requirements because we mention them in the text about the new rule. I moved the approved text about the new rule close to the top of the page, rather than have it in the Rule History section. This page will need to be revised again to summarize the new requirements once the rule is published in the Federal Register.

Radiation Laws and Regulations Page

I updated the announcement box to indicate that Subpart W is final as of December 2016.

https://wcms.epa.gov/node/64063/revisions/467727/view

Tony

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Any updates?
Date:	Tuesday, January 10, 2017 8:18:45 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:54 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Cyran, Carissa
Sent: Friday, December 16, 2016 1:26 PM
To: Schultheisz, Daniel
Subject: RE: Any updates?

Yeah, I'm assuming it will Monday.

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 1:21 PM
To: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

I have lots of motivation.

Caryn tells me that absolute best case is signature today. More likely OP will send it forward on Monday.

From: Cyran, Carissa
Sent: Friday, December 16, 2016 1:01 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Any updates?

Thank you Dan for pulling this together so quickly!

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 12:48 PM
To: Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>;

Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

On my way.

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

Yes: 3521-G of WJC North.

Caryn Muellerleile
Regulatory Management Division
Office of Policy
US Environmental Protection Agency
1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 9:40 AM
To: Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

Caryn:

Thanks. Do I bring them to you? I may be able to get them to you by noon.

My understanding is the package includes:

Final signature version (single-sided)
Three copies (can be double-sided)
FR typesetting request
FR cover sheet
Communications plan
Fact sheet

CD (RW) with final signature document, FR typesetting request, and FR cover sheet

Is that correct? Anything else?

Dan

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:36 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

OMB has had multiple reminders and opportunities to respond. We should now be able to move the revised final rule forward for signature, once we have all of those paper, CD, etc. components.

Thanks!
Caryn

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:22 AM
To: Owens, Nicole <Owens.Nicole@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W package is moving forward for signature
Date: Tuesday, January 10, 2017 8:19:08 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:54 PM
To: Collections.SubW
Subject: Fw: Subpart W package is moving forward for signature

---

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 1:22 PM
To: Nesky, Anthony; Millett, John; Jones, Enesta
Cc: White, Rick; Wieder, Jessica
Subject: RE: Subpart W package is moving forward for signature

I took the package to OP. It sounds like the absolute best case is signature today (if all the stars align). More likely OP will move the package forward to OEX on Monday, which hopefully means signature Monday or Tuesday.

From: Nesky, Anthony
Sent: Friday, December 16, 2016 11:33 AM
To: Millett, John <Millett.John@epa.gov>; Jones, Enesta <Jones.Enesta@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Re: Subpart W package is moving forward for signature

Yes, let's wait until Monday if it is after 2:30. BTW, I caught my earlier typo in the email, and forwarded the note to Enesta.

Tony

From: Millett, John
Sent: Friday, December 16, 2016 10:45 AM
To: Nesky, Anthony; Jones, Enesta
Cc: Schultheisz, Daniel; White, Rick; Wieder, Jessica

Subject: RE: Subpart W package is moving forward for signature

Looping E-nesta . . .

From: Millett, John
Sent: Friday, December 16, 2016 10:43 AM
To: Nesky, Anthony <Nesky.Tony@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: RE: Subpart W package is moving forward for signature

Great – if it gets signed after 2:30 today, which I think is likely, I'd like to hold off on web posting and heads up notifications till Monday.

Does that work for folks?

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:55 AM
To: Millett, John <Millett.John@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Subpart W package is moving forward for signature

Sent from my iPhone

Begin forwarded message:

> **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Date:** December 16, 2016 at 9:42:43 AM EST
> **To:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>
> **Cc:** "Peake, Tom" <Peake.Tom@epa.gov>
> **Subject: RE: Tony Nesky is teleworking today--202.343.9597**
>
> Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.
>
> -----Original Message-----
> From: Nesky, Anthony
> Sent: Friday, December 16, 2016 9:29 AM
> To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia

<Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
Subject: Tony Nesky is teleworking today--202.343.9597

Teleworking today

Sent from my iPhone

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Any updates?
Date:	Tuesday, January 10, 2017 8:19:20 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:53 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 1:21 PM
To: Cyran, Carissa
Subject: RE: Any updates?

I have lots of motivation.

Caryn tells me that absolute best case is signature today. More likely OP will send it forward on Monday.

From: Cyran, Carissa
Sent: Friday, December 16, 2016 1:01 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Any updates?

Thank you Dan for pulling this together so quickly!

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 12:48 PM
To: Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

On my way.

From: Muellerleile, Caryn

Sent: Friday, December 16, 2016 9:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

Yes: 3521-G of WJC North.

Caryn Muellerleile
Regulatory Management Division
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1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 9:40 AM
To: Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

Caryn:

Thanks. Do I bring them to you? I may be able to get them to you by noon.

My understanding is the package includes:

Final signature version (single-sided)
Three copies (can be double-sided)
FR typesetting request
FR cover sheet
Communications plan
Fact sheet
CD (RW) with final signature document, FR typesetting request, and FR cover sheet

Is that correct? Anything else?

Dan

From: Muellerleile, Caryn

Sent: Friday, December 16, 2016 9:36 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

OMB has had multiple reminders and opportunities to respond. We should now be able to move the revised final rule forward for signature, once we have all of those paper, CD, etc. components.

Thanks!
Caryn

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:22 AM
To: Owens, Nicole <Owens.Nicole@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Any updates?
Date: Tuesday, January 10, 2017 8:19:36 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:52 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 12:48 PM
To: Muellerleile, Caryn; Owens, Nicole; Johnson, Ann
Cc: Cyran, Carissa
Subject: RE: Any updates?

On my way.

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

Yes: 3521-G of WJC North.

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From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 9:40 AM
To: Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
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Subject: RE: Any updates?

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Fact sheet
CD (RW) with final signature document, FR typesetting request, and FR cover sheet

Is that correct? Anything else?

Dan

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:36 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

OMB has had multiple reminders and opportunities to respond. We should now be able to move the revised final rule forward for signature, once we have all of those paper, CD, etc. components.

Thanks!
Caryn

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:22 AM
To: Owens, Nicole <Owens.Nicole@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W package is moving forward for signature
Date: Tuesday, January 10, 2017 8:19:51 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:52 PM
To: Collections.SubW
Subject: Fw: Subpart W package is moving forward for signature

---

From: Nesky, Anthony
Sent: Friday, December 16, 2016 11:33 AM
To: Millett, John; Jones, Enesta
Cc: Schultheisz, Daniel; White, Rick; Wieder, Jessica
Subject: Re: Subpart W package is moving forward for signature

Yes, let's wait until Monday if it is after 2:30. BTW, I caught my earlier typo in the email, and forwarded the note to Enesta.

Tony

From: Millett, John
Sent: Friday, December 16, 2016 10:45 AM
To: Nesky, Anthony; Jones, Enesta
Cc: Schultheisz, Daniel; White, Rick; Wieder, Jessica
Subject: RE: Subpart W package is moving forward for signature

Looping E-nesta . . .

From: Millett, John
Sent: Friday, December 16, 2016 10:43 AM
To: Nesky, Anthony <Nesky.Tony@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: RE: Subpart W package is moving forward for signature

Great – if it gets signed after 2:30 today, which I think is likely, I'd like to hold off on web posting and heads up notifications till Monday.

Does that work for folks?

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:55 AM
To: Millett, John <Millett.John@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Subpart W package is moving forward for signature

Sent from my iPhone

Begin forwarded message:

> **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Date:** December 16, 2016 at 9:42:43 AM EST
> **To:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>
> **Cc:** "Peake, Tom" <Peake.Tom@epa.gov>
> **Subject: RE: Tony Nesky is teleworking today--202.343.9597**
>
> Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.
>
> -----Original Message-----
> From: Nesky, Anthony
> Sent: Friday, December 16, 2016 9:29 AM
> To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
> Subject: Tony Nesky is teleworking today--202.343.9597
>
> Teleworking today
>
> Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W package is moving forward for signature
Date: Tuesday, January 10, 2017 8:20:06 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:52 PM
To: Collections.SubW
Subject: Fw: Subpart W package is moving forward for signature

---

From: Millett, John
Sent: Friday, December 16, 2016 10:43 AM
To: Nesky, Anthony; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel; White, Rick; Wieder, Jessica
Subject: RE: Subpart W package is moving forward for signature

Great – if it gets signed after 2:30 today, which I think is likely, I'd like to hold off on web posting and heads up notifications till Monday.

Does that work for folks?

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:55 AM
To: Millett, John <Millett.John@epa.gov>; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; White, Rick <White.Rick@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: Subpart W package is moving forward for signature

Sent from my iPhone

Begin forwarded message:

> **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Date:** December 16, 2016 at 9:42:43 AM EST
> **To:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>
> **Cc:** "Peake, Tom" <Peake.Tom@epa.gov>

Subject: RE: Tony Nesky is teleworking today--202.343.9597

Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.

-----Original Message-----
From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:29 AM
To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
Subject: Tony Nesky is teleworking today--202.343.9597

Teleworking today

Sent from my iPhone

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W package is moving forward for signature
Date:	Tuesday, January 10, 2017 8:20:19 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:52 PM
To: Collections.SubW
Subject: Fw: Subpart W package is moving forward for signature

---

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:54 AM
To: Millett, John; jones.earnesta@epa.gov
Cc: Schultheisz, Daniel; White, Rick; Wieder, Jessica
Subject: Subpart W package is moving forward for signature

Sent from my iPhone

Begin forwarded message:

> **From:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Date:** December 16, 2016 at 9:42:43 AM EST
> **To:** "Nesky, Anthony" <Nesky.Tony@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>
> **Cc:** "Peake, Tom" <Peake.Tom@epa.gov>
> **Subject: RE: Tony Nesky is teleworking today--202.343.9597**
>
> Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.
> -----Original Message-----
> From: Nesky, Anthony

Sent: Friday, December 16, 2016 9:29 AM
To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
Subject: Tony Nesky is teleworking today--202.343.9597
Teleworking today
Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Tony Nesky is teleworking today--202.343.9597
Date: Tuesday, January 10, 2017 8:20:34 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:51 PM
To: Collections.SubW
Subject: Fw: Tony Nesky is teleworking today--202.343.9597

From: Wieder, Jessica
Sent: Friday, December 16, 2016 9:50 AM
To: Nesky, Anthony; Schultheisz, Daniel
Cc: Peake, Tom
Subject: Re: Tony Nesky is teleworking today--202.343.9597

Tony - Let me know if you need any support. Please give Millett and Enesta Jones a heads up that the package is moving forward.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:48:54 AM
To: Schultheisz, Daniel
Cc: Wieder, Jessica; Peake, Tom
Subject: Re: Tony Nesky is teleworking today--202.343.9597

Great! You should have everything. I added those three documents to the Docket last night. I'll get the website ready for launch.

Tony

Sent from my iPhone

> On Dec 16, 2016, at 9:42 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:
>
> Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.
>
> -----Original Message-----
> From: Nesky, Anthony
> Sent: Friday, December 16, 2016 9:29 AM
> To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
> Subject: Tony Nesky is teleworking today--202.343.9597
>
> Teleworking today
>
> Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Tony Nesky is teleworking today--202.343.9597
Date: Tuesday, January 10, 2017 8:20:34 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:51 PM
To: Collections.SubW
Subject: Fw: Tony Nesky is teleworking today--202.343.9597

From: Wieder, Jessica
Sent: Friday, December 16, 2016 9:50 AM
To: Nesky, Anthony; Schultheisz, Daniel
Cc: Peake, Tom
Subject: Re: Tony Nesky is teleworking today--202.343.9597

Tony - Let me know if you need any support. Please give Millett and Enesta Jones a heads up that the package is moving forward.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:48:54 AM
To: Schultheisz, Daniel
Cc: Wieder, Jessica; Peake, Tom
Subject: Re: Tony Nesky is teleworking today--202.343.9597

Great! You should have everything. I added those three documents to the Docket last night. I'll get the website ready for launch.

Tony

Sent from my iPhone

> On Dec 16, 2016, at 9:42 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:
>
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> -----Original Message-----
> From: Nesky, Anthony
> Sent: Friday, December 16, 2016 9:29 AM
> To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
> Subject: Tony Nesky is teleworking today--202.343.9597
>
> Teleworking today
>
> Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Tony Nesky is teleworking today--202.343.9597
Date: Tuesday, January 10, 2017 8:20:46 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:51 PM
To: Collections.SubW
Subject: Fw: Tony Nesky is teleworking today--202.343.9597

From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:48 AM
To: Schultheisz, Daniel
Cc: Wieder, Jessica; Peake, Tom
Subject: Re: Tony Nesky is teleworking today--202.343.9597

Great! You should have everything. I added those three documents to the Docket last night. I'll get the website ready for launch.

Tony

Sent from my iPhone

> On Dec 16, 2016, at 9:42 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:
>
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>
> -----Original Message-----
> From: Nesky, Anthony
> Sent: Friday, December 16, 2016 9:29 AM
> To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
> Subject: Tony Nesky is teleworking today--202.343.9597
>
> Teleworking today
>
> Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Tony Nesky is teleworking today--202.343.9597
Date: Tuesday, January 10, 2017 8:20:56 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:51 PM
To: Collections.SubW
Subject: Fw: Tony Nesky is teleworking today--202.343.9597

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 9:42 AM
To: Nesky, Anthony; Wieder, Jessica
Cc: Peake, Tom
Subject: RE: Tony Nesky is teleworking today--202.343.9597

Just got word from OP that we can move the signature package. I am going to assemble the hardcopy components and get the CD ready, then take it over (hopefully before noon). Stay tuned.

-----Original Message-----
From: Nesky, Anthony
Sent: Friday, December 16, 2016 9:29 AM
To: OAR-ORIA-RPD-CRIO <OARORIARPDCRIO@epa.gov>; Holden, Patricia <Holden.Patricia@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Rosencrantz, Ingrid <Rosencrantz.Ingrid@epa.gov>
Subject: Tony Nesky is teleworking today--202.343.9597

Teleworking today

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Any updates?
Date: Tuesday, January 10, 2017 8:21:05 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:50 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:40 AM
To: Schultheisz, Daniel; Owens, Nicole; Johnson, Ann
Cc: Cyran, Carissa
Subject: RE: Any updates?

Yes: 3521-G of WJC North.

Caryn Muellerleile
Regulatory Management Division
Office of Policy
US Environmental Protection Agency
1200 Pennsylvania Ave NW (1803A)
Washington, DC 20460
(202) 564-2855
muellerleile.caryn@epa.gov

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 9:40 AM
To: Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

Caryn:

Thanks. Do I bring them to you? I may be able to get them to you by noon.

My understanding is the package includes:

Final signature version (single-sided)
Three copies (can be double-sided)
FR typesetting request
FR cover sheet
Communications plan
Fact sheet
CD (RW) with final signature document, FR typesetting request, and FR cover sheet

Is that correct? Anything else?

Dan

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:36 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

OMB has had multiple reminders and opportunities to respond. We should now be able to move the revised final rule forward for signature, once we have all of those paper, CD, etc. components.

Thanks!
Caryn

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:22 AM
To: Owens, Nicole <Owens.Nicole@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Any updates?
Date:	Tuesday, January 10, 2017 8:21:35 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:50 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 9:39 AM
To: Muellerleile, Caryn; Owens, Nicole; Johnson, Ann
Cc: Cyran, Carissa
Subject: RE: Any updates?

Caryn:

Thanks. Do I bring them to you? I may be able to get them to you by noon.

My understanding is the package includes:

Final signature version (single-sided)
Three copies (can be double-sided)
FR typesetting request
FR cover sheet
Communications plan
Fact sheet
CD (RW) with final signature document, FR typesetting request, and FR cover sheet

Is that correct? Anything else?

Dan

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:36 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Owens, Nicole <Owens.Nicole@epa.gov>;

Johnson, Ann <Johnson.Ann@epa.gov>
Cc: Cyran, Carissa <Cyran.Carissa@epa.gov>
Subject: RE: Any updates?

OMB has had multiple reminders and opportunities to respond. We should now be able to move the revised final rule forward for signature, once we have all of those paper, CD, etc. components.

Thanks!
Caryn

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:22 AM
To: Owens, Nicole <Owens.Nicole@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Any updates?
Date: Tuesday, January 10, 2017 8:22:12 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:50 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Muellerleile, Caryn
Sent: Friday, December 16, 2016 9:36 AM
To: Schultheisz, Daniel; Owens, Nicole; Johnson, Ann
Cc: Cyran, Carissa
Subject: RE: Any updates?

OMB has had multiple reminders and opportunities to respond. We should now be able to move the revised final rule forward for signature, once we have all of those paper, CD, etc. components.

Thanks!
Caryn

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:22 AM
To: Owens, Nicole <Owens.Nicole@epa.gov>; Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>; Johnson, Ann <Johnson.Ann@epa.gov>
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Any updates?
Date: Tuesday, January 10, 2017 8:22:25 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:50 PM
To: Collections.SubW
Subject: Fw: Any updates?

From: Schultheisz, Daniel
Sent: Friday, December 16, 2016 8:21 AM
To: Owens, Nicole; Muellerleile, Caryn; Johnson, Ann
Subject: Any updates?

Have you heard back on the proposed revisions? Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Website review
Date: Tuesday, January 10, 2017 8:23:14 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:49 PM
To: Collections.SubW
Subject: Fw: Subpart W Website review

From: Schultheisz, Daniel
Sent: Thursday, December 15, 2016 11:40 AM
To: Wieder, Jessica; Nesky, Anthony
Subject: RE: Subpart W Website review

I think this looks good. Thanks.

No word yet from OP.

From: Wieder, Jessica
Sent: Wednesday, December 14, 2016 10:12 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Subpart W Website review

Dan – Attached is the draft website language for your review. This language will go live when the rulemaking is signed.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Docket Items - To Be Submitted Upon Signature
Date: Tuesday, January 10, 2017 8:23:49 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:46 PM
To: Collections.SubW
Subject: Fw: Subpart W Docket Items - To Be Submitted Upon Signature

---

From: Nesky, Anthony
Sent: Wednesday, December 14, 2016 8:13 PM
To: Schultheisz, Daniel
Cc: Akram, Assem
Subject: Re: Subpart W Docket Items - To Be Submitted Upon Signature

I submitted these three documents to the Final Rule folder prior to signature. Assam, can you please verify that they will not be publically available until we have a Final Rule? Thanks!

Tony

From: Schultheisz, Daniel
Sent: Wednesday, November 23, 2016 10:19 AM
To: Nesky, Anthony
Subject: Subpart W Docket Items - To Be Submitted Upon Signature

Tony:

Here are the three documents from OMB review that need to be entered into the docket after the rule is signed. They are the redline-strikeout showing changes in the rule and preamble resulting from OMB review; the responses to the initial set of interagency comments, which we sent back on October 17; and the response to the additional comment, which we sent back on November 4. The file names reflect the contents. Let me know if you have any problems. Thanks.

Dan

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W webpages
Date: Tuesday, January 10, 2017 8:24:46 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:45 PM
To: Collections.SubW
Subject: Fw: Subpart W webpages

From: Wieder, Jessica
Sent: Wednesday, December 14, 2016 4:41 PM
To: Nesky, Anthony
Cc: Schultheisz, Daniel
Subject: Re: Subpart W webpages

Hi Tony!

I will take care of this first thing in the morning. I will be working all next week and can be available during the holidays. No worries.

Jess

Jessica Wieder
U.S. Environmental Protection Agency
Radiation Protection Program
202-343-9201
m: 202-420-9353

Sent from my iPhone

On Dec 14, 2016, at 3:58 PM, Nesky, Anthony <Nesky.Tony@epa.gov> wrote:

> Thanks for all your help with Subpart W while I am out. I saw that you drafted language for the webpage, which looks like it was based on the desk statement.

This is a good idea.

I have drafted pages on Drupal already--they are below. Please paste the updated text into this structure. As Dan and I discussed, the Subpart W page regulation page will become the main page for Subpart W after the rule becomes effective. The current rule making age will be restructured into a supporting page.

Tony

Sent from my iPhone

Begin forwarded message:

> **From:** "Nesky, Anthony" <Nesky.Tony@epa.gov>
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>, "Peake, Tom" <Peake.Tom@epa.gov>
> **Cc:** "White, Rick" <White.Rick@epa.gov>, "Thornton, Marisa" <Thornton.Marisa@epa.gov>, "Wieder, Jessica" <Wieder.Jessica@epa.gov>, "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Subject: Subpart W Communication Package and Instructions for Launch**
>
> Dear Dan:
> If Subpart W is signed while I am still out, here is what you will need to do.
> Notify OAR Comms
> Notify Nate McMicheal that the rule has been signed (though he may know before you do).
> Communication Package
> The communication package is attached. A few actions are needed:
> - Desk Statement—add the date of the signing.
> - Fact Sheet—If you have no changes to the fact sheet, send it to Marisa to post to the website. If you have changes, send them to Marisa, who will have the contractor make the changes.
>
> Website:
> - Pages have been drafted. When you click on the link, you get a page not found message and be prompted for your password and LAN ID. Then page should then load.

- Rulemaking Activity page: https://wcms.epa.gov/node/78045/revisions/454869/view
- Subpart W page. https://wcms.epa.gov/node/74035/revisions/454877/view

- Pre-publication copy of the rule for the website:
  - Get the signed Federal Register Notice. Ask Marisa to add the following header to the PDF file—

    EPA Administrator Gina McCarthy signed this rule on XXX/XXX/XXX. The official final rule will be published in the Federal Register and will become effective 60 days later. This copy is being provided to inform the public about EPA's intentions, and will be replaced with a link to the official final rule in the Federal Register.
  - Also ask Marisa to add the following metadata to the PDF file of the signed rule—

    Title: Text of upcoming Federal Register Notice for NESHAP Subpart W
    Author: US Environmental Protection Agency
    Subject: Text of Federal Register Notice for Notice for NESHAP Subpart W
    Keywords: uranium tailings, radon emissions, generally applicable control technologies, GACT
- Ask Marisa to add the following metadata to the fact sheet and post it to the website—

  Title: Fact Sheet: NESHAP Subpart W

  Author: US EPA; OAR; ORIA; Radiation Protection Division
  Subject: National Emission Standards, NESHAP, Proposed Rulemaking
  Keywords: Supbart W; radiation protection standards; uranium; mill tailings, generally applicable control standards (GACT)
- Ask Angela or Jessica to review the webpages after they are updated and publish them.

<u>Email message to stakeholders</u>

The email message to stakeholders is attached, as is the mailing list

on an Excel spreadsheet. Unfortunately, emailing the entire list will be a time-consuming, cumbersome process. Budget a couple of hours. I recently deleted all the people who unsubscribed from the last list. I have found that Microsoft Outlook chokes up if there are more than 300 recipients at a time, so I have broken up the mailing list alphabetically: each Excel tab has about 300 addresses. To send the mailing:

1. Open up the SubpartW@epa.gov email address. Dan, you have rights to it. You may have to call the help desk to have them add it to your Outlook account.
2. Copy and paste the subject line content into the subject line.
3. Copy and paste the body into the body.
4. Under "To," send the message to SubpartW@epa.gov
5. To protect user's privacy, use the BCC line for entering addresses. Open up the Excel spreadsheet. Click on the column heading (A, B, C, etc) and the whole column should become selected. Type CTRL-C to copy (or right click and select COPY). Put the cursor in the BCC field and type CTRL-V to paste (or right click and select PASTE). It may take a second or two, but the address should appear in the BCC line. Go the end of the line and hit TAB or return. You will know that the message is ready to send when Outlook underlines the address and separates them with semicolons.
6. Repeat 37 times, once for each Excel tab. Note: There is no Sheet 33 —I inadvertently repeated some address, so I deleted the sheet.

<SubpartW-Desk Statement-final..docx>

<Qs And As for Subpart W--final.docx>

<SubpartW-presselease-final.docx>

<Communication Plan-SubpartW-final_rule-11-15-16.docx>

<SubpartWRulemakingActivity-mailinglists.xlsx>

<Factsheet_Subpart W_Nov_P9.pdf>

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: When do you expect signature on Subpart W?
Date: Tuesday, January 10, 2017 8:25:00 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:45 PM
To: Collections.SubW
Subject: Fw: When do you expect signature on Subpart W?

From: Schultheisz, Daniel
Sent: Wednesday, December 14, 2016 4:06 PM
To: Nesky, Anthony
Cc: Wieder, Jessica
Subject: RE: When do you expect signature on Subpart W?

I'll know more tomorrow. At this point, it seems unlikely that actual signature will occur this week, but if I get the signal early tomorrow from OP to move the final package, it still might.

-----Original Message-----
From: Nesky, Anthony
Sent: Wednesday, December 14, 2016 4:02 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Wieder, Jessica <Wieder.Jessica@epa.gov>
Subject: When do you expect signature on Subpart W?

When do you expect signature on Subpart W? I hope to resume a normal schedule on Friday, but may need to take leave later during the holidays.

Tony

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: When do you expect signature on Subpart W?
Date: Tuesday, January 10, 2017 8:25:41 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:44 PM
To: Collections.SubW
Subject: Fw: When do you expect signature on Subpart W?

From: Nesky, Anthony
Sent: Wednesday, December 14, 2016 4:02 PM
To: Schultheisz, Daniel
Cc: Wieder, Jessica
Subject: When do you expect signature on Subpart W?

When do you expect signature on Subpart W? I hope to resume a normal schedule on Friday, but may need to take leave later during the holidays.

Tony

Sent from my iPhone

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Got your call.
Date: Tuesday, January 10, 2017 8:26:00 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:43 PM
To: Collections.SubW
Subject: Fw: Got your call.

From: Johnson, Ann
Sent: Wednesday, December 14, 2016 1:27 PM
To: Schultheisz, Daniel
Subject: Got your call.

Dan,
Sorry I'm just getting back to you. I am assuming it went over. Caryn said that since Nicole is out we won't hear anything until tomorrow.
Ann

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: any word on signature?
Date: Tuesday, January 10, 2017 8:26:18 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:43 PM
To: Collections.SubW
Subject: Fw: any word on signature?

From: Schultheisz, Daniel
Sent: Wednesday, December 14, 2016 9:09 AM
To: Seidman, Emily
Subject: RE: any word on signature?

Still with OP.

From: Seidman, Emily
Sent: Wednesday, December 14, 2016 9:08 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: any word on signature?

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7502A | phone: (202) 564-0906

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: any word on signature?
Date: Tuesday, January 10, 2017 8:26:37 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:43 PM
To: Collections.SubW
Subject: Fw: any word on signature?

From: Seidman, Emily
Sent: Wednesday, December 14, 2016 9:07 AM
To: Schultheisz, Daniel
Subject: any word on signature?

Emily Seidman | US EPA | Office of General Counsel | Air and Radiation Law Office | Mail Code 2344A | WJCN 7502A | phone: (202) 564-0906

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Final Subpart W Comm Plan
Date:	Tuesday, January 10, 2017 8:26:53 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:40 PM
To: Collections.SubW
Subject: Fw: Final Subpart W Comm Plan

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 9:55 AM
To: Millett, John
Cc: Schultheisz, Daniel; Peake, Tom; Nesky, Anthony; Veal, Lee; Perrin, Alan
Subject: Re: Final Subpart W Comm Plan

I am working in the website content and will send you a draft to review by COB tomorrow.

Jessica Wieder
U.S. Environmental Protection Agency
Radiation Protection Program
202-343-9201
m: 202-420-9353

Sent from my iPhone

On Dec 13, 2016, at 9:53 AM, Millett, John <Millett.John@epa.gov> wrote:

> Wicked cool. Thanks!
>
> I'll tee this up for OPA and Janet's review today.
>
> One note: on the fact sheet or web text it'd be good to reinforce the desk statement's point (with 2-3 bullets of additional support) that it was high time to review the standards, and that a thorough assessment found that, affordable and effective

approaches were found to be available.

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 9:44 AM
To: Millett, John <Millett.John@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>
Subject: Final Subpart W Comm Plan

John - We incorporated your feedback into the attached final Subpart W Comm Plan.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Final Subpart W Comm Plan
Date:	Tuesday, January 10, 2017 8:27:29 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:40 PM
To: Collections.SubW
Subject: Fw: Final Subpart W Comm Plan

From: Millett, John
Sent: Tuesday, December 13, 2016 9:53 AM
To: Wieder, Jessica
Cc: Schultheisz, Daniel; Peake, Tom; Nesky, Anthony; Veal, Lee; Perrin, Alan
Subject: RE: Final Subpart W Comm Plan

Wicked cool. Thanks!

I'll tee this up for OPA and Janet's review today.

One note: on the fact sheet or web text it'd be good to reinforce the desk statement's point (with 2-3 bullets of additional support) that it was high time to review the standards, and that a thorough assessment found that, affordable and effective approaches were found to be available.

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 9:44 AM
To: Millett, John <Millett.John@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>
Subject: Final Subpart W Comm Plan

John - We incorporated your feedback into the attached final Subpart W Comm Plan.

Jess

Jessica Wieder

U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W Comm Plan
Date:	Tuesday, January 10, 2017 8:27:43 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:38 PM
To: Collections.SubW
Subject: Fw: Subpart W Comm Plan

From: Wieder, Jessica
Sent: Tuesday, December 13, 2016 8:45 AM
To: Schultheisz, Daniel; Nesky, Anthony
Subject: Re: Subpart W Comm Plan

Will do.

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Schultheisz, Daniel
Sent: Tuesday, December 13, 2016 8:26:35 AM
To: Wieder, Jessica; Nesky, Anthony
Subject: RE: Subpart W Comm Plan

I would like to take out the word “thorough” in the suggested edit. Otherwise, I am comfortable with these changes. Thanks.

From: Wieder, Jessica
Sent: Monday, December 12, 2016 2:57 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Subpart W Comm Plan

Dan – Are you okay with my edits to address Millett's comment?

See attached. Edits are reflected in track changes.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Comm Plan
Date: Tuesday, January 10, 2017 8:27:57 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 2:38 PM
To: Collections.SubW
Subject: Fw: Subpart W Comm Plan

From: Schultheisz, Daniel
Sent: Tuesday, December 13, 2016 8:26 AM
To: Wieder, Jessica; Nesky, Anthony
Subject: RE: Subpart W Comm Plan

I would like to take out the word "thorough" in the suggested edit. Otherwise, I am comfortable with these changes. Thanks.

From: Wieder, Jessica
Sent: Monday, December 12, 2016 2:57 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Subpart W Comm Plan

Dan – Are you okay with my edits to address Millett's comment?

See attached. Edits are reflected in track changes.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Comm Plan
Date: Tuesday, January 10, 2017 8:28:51 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:51 PM
To: Collections.SubW
Subject: Fw: Subpart W Comm Plan

From: Millett, John
Sent: Monday, December 12, 2016 9:56 AM
To: Wieder, Jessica
Cc: Schultheisz, Daniel; Nesky, Anthony; Perrin, Alan; Veal, Lee; Peake, Tom; White, Rick
Subject: RE: Subpart W Comm Plan

Thanks, Jess – I'll take a look and get back to you.

From: Wieder, Jessica
Sent: Monday, December 12, 2016 8:52 AM
To: Millett, John <Millett.John@epa.gov>
Cc: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>; White, Rick <White.Rick@epa.gov>
Subject: Subpart W Comm Plan

Good Morning, John,

RPD has a package with OP for finalizing our National Emission Standards for Radon Emissions from Operating Mill Tailings – Subpart W of 40 CFR part 61. We are optimistic that the package will go for signing sometime this week.

Attached is the comm plan for your review. Please let me know if you have any questions.

Jessica

Jessica Wieder
U.S. EPA

Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Comm Plan
Date: Tuesday, January 10, 2017 8:29:06 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:50 PM
To: Collections.SubW
Subject: Fw: Subpart W Comm Plan

From: Veal, Lee
Sent: Friday, December 9, 2016 5:22 PM
To: Wieder, Jessica
Cc: Perrin, Alan; Nesky, Anthony; Schultheisz, Daniel; Peake, Tom; White, Rick
Subject: Re: Subpart W Comm Plan

Jess

These look good to me. I understood what was being said, and found it all to be straightforward.

Lee

Lee Ann B Veal
Acting Deputy Director, Radiation Protection Division, ORIA, USEPA
Office 202-343-9448
Cell 202-617-4322
Veal.lee@epa.gov

On Dec 9, 2016, at 3:50 PM, Wieder, Jessica <Wieder.Jessica@epa.gov> wrote:

> Attached is the Subpart W Comm Plan for your review.
>
> Jessica Wieder

U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Perrin, Alan
Sent: Friday, December 9, 2016 3:37:12 PM
To: Wieder, Jessica; Veal, Lee
Cc: White, Rick
Subject: RE: Subpart W Comm Plan

Probably good to send it to both of us – the only thing I remember seeing is the Q&As and the timeline from the briefing last week. -Alan

~~~~~~~~~~~~~~~

Alan Perrin, Acting Director
Radiation Protection Division, USEPA
ofc (202) 343-9775 | mbl (202) 279-0376

From: Wieder, Jessica
Sent: Friday, December 09, 2016 1:07 PM
To: Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>
Cc: White, Rick <White.Rick@epa.gov>
Subject: Subpart W Comm Plan

Alan and Lee -

I am filling in for Tony on Subpart W. Would you like to see the comm plan before I send it over to OAR Comm? I don't know what you have or have not seen to date.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

<Subpart W Comm Plan 12092016.docx>
~~~~~~~~~~~~~~~

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Discuss Subpart W with OAR
Date: Wednesday, January 11, 2017 9:18:16 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:46 PM
To: Collections.SubW
Subject: Fw: Discuss Subpart W with OAR

From: Schultheisz, Daniel
Sent: Friday, December 9, 2016 10:17 AM
To: Johnson, Ann
Subject: RE: Discuss Subpart W with OAR

Did you mean for this to be next Monday (the 12th)?

I can probably come. Where will you be?

-----Original Appointment-----
From: Johnson, Ann
Sent: Friday, December 09, 2016 10:14 AM
To: Schultheisz, Daniel; Owens, Nicole; Nickerson, William; Corrales, Mark; Muellerleile, Caryn
Cc: Boyle, Kathryn
Subject: Discuss Subpart W with OAR
When: Monday, December 19, 2016 2:00 PM-2:45 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 1-866-299-3188, code: 202-564-5966

Dan: We'd be happy for you to come in person if you would like.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question on Docket No. EPA-HQ-OAR-2008-0218
Date:	Tuesday, January 10, 2017 8:30:44 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:47 PM
To: Collections.SubW
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218

From: Akram, Assem
Sent: Friday, December 9, 2016 11:06 AM
To: Schultheisz, Daniel
Subject: Re: Question on Docket No. EPA-HQ-OAR-2008-0218

Many thanks, Dan.

Assem Akram
Docket Manager
USEPA Docket Center
Operated by ASRC Primus
Phone: (202) 566-0226
Email: Akram.Assem@Epa.Gov

From: Schultheisz, Daniel
Sent: Friday, December 9, 2016 10:15
To: Akram, Assem
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

We will have at least five documents to add: response to comments, technical support/economic analysis, and three documents related to OMB review. We planned to upload those upon signature.

From: Akram, Assem
Sent: Friday, December 09, 2016 9:57 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: Question on Docket No. EPA-HQ-OAR-2008-0218

Hi, Dan -

Your assumption is correct that we cannot provide permanent numbers before posting. That is done automatically by the system and we have no control over it. So using the docket ID and document titles is the safest way to go.

Yes; you can add the documents now. As long as they are added to the unpublished Final Rule, they are safe from any premature posting. For Final Rules, there is a requirement to have all documents in the docket by signature - which is not the same as posted on Regulations.gov.

Do you have an approximate count of how many more supporting documents you'll be adding to the docket?

Thanks.

Assem

Assem Akram
Docket Manager
USEPA Docket Center
Operated by ASRC Primus
Phone: (202) 566-0226
Email: Akram.Assem@Epa.Gov

From: Schultheisz, Daniel
Sent: Thursday, December 8, 2016 16:19
To: Akram, Assem
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

Thanks for the quick response. If I understand correctly, those documents that have been submitted to the docket for the final rule won't be posted to regulations.gov until the FR is published. I was looking for them to be able to cite the docket numbers for those references in the preamble. Now I won't worry about that and will just cite the general docket number. Unless you can provide me the docket numbers for anything numbered 0196 and higher (maybe ten or so items). If you could, I would appreciate it.

There were some documents we were holding back, because we did not want them to be publicly available until signature. But if nothing goes live until publication, we don't need to do that either.

Right now the rule is in OP, and when it clears we will move the final signature package. My guess is that will happen next week. We are hearing about backlogs at the FR, so publication may not be until the first (or even second) week in January. This is not an expedited publication. Thanks again.

Dan

From: Akram, Assem

Sent: Thursday, December 08, 2016 3:24 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Hi, Dan –
No problem at all. Typically each phase ease tied to a new action, and the supporting documents in that phase only get posted when the Federal Register notice is published. On the day of the FR publication, we associate in FDMS the notice (in this case a Final Rule) to the docket phase and that allows the supporting documents to go live and be available to the public on Regulations.gov.
When do you expect your Final to be published?
Thanks!
Assem

>>>>>>>>><<<<<<<<<<
Assem Akram
Docket Manager
USEPA Docket Center
Operated by ASRC Primus
(202) 566-0226
akram.assem@epa.gov
>>>>>>>>>><<<<<<<<<<

From: Schultheisz, Daniel
Sent: Thursday, December 08, 2016 2:50 PM
To: Akram, Assem <Akram.Assem@epa.gov>
Subject: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

I'm managing a final rule that is nearing signature (Radionuclide NESHAPs – 40 CFR part 61, subpart W). The docket number is EPA-HQ-OAR-2008-0218. The person who is managing the docket for me, Tony Nesky, had entered some documents a couple of weeks ago (Thanksgiving week). They are not yet appearing in regulations.gov (I am looking at "all documents and comments in the docket," and the number is 195). How long does it typically take for a document to show up in regulations.gov? I know you and Tony spoke last week because he had apparently entered these as connected to the proposed rule, when the rule is going final. As I understand it, you needed to create an additional category or do something to connect them to the final rule. Sorry to bother you about this, but Tony has had a death in the family and is out of the office this week. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Discuss Subpart W with OAR
Date: Tuesday, January 10, 2017 8:30:57 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:47 PM
To: Collections.SubW
Subject: Fw: Discuss Subpart W with OAR

From: Johnson, Ann
Sent: Friday, December 9, 2016 10:38 AM
To: Schultheisz, Daniel
Subject: RE: Discuss Subpart W with OAR

Haven't figured that out! I'll let you know. It will be somewhere on the 3500 corridor of WJC North.

-----Original Appointment-----
From: Schultheisz, Daniel
Sent: Friday, December 09, 2016 10:25 AM
To: Johnson, Ann
Subject: Accepted: Discuss Subpart W with OAR
When: Monday, December 12, 2016 2:00 PM-2:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 1-866-299-3188, code: 202-564-5966

I'll be glad to come. What room? Thanks.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Discuss Subpart W with OAR
Date: Tuesday, January 10, 2017 8:31:12 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:47 PM
To: Collections.SubW
Subject: Fw: Discuss Subpart W with OAR

From: Schultheisz, Daniel
Sent: Friday, December 9, 2016 10:25 AM
To: Johnson, Ann
Subject: Accepted: Discuss Subpart W with OAR
When: Monday, December 12, 2016 2:00 PM-2:30 PM.
Where: 1-866-299-3188, code: 202-564-5966

I'll be glad to come. What room? Thanks.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Discuss Subpart W with OAR
Date: Tuesday, January 10, 2017 8:31:50 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:46 PM
To: Collections.SubW
Subject: Fw: Discuss Subpart W with OAR

From: Schultheisz, Daniel
Sent: Friday, December 9, 2016 10:17 AM
To: Johnson, Ann
Subject: RE: Discuss Subpart W with OAR

Did you mean for this to be next Monday (the 12th)?

I can probably come. Where will you be?

-----Original Appointment-----
From: Johnson, Ann
Sent: Friday, December 09, 2016 10:14 AM
To: Schultheisz, Daniel; Owens, Nicole; Nickerson, William; Corrales, Mark; Muellerleile, Caryn
Cc: Boyle, Kathryn
Subject: Discuss Subpart W with OAR
When: Monday, December 19, 2016 2:00 PM-2:45 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 1-866-299-3188, code: 202-564-5966

Dan: We'd be happy for you to come in person if you would like.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218
Date: Tuesday, January 10, 2017 8:32:10 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:46 PM
To: Collections.SubW
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218

From: Schultheisz, Daniel
Sent: Friday, December 9, 2016 10:15 AM
To: Akram, Assem
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

We will have at least five documents to add: response to comments, technical support/economic analysis, and three documents related to OMB review. We planned to upload those upon signature.

From: Akram, Assem
Sent: Friday, December 09, 2016 9:57 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: Question on Docket No. EPA-HQ-OAR-2008-0218

Hi, Dan -

Your assumption is correct that we cannot provide permanent numbers before posting. That is done automatically by the system and we have no control over it. So using the docket ID and document titles is the safest way to go.

Yes; you can add the documents now. As long as they are added to the unpublished Final Rule, they are safe from any premature posting. For Final Rules, there is a requirement to have all documents in the docket by signature - which is not the same as posted on Regulations.gov.

Do you have an approximate count of how many more supporting documents you'll be adding to the docket?

Thanks.

Assem

Assem Akram
Docket Manager
USEPA Docket Center
Operated by ASRC Primus
Phone: (202) 566-0226
Email: Akram.Assem@Epa.Gov

From: Schultheisz, Daniel
Sent: Thursday, December 8, 2016 16:19
To: Akram, Assem
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

Thanks for the quick response. If I understand correctly, those documents that have been submitted to the docket for the final rule won't be posted to regulations.gov until the FR is published. I was looking for them to be able to cite the docket numbers for those references in the preamble. Now I won't worry about that and will just cite the general docket number. Unless you can provide me the docket numbers for anything numbered 0196 and higher (maybe ten or so items). If you could, I would appreciate it.

There were some documents we were holding back, because we did not want them to be publicly available until signature. But if nothing goes live until publication, we don't need to do that either.

Right now the rule is in OP, and when it clears we will move the final signature package. My guess is that will happen next week. We are hearing about backlogs at the FR, so publication may not be until the first (or even second) week in January. This is not an expedited publication. Thanks again.

Dan

From: Akram, Assem
Sent: Thursday, December 08, 2016 3:24 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Hi, Dan –
No problem at all. Typically each phase ease tied to a new action, and the supporting documents in that phase only get posted when the Federal Register notice is published. On the day of the FR publication, we associate in FDMS the notice (in this case a Final Rule) to the docket phase and that allows the supporting documents to go live and be available to the public on Regulations.gov.
When do you expect your Final to be published?
Thanks!

Assem

>>>>>>>>><<<<<<<<<
Assem Akram
Docket Manager
USEPA Docket Center
Operated by ASRC Primus
(202) 566-0226
akram.assem@epa.gov
>>>>>>>>><<<<<<<<<

From: Schultheisz, Daniel
Sent: Thursday, December 08, 2016 2:50 PM
To: Akram, Assem <Akram.Assem@epa.gov>
Subject: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

I'm managing a final rule that is nearing signature (Radionuclide NESHAPs – 40 CFR part 61, subpart W). The docket number is EPA-HQ-OAR-2008-0218. The person who is managing the docket for me, Tony Nesky, had entered some documents a couple of weeks ago (Thanksgiving week). They are not yet appearing in regulations.gov (I am looking at "all documents and comments in the docket," and the number is 195). How long does it typically take for a document to show up in regulations.gov? I know you and Tony spoke last week because he had apparently entered these as connected to the proposed rule, when the rule is going final. As I understand it, you needed to create an additional category or do something to connect them to the final rule. Sorry to bother you about this, but Tony has had a death in the family and is out of the office this week. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question on Docket No. EPA-HQ-OAR-2008-0218
Date:	Tuesday, January 10, 2017 8:32:23 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:45 PM
To: Collections.SubW
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218

From: Akram, Assem
Sent: Friday, December 9, 2016 9:56 AM
To: Schultheisz, Daniel
Subject: Re: Question on Docket No. EPA-HQ-OAR-2008-0218

Hi, Dan -

Your assumption is correct that we cannot provide permanent numbers before posting. That is done automatically by the system and we have no control over it. So using the docket ID and document titles is the safest way to go.

Yes; you can add the documents now. As long as they are added to the unpublished Final Rule, they are safe from any premature posting. For Final Rules, there is a requirement to have all documents in the docket by signature - which is not the same as posted on Regulations.gov.

Do you have an approximate count of how many more supporting documents you'll be adding to the docket?

Thanks.

Assem

Assem Akram
Docket Manager
USEPA Docket Center
Operated by ASRC Primus
Phone: (202) 566-0226
Email: Akram.Assem@Epa.Gov

From: Schultheisz, Daniel
Sent: Thursday, December 8, 2016 16:19
To: Akram, Assem
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

Thanks for the quick response. If I understand correctly, those documents that have been submitted to the docket for the final rule won't be posted to regulations.gov until the FR is published. I was looking for them to be able to cite the docket numbers for those references in the preamble. Now I won't worry about that and will just cite the general docket number. Unless you can provide me the docket numbers for anything numbered 0196 and higher (maybe ten or so items). If you could, I would appreciate it.

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Dan

From: Akram, Assem
Sent: Thursday, December 08, 2016 3:24 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

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When do you expect your Final to be published?
Thanks!
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From: Schultheisz, Daniel
Sent: Thursday, December 08, 2016 2:50 PM
To: Akram, Assem <Akram.Assem@epa.gov>
Subject: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

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U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Comm Plan - Please review
Date: Tuesday, January 10, 2017 8:32:37 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:45 PM
To: Collections.SubW
Subject: Fw: Subpart W Comm Plan - Please review

From: Wieder, Jessica
Sent: Friday, December 9, 2016 9:10 AM
To: Schultheisz, Daniel
Cc: Nesky, Anthony; White, Rick
Subject: Re: Subpart W Comm Plan - Please review

Thanks Dan. I will review and cc you and Tony when I send this up to OAR Comm.

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Schultheisz, Daniel
Sent: Friday, December 9, 2016 9:06:03 AM
To: Wieder, Jessica
Cc: Nesky, Anthony; White, Rick
Subject: RE: Subpart W Comm Plan - Please review

My markup attached. Thanks for doing this. I found the Q&A slightly different from the one that we sent forward, so have made them consistent and done some additional minor editing.

I must not have looked at the desk statement very closely. I've made a few changes to (hopefully) clarify some nuances, and added a sentence from the desk statement we sent up.

I've added to the audiences that will need to contacted. I've also expanded on the expected reaction.

Please let me know if you have any questions. Thanks.

From: Wieder, Jessica
Sent: Thursday, December 08, 2016 10:52 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Cc: Nesky, Anthony <Nesky.Tony@epa.gov>; White, Rick <White.Rick@epa.gov>
Subject: Subpart W Comm Plan - Please review

Dan –

I used all of the materials Tony put together and pulled together a typical OAR Comm Plan. Please help me fill in the stakeholder group section. Are there specific tribes or industry groups that will receive targeted outreach?

Thank you.

Jess

Jessica Wieder
U.S. EPA
Radiation Protection Program
Center for Radiation Information and Outreach
w: 202-343-9201
c: 202-420-9353

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218
Date: Tuesday, January 10, 2017 8:32:52 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:44 PM
To: Collections.SubW
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218

From: Schultheisz, Daniel
Sent: Thursday, December 8, 2016 4:19 PM
To: Akram, Assem
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

Thanks for the quick response. If I understand correctly, those documents that have been submitted to the docket for the final rule won't be posted to regulations.gov until the FR is published. I was looking for them to be able to cite the docket numbers for those references in the preamble. Now I won't worry about that and will just cite the general docket number. Unless you can provide me the docket numbers for anything numbered 0196 and higher (maybe ten or so items). If you could, I would appreciate it.

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Dan

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Sent: Thursday, December 08, 2016 3:24 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

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Thanks!
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From: Schultheisz, Daniel
Sent: Thursday, December 08, 2016 2:50 PM
To: Akram, Assem <Akram.Assem@epa.gov>
Subject: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

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U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question on Docket No. EPA-HQ-OAR-2008-0218
Date:	Tuesday, January 10, 2017 8:33:02 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:44 PM
To: Collections.SubW
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218

From: Akram, Assem
Sent: Thursday, December 8, 2016 3:23 PM
To: Schultheisz, Daniel
Subject: RE: Question on Docket No. EPA-HQ-OAR-2008-0218

Hi, Dan –
No problem at all. Typically each phase ease tied to a new action, and the supporting documents in that phase only get posted when the Federal Register notice is published. On the day of the FR publication, we associate in FDMS the notice (in this case a Final Rule) to the docket phase and that allows the supporting documents to go live and be available to the public on Regulations.gov.
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From: Schultheisz, Daniel
Sent: Thursday, December 08, 2016 2:50 PM
To: Akram, Assem <Akram.Assem@epa.gov>
Subject: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

I'm managing a final rule that is nearing signature (Radionuclide NESHAPs – 40 CFR part 61, subpart W). The docket number is EPA-HQ-OAR-2008-0218. The person who is managing the docket for me, Tony Nesky, had entered some documents a couple of weeks ago (Thanksgiving week). They are not yet appearing in regulations.gov (I am looking at "all documents and comments in the docket," and the number is 195). How long does it typically take for a document to show up in regulations.gov? I know you and Tony spoke last week because he had apparently entered these as connected to the proposed rule, when the rule is going final. As I understand it, you needed to create an additional category or do something to connect them to the final rule. Sorry to bother you about this, but Tony has had a death in the family and is out of the office this week. Thanks.

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U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Question on Docket No. EPA-HQ-OAR-2008-0218
Date:	Tuesday, January 10, 2017 8:33:11 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:43 PM
To: Collections.SubW
Subject: Fw: Question on Docket No. EPA-HQ-OAR-2008-0218

From: Schultheisz, Daniel
Sent: Thursday, December 8, 2016 2:49 PM
To: Akram, Assem
Subject: Question on Docket No. EPA-HQ-OAR-2008-0218

Assem:

I'm managing a final rule that is nearing signature (Radionuclide NESHAPs – 40 CFR part 61, subpart W). The docket number is EPA-HQ-OAR-2008-0218. The person who is managing the docket for me, Tony Nesky, had entered some documents a couple of weeks ago (Thanksgiving week). They are not yet appearing in regulations.gov (I am looking at "all documents and comments in the docket," and the number is 195). How long does it typically take for a document to show up in regulations.gov? I know you and Tony spoke last week because he had apparently entered these as connected to the proposed rule, when the rule is going final. As I understand it, you needed to create an additional category or do something to connect them to the final rule. Sorry to bother you about this, but Tony has had a death in the family and is out of the office this week. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division
(202) 343-9349

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Communication Package and Instructions for Launch
Date: Tuesday, January 10, 2017 8:33:21 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:43 PM
To: Collections.SubW
Subject: Fw: Subpart W Communication Package and Instructions for Launch

---

From: Schultheisz, Daniel
Sent: Wednesday, December 7, 2016 9:54 PM
To: Nesky, Anthony
Subject: Re: Subpart W Communication Package and Instructions for Launch

Completely understandable. The rule is in OP. I suspect we won't get cleared to submit the actual signature package until next week. But we will move it if things go faster. I'll keep you posted. Thanks.

Sent from my iPhone

On Dec 7, 2016, at 9:36 PM, Nesky, Anthony <Nesky.Tony@epa.gov> wrote:

> Thanks. I had drafted this a couple of days ago, but there has been so much to do, that I wasn't able to finish it or send it out. It didn't help either when Remote Workplace went down.
>
> Tony
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Wednesday, December 7, 2016 4:58 PM
> **To:** Nesky, Anthony
> **Subject:** RE: Subpart W Communication Package and Instructions for Launch

Thanks. Sorry to hear about your mom. Hope everything is going as well as can be expected.

From: Nesky, Anthony
Sent: Wednesday, December 07, 2016 1:59 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Cc: White, Rick <White.Rick@epa.gov>; Thornton, Marisa <Thornton.Marisa@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Subpart W Communication Package and Instructions for Launch
Importance: High

Dear Dan:

If Subpart W is signed while I am still out, here is what you will need to do.

Notify OAR Comms

Notify Nate McMicheal that the rule has been signed (though he may know before you do).

Communication Package

The communication package is attached. A few actions are needed:

- Desk Statement—add the date of the signing.
- Fact Sheet—If you have no changes to the fact sheet, send it to Marisa to post to the website. If you have changes, send them to Marisa, who will have the contractor make the changes.

Website:

- Pages have been drafted. When you click on the link, you get a page not found message and be prompted for your password and LAN ID. Then page should then load.
    - Rulemaking Activity page: https://wcms.epa.gov/node/78045/revisions/454869/view
    - Subpart W page. https://wcms.epa.gov/node/74035/revisions/454877/view

- Pre-publication copy of the rule for the website:
    - Get the signed Federal Register Notice. Ask Marisa to add the following header to the PDF file—

      EPA Administrator Gina McCarthy signed this rule on XXX/XXX/XXX. The official final rule will be published in the Federal Register and will become effective 60 days later. This copy is being provided to inform the public about EPA's intentions, and will be replaced with a link to the official final rule in the Federal Register.
    - Also ask Marisa to add the following metadata to the PDF file of the signed rule —

Title: Text of upcoming Federal Register Notice for NESHAP Subpart W

Author: US Environmental Protection Agency

Subject: Text of Federal Register Notice for Notice for NESHAP Subpart W

Keywords: uranium tailings, radon emissions, generally applicable control technologies, GACT

- Ask Marisa to add the following metadata to the fact sheet and post it to the website—
  Title: Fact Sheet: NESHAP Subpart W

  Author: US EPA; OAR; ORIA; Radiation Protection Division
  Subject: National Emission Standards, NESHAP, Proposed Rulemaking
  Keywords: Supbart W; radiation protection standards; uranium; mill tailings, generally applicable control standards (GACT)
- Ask Angela or Jessica to review the webpages after they are updated and publish them.

Email message to stakeholders

The email message to stakeholders is attached, as is the mailing list on an Excel spreadsheet. Unfortunately, emailing the entire list will be a time-consuming, cumbersome process. Budget a couple of hours. I recently deleted all the people who unsubscribed from the last list. I have found that Microsoft Outlook chokes up if there are more than 300 recipients at a time, so I have broken up the mailing list alphabetically: each Excel tab has about 300 addresses. To send the mailing:

1. Open up the SubpartW@epa.gov email address. Dan, you have rights to it. You may have to call the help desk to have them add it to your Outlook account.
2. Copy and paste the subject line content into the subject line.
3. Copy and paste the body into the body.
4. Under "To," send the message to SubpartW@epa.gov
5. To protect user's privacy, use the BCC line for entering addresses. Open up the Excel spreadsheet. Click on the column heading (A, B, C, etc) and the whole column should become selected. Type CTRL-C to copy (or right click and select COPY). Put the cursor in the BCC field and type CTRL-V to paste (or right click and select PASTE). It may take a second or two, but the address should appear in the BCC line. Go the end of the line and hit TAB or return. You will know that the message is ready to send when Outlook underlines the address and separates them with semicolons.
6. Repeat 37 times, once for each Excel tab. Note: There is no Sheet 33—I inadvertently repeated some address, so I deleted the sheet.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Subpart W Communication Package and Instructions for Launch
Date: Tuesday, January 10, 2017 8:33:33 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:42 PM
To: Collections.SubW
Subject: Fw: Subpart W Communication Package and Instructions for Launch

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From: Nesky, Anthony
Sent: Wednesday, December 7, 2016 9:36 PM
To: Schultheisz, Daniel
Subject: Re: Subpart W Communication Package and Instructions for Launch

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Tony

From: Schultheisz, Daniel
Sent: Wednesday, December 7, 2016 4:58 PM
To: Nesky, Anthony
Subject: RE: Subpart W Communication Package and Instructions for Launch

Thanks. Sorry to hear about your mom. Hope everything is going as well as can be expected.

From: Nesky, Anthony
Sent: Wednesday, December 07, 2016 1:59 PM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>; Peake, Tom <Peake.Tom@epa.gov>
Cc: White, Rick <White.Rick@epa.gov>; Thornton, Marisa <Thornton.Marisa@epa.gov>; Wieder, Jessica <Wieder.Jessica@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>
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Importance: High

Dear Dan:

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Author: US Environmental Protection Agency

Subject: Text of Federal Register Notice for Notice for NESHAP Subpart W

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  Author: US EPA; OAR; ORIA; Radiation Protection Division
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From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: Subpart W Communication Package and Instructions for Launch
Date:	Tuesday, January 10, 2017 8:33:56 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:42 PM
To: Collections.SubW
Subject: Fw: Subpart W Communication Package and Instructions for Launch

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- Pre-publication copy of the rule for the website:
- Get the signed Federal Register Notice. Ask Marisa to add the following header to the PDF file —

  EPA Administrator Gina McCarthy signed this rule on XXX/XXX/XXX. The official final rule will be published in the Federal Register and will become effective 60 days later. This copy is being provided to inform the public about EPA's intentions, and will be replaced with a link to the official final rule in the Federal Register.
- Also ask Marisa to add the following metadata to the PDF file of the signed rule—

Title: Text of upcoming Federal Register Notice for NESHAP Subpart W

Author: US Environmental Protection Agency

Subject: Text of Federal Register Notice for Notice for NESHAP Subpart W

Keywords: uranium tailings, radon emissions, generally applicable control technologies, GACT

- Ask Marisa to add the following metadata to the fact sheet and post it to the website—
  Title: Fact Sheet: NESHAP Subpart W

  Author: US EPA; OAR; ORIA; Radiation Protection Division
  Subject: National Emission Standards, NESHAP, Proposed Rulemaking
  Keywords: Supbart W; radiation protection standards; uranium; mill tailings, generally applicable control standards (GACT)
- Ask Angela or Jessica to review the webpages after they are updated and publish them.

  <u>Email message to stakeholders</u>

  The email message to stakeholders is attached, as is the mailing list on an Excel spreadsheet. Unfortunately, emailing the entire list will be a time-consuming, cumbersome process. Budget a couple of hours. I recently deleted all the people who unsubscribed from the last list. I have found that Microsoft Outlook chokes up if there are more than 300 recipients at a time, so I have broken up the mailing list alphabetically: each Excel tab has about 300 addresses. To send the mailing:

1. Open up the SubpartW@epa.gov email address. Dan, you have rights to it. You may have to call the help desk to have them add it to your Outlook account.
2. Copy and paste the subject line content into the subject line.
3. Copy and paste the body into the body.
4. Under "To," send the message to SubpartW@epa.gov
5. To protect user's privacy, use the BCC line for entering addresses. Open up the Excel spreadsheet. Click on the column heading (A, B, C, etc) and the whole column should become selected. Type CTRL-C to copy (or right click and select COPY). Put the cursor in the BCC field and type CTRL-V to paste (or right click and select PASTE). It may take a second or two, but the address should appear in the BCC line. Go the end of the line and hit TAB or return. You will know that the message is ready to send when Outlook underlines the address and separates them with semicolons.
6. Repeat 37 times, once for each Excel tab. Note: There is no Sheet 33—I inadvertently repeated some address, so I deleted the sheet.

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Discuss status of Subpart W Impoundment Photographic Reporting (SWIPR) Tool
Date: Tuesday, January 10, 2017 8:34:07 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:41 PM
To: Collections.SubW
Subject: Fw: Discuss status of Subpart W Impoundment Photographic Reporting (SWIPR) Tool

---

From: Mitchell, Greg
Sent: Wednesday, December 7, 2016 9:02 AM
To: Shogren, Angela; Schultheisz, Daniel
Subject: RE: Discuss status of Subpart W Impoundment Photographic Reporting (SWIPR) Tool

We still meeting in person?

-----Original Appointment-----
From: Shogren, Angela
Sent: Tuesday, November 29, 2016 10:47 AM
To: Shogren, Angela; Schultheisz, Daniel; Mitchell, Greg
Subject: Discuss status of Subpart W Impoundment Photographic Reporting (SWIPR) Tool
When: Wednesday, December 07, 2016 9:00 AM-9:30 AM (UTC-05:00) Eastern Time (US & Canada).
Where: DCRoomWest1424/OPEI

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: How about this version?
Date: Tuesday, January 10, 2017 8:34:17 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:40 PM
To: Collections.SubW
Subject: Fw: How about this version?

From: Schultheisz, Daniel
Sent: Monday, December 5, 2016 9:17 AM
To: Shogren, Angela
Subject: RE: How about this version?

Can you do it in 12 point? That's our standard for correspondence etc. Then I'll do a quick look for things that are hanging. Thanks.

From: Shogren, Angela
Sent: Monday, December 05, 2016 8:44 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: RE: How about this version?

Here is a version with it changed into Times New Roman – better safe than sorry.

Take one last peek if you would and then I will convert it to a PDF and we can call it a day!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Sunday, December 04, 2016 3:57 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: Re: How about this version?

Here's the revised version. Content should be final. I also went through to make the formatting (line spacing) consistent throughout.

I didn't look for widows/orphans (e.g., an issue heading at the bottom of the page) in case we change the font. Thanks.

From: Shogren, Angela
Sent: Sunday, December 4, 2016 7:16 AM
To: Schultheisz, Daniel
Subject: Re: How about this version?

I'm pretty sure that it only matters if it goes to print, but I can check Monday. I can also just switch everything to times new roman - that's an easy fix.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 3, 2016, at 7:30 PM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Are we supposed to do documents in Times New Roman? I didn't notice this with the earlier versions until looking at the introduction, then just now saw that the other sections are in Calibri as well.
>
> ---
>
> **From:** Shogren, Angela
> **Sent:** Thursday, December 1, 2016 9:03 PM
> **To:** Schultheisz, Daniel
> **Subject:** RE: How about this version?
>
> OK, let's try this again.
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Thursday, December 01, 2016 10:49 AM
> **To:** Shogren, Angela <Shogren.Angela@epa.gov>
> **Subject:** RE: How about this version?
>
> Page numbers look better. I spot-checked a couple of places, including section 11, where there was previously a discrepancy between the main TOC and the section.
>
> One big thing I should have seen earlier. Sections 12 (General) and 13 (Out of scope) are not incorporated. My fault for not registering that. I sent those to you on the 23rd.

They are attached here as well.

The Introduction somehow also got incorporated into the separate Section 1 listing. It's correct in the main TOC.

I hope this won't distract from your training. Thanks.

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Fwd: How about this version?

Let me know if you still see issues with this version.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

Begin forwarded message:

> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
>
> This should be better.
>
> This page is how we request a document number - http://cincinnati.epa.gov/services/nscep/nscep_form.asp
>
> I think that what I need from you is:
>
> Publication Type (R, I think?)
> Title
> Do you want this available from NSCEP?
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Monday, November 28, 2016 12:18 PM
> **To:** Shogren, Angela <Shogren.Angela@epa.gov>

Subject: RE: How about this version?

Looks very nice. Still have some issues with page numbers. I randomly checked Section 11 in the table of contents and in that section, and the numbers are off by one. It looks like the listing in the main TOC is correct.

Attached is a file with an introduction and list of acronyms/abbreviations, which I have labeled Appendix B.

I expect to be making some relatively minor edits, so let me know when you feel pretty settled with it. Thanks.

From: Shogren, Angela
Sent: Monday, November 28, 2016 11:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: How about this version?

Please let me know any additional changes that you need me to make!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: How about this version?
Date:	Tuesday, January 10, 2017 8:34:25 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:39 PM
To: Collections.SubW
Subject: Fw: How about this version?

From: Shogren, Angela
Sent: Sunday, December 4, 2016 7:16 AM
To: Schultheisz, Daniel
Subject: Re: How about this version?

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Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

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>
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> **Sent:** Thursday, December 1, 2016 9:03 PM
> **To:** Schultheisz, Daniel

Subject: RE: How about this version?

OK, let's try this again.

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

---

From: Schultheisz, Daniel
Sent: Thursday, December 01, 2016 10:49 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: How about this version?

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Subject: Fwd: How about this version?

Let me know if you still see issues with this version.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

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> **Date:** November 28, 2016 at 2:42:32 PM EST
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I think that what I need from you is:

Publication Type (R, I think?)
Title
Do you want this available from NSCEP?

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

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Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

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To:	Thornton, Marisa
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Date:	Tuesday, January 10, 2017 8:34:49 AM

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Sent: Monday, December 26, 2016 1:38 PM
To: Collections.SubW
Subject: Fw: How about this version?

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Sent: Saturday, December 3, 2016 7:30 PM
To: Shogren, Angela
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To: Thornton, Marisa
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Date: Tuesday, January 10, 2017 8:35:00 AM

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To: Collections.SubW
Subject: Fw: How about this version?

From: Schultheisz, Daniel
Sent: Saturday, December 3, 2016 7:22 PM
To: Shogren, Angela
Subject: Re: How about this version?

I'll edit this one and we can clean up anything that remains. The document number should be on the title page, even if the full header is not. Thanks. Hope your training was good.

From: Shogren, Angela
Sent: Thursday, December 1, 2016 9:03 PM
To: Schultheisz, Daniel
Subject: RE: How about this version?

OK, let's try this again.

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

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Sent: Thursday, December 01, 2016 10:27 AM
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Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

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> **Subject: RE: How about this version?**
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>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
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Subject: How about this version?

Please let me know any additional changes that you need me to make!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Message
Date: Tuesday, January 10, 2017 8:35:09 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:37 PM
To: Collections.SubW
Subject: Fw: Message

From: Mandeville, Douglas <Douglas.Mandeville@nrc.gov>
Sent: Friday, December 2, 2016 1:53 PM
To: Schultheisz, Daniel
Subject: Message

Dan –

Thanks for the voice mail yesterday, we appreciate the update on the status of the rule.

I'll be in the office the next few weeks, if you have any further updates.

Doug

Douglas T. Mandeville
U.S. NRC
Uranium Recovery Licensing Branch
301-415-0724

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: links
Date: Tuesday, January 10, 2017 8:35:19 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:34 PM
To: Collections.SubW
Subject: Fw: links

From: Davis, Alison
Sent: Thursday, December 1, 2016 12:06 PM
To: Schultheisz, Daniel
Subject: links

Here's an example of the oil and gas page that follows the standard format you had mentioned.
https://www.epa.gov/stationary-sources-air-pollution/crude-oil-and-natural-gas-production-transmission-and-distribution

Because oil and gas is such a high visibility issue, it has its own pages. We send the public to this page when we have a new action, to make it easier for them to find what they're looking for.

https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/actions-and-notices-about-oil-and-natural-gas#regactions

Depending on the visibilty of your action, you could probably take either approach.

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: here is the rule page
Date:	Tuesday, January 10, 2017 8:36:29 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:34 PM
To: Collections.SubW
Subject: Fw: here is the rule page

From: Davis, Alison
Sent: Thursday, December 1, 2016 11:51 AM
To: Schultheisz, Daniel
Subject: here is the rule page

https://www.epa.gov/radiation/subpart-w-national-emission-standards-radon-emissions-operating-mill-tailings

Subpart W: National Emission Standards for Radon Emissions ...

www.epa.gov

Rule Summary; Rule History; Additional Resources; Compliance; Rule Summary. Subpart W protects the public and the environment from the emission of radon-222 from ...

Alison Davis
Senior Advisor for Public Affairs
US EPA, Office of Air Quality Planning & Standards
Research Triangle Park, NC 27711
Desk: 919-541-7587

Mobile: 919-624-0872

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: How about this version?
Date: Tuesday, January 10, 2017 8:36:40 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:33 PM
To: Collections.SubW
Subject: Fw: How about this version?

From: Schultheisz, Daniel
Sent: Thursday, December 1, 2016 11:47 AM
To: Shogren, Angela
Subject: RE: How about this version?

Good. Thanks.

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:51 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: How about this version?

I'll correct those tonight - sorry for overlooking those additions! I'll send later tonight if that's ok. And include the document number in the header as well.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 1, 2016, at 10:49 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Page numbers look better. I spot-checked a couple of places, including section 11, where there was previously a discrepancy between the main TOC and the section.
>
> One big thing I should have seen earlier. Sections 12 (General) and 13 (Out of scope) are not incorporated. My fault for not registering that. I sent those to you on the 23rd.

They are attached here as well.

The Introduction somehow also got incorporated into the separate Section 1 listing. It's correct in the main TOC.

I hope this won't distract from your training. Thanks.

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Fwd: How about this version?

Let me know if you still see issues with this version.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

Begin forwarded message:

> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
>
> This should be better.
>
> This page is how we request a document number - http://cincinnati.epa.gov/services/nscep/nscep_form.asp
>
> I think that what I need from you is:
>
> Publication Type (R, I think?)
> Title
> Do you want this available from NSCEP?
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel
> **Sent:** Monday, November 28, 2016 12:18 PM
> **To:** Shogren, Angela <Shogren.Angela@epa.gov>
> **Subject:** RE: How about this version?

Looks very nice. Still have some issues with page numbers. I randomly checked Section 11 in the table of contents and in that section, and the numbers are off by one. It looks like the listing in the main TOC is correct.

Attached is a file with an introduction and list of acronyms/abbreviations, which I have labeled Appendix B.

I expect to be making some relatively minor edits, so let me know when you feel pretty settled with it. Thanks.

From: Shogren, Angela
Sent: Monday, November 28, 2016 11:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: How about this version?

Please let me know any additional changes that you need me to make!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

<12-General Comments Final.docx>
<13-Out of Scope of Rulemaking Final.docx>

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: How about this version?
Date:	Tuesday, January 10, 2017 8:36:51 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:33 PM
To: Collections.SubW
Subject: Fw: How about this version?

From: Shogren, Angela
Sent: Thursday, December 1, 2016 10:50 AM
To: Schultheisz, Daniel
Subject: Re: How about this version?

I'll correct those tonight - sorry for overlooking those additions! I'll send later tonight if that's ok. And include the document number in the header as well.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

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>
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I hope this won't distract from your training. Thanks.

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:27 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Fwd: How about this version?

Let me know if you still see issues with this version.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

Begin forwarded message:

> **From:** "Shogren, Angela" <Shogren.Angela@epa.gov>
> **Date:** November 28, 2016 at 2:42:32 PM EST
> **To:** "Schultheisz, Daniel" <Schultheisz.Daniel@epa.gov>
> **Subject: RE: How about this version?**
>
> This should be better.
>
> This page is how we request a document number - http://cincinnati.epa.gov/services/nscep/nscep_form.asp
>
> I think that what I need from you is:
>
> Publication Type (R, I think?)
> Title
> Do you want this available from NSCEP?
>
> **Angela Shogren** | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> ---
>
> **From:** Schultheisz, Daniel

Sent: Monday, November 28, 2016 12:18 PM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: How about this version?

Looks very nice. Still have some issues with page numbers. I randomly checked Section 11 in the table of contents and in that section, and the numbers are off by one. It looks like the listing in the main TOC is correct.

Attached is a file with an introduction and list of acronyms/abbreviations, which I have labeled Appendix B.

I expect to be making some relatively minor edits, so let me know when you feel pretty settled with it. Thanks.

From: Shogren, Angela
Sent: Monday, November 28, 2016 11:40 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: How about this version?

Please let me know any additional changes that you need me to make!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

<12-General Comments Final.docx>

<13-Out of Scope of Rulemaking Final.docx>

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: NSCEP Pub# Request
Date: Tuesday, January 10, 2017 8:37:03 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:32 PM
To: Collections.SubW
Subject: Fw: NSCEP Pub# Request

From: Shogren, Angela
Sent: Thursday, December 1, 2016 10:24 AM
To: Schultheisz, Daniel
Subject: Re: NSCEP Pub# Request

I thought I corrected and sent back? Maybe not. Let me check my emails. I did correct the numbering issue, I just may not have sent it to you yet.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 1, 2016, at 10:16 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Didn't that one still have some page numbering issues?
>
> ---
>
> **From:** Shogren, Angela
> **Sent:** Thursday, December 01, 2016 10:15 AM
> **To:** Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
> **Subject:** Re: NSCEP Pub# Request
>
> The version I sent earlier this week was as final as I was thinking. You can make edits to that one. I can't insert the document # until later tonight when I am

reunited with my laptop. Let me know if you want me to resend.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 1, 2016, at 10:09 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Yes, please insert the document number. If you have everything else in final form, let me know. I still need to make some edits. Thanks.
>
> -----Original Message-----
> From: Shogren, Angela
> Sent: Tuesday, November 29, 2016 11:48 AM
> To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
> Subject: FW: NSCEP Pub# Request
>
> We got our document number - see below.
>
> I can insert in the document, or you can. Just let me know what else you need from me to finalize!
>
> Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov
>
> -----Original Message-----
> From: nscep-priority [mailto:nscep-priority@lmsolas.com]
> Sent: Tuesday, November 29, 2016 11:26 AM
> To: Shogren, Angela <Shogren.Angela@epa.gov>
> Subject: RE: NSCEP Pub# Request
>
> Thank you for your recent request. The publication number assigned to the requested title is 402-R-16-004
>
> If you have any questions or concerns please feel free to respond directly to this email or contact our office at 301-240-7455.
>
> Thank you,

NSCEP Customer Service

-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Angela Shogren <shogren.angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela
05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
08_REQ_FAX:
09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J
10_REQ_CITY: Washington
11_REQ_STATE: District Of Columbia
12_REQ_ZIP: 20460
13_PUB_PRINTED: NO
15_PUB_ORIGINAL_OR_REVISION: ORIGINAL
17_PUB_DUE_DATE: 11/16
18_NS_PUB_RESPONS_CODE: 40x-45x
19_PUB_TYPE: R.
20_PUB_TITLE: Radionuclide NESHAPs: 40 CFR Part 61, Subpart
W â€“ Summary of Public Comments and Responses
21_PUB_URL:
https://www.epa.gov/radiation/subpart-w-rulemaking-activity
22_PUB_URL_DIGITAL_ONLY:
23_DIS_NSCEP_OR_OTHER:
25_DIS_ORG:
26_DIS_MAIL_CODE:
27_DIS_PHONE:

28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: NSCEP Pub# Request
Date: Tuesday, January 10, 2017 8:37:16 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:31 PM
To: Collections.SubW
Subject: Fw: NSCEP Pub# Request

From: Schultheisz, Daniel
Sent: Thursday, December 1, 2016 10:16 AM
To: Shogren, Angela
Subject: RE: NSCEP Pub# Request

Didn't that one still have some page numbering issues?

From: Shogren, Angela
Sent: Thursday, December 01, 2016 10:15 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: Re: NSCEP Pub# Request

The version I sent earlier this week was as final as I was thinking. You can make edits to that one. I can't insert the document # until later tonight when I am reunited with my laptop. Let me know if you want me to resend.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 1, 2016, at 10:09 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Yes, please insert the document number. If you have everything else in final form, let me know. I still need to make some edits. Thanks.
>
> -----Original Message-----
> From: Shogren, Angela
> Sent: Tuesday, November 29, 2016 11:48 AM

To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: FW: NSCEP Pub# Request

We got our document number - see below.

I can insert in the document, or you can. Just let me know what else you need from me to finalize!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

-----Original Message-----
From: nscep-priority [mailto:nscep-priority@lmsolas.com]
Sent: Tuesday, November 29, 2016 11:26 AM
To: Shogren, Angela <Shogren.Angela@epa.gov>
Subject: RE: NSCEP Pub# Request

Thank you for your recent request. The publication number assigned to the requested title is 402-R-16-004

If you have any questions or concerns please feel free to respond directly to this email or contact our office at 301-240-7455.

Thank you,

NSCEP Customer Service

-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Angela Shogren <shogren.angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela
05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
08_REQ_FAX:
09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J
10_REQ_CITY: Washington
11_REQ_STATE: District Of Columbia
12_REQ_ZIP: 20460

13_PUB_PRINTED: NO
15_PUB_ORIGINAL_OR_REVISION: ORIGINAL
17_PUB_DUE_DATE: 11/16
18_NS_PUB_RESPONS_CODE: 40x-45x
19_PUB_TYPE: R.
20_PUB_TITLE: Radionuclide NESHAPs: 40 CFR Part 61, Subpart W â€“ Summary of Public Comments and Responses
21_PUB_URL:
https://www.epa.gov/radiation/subpart-w-rulemaking-activity
22_PUB_URL_DIGITAL_ONLY:
23_DIS_NSCEP_OR_OTHER:
25_DIS_ORG:
26_DIS_MAIL_CODE:
27_DIS_PHONE:
28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: NSCEP Pub# Request
Date: Tuesday, January 10, 2017 8:37:25 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:31 PM
To: Collections.SubW
Subject: Fw: NSCEP Pub# Request

From: Shogren, Angela
Sent: Thursday, December 1, 2016 10:14 AM
To: Schultheisz, Daniel
Subject: Re: NSCEP Pub# Request

The version I sent earlier this week was as final as I was thinking. You can make edits to that one. I can't insert the document # until later tonight when I am reunited with my laptop. Let me know if you want me to resend.

Angela Shogren
Public Affairs Specialist
Radiation Protection Division
U.S. Environmental Protection Agency Tel (202) 343-9761
Shogren.Angela@epa.gov

On Dec 1, 2016, at 10:09 AM, Schultheisz, Daniel <Schultheisz.Daniel@epa.gov> wrote:

> Yes, please insert the document number. If you have everything else in final form, let me know. I still need to make some edits. Thanks.
> -----Original Message-----
> From: Shogren, Angela
> Sent: Tuesday, November 29, 2016 11:48 AM
> To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
> Subject: FW: NSCEP Pub# Request
> We got our document number - see below.

I can insert in the document, or you can. Just let me know what else you need from me to finalize!

Angela Shogren | Public Affairs Specialist | U.S. Environmental Protection Agency | Tel 202 343 9761 | shogren.angela@epa.gov

-----Original Message-----

From: nscep-priority [mailto:nscep-priority@lmsolas.com]

Sent: Tuesday, November 29, 2016 11:26 AM

To: Shogren, Angela <Shogren.Angela@epa.gov>

Subject: RE: NSCEP Pub# Request

Thank you for your recent request. The publication number assigned to the requested title is 402-R-16-004

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-----Original Message-----

From: Angela Shogren [mailto:shogren.angela@epa.gov]

Sent: Monday, November 28, 2016 3:13 PM

Cc: Angela Shogren <shogren.angela@epa.gov>

Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016

01_INTERNAL_DISTRIBUTION: NO

13_COMPLETE_PROTRAC:

02_REQ_EMAIL: shogren.angela@epa.gov

03_REQ_LAST_NAME: Shogren

04_REQ_FIRST_NAME: Angela

05_REQ_OFFICE: OAR

06_REQ_MAIL_CODE: 6608-J

07_REQ_PHONE: (202)343-9761

08_REQ_FAX:

09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J

10_REQ_CITY: Washington

11_REQ_STATE: District Of Columbia

12_REQ_ZIP: 20460

13_PUB_PRINTED: NO

15_PUB_ORIGINAL_OR_REVISION: ORIGINAL

17_PUB_DUE_DATE: 11/16

18_NS_PUB_RESPONS_CODE: 40x-45x

19_PUB_TYPE: R.

20_PUB_TITLE: Radionuclide NESHAPs: 40 CFR Part 61, Subpart

W â€“ Summary of Public Comments and Responses
21_PUB_URL:
https://www.epa.gov/radiation/subpart-w-rulemaking-activity
22_PUB_URL_DIGITAL_ONLY:
23_DIS_NSCEP_OR_OTHER:
25_DIS_ORG:
26_DIS_MAIL_CODE:
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28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From:	Thornton, Marisa on behalf of Collections.SubW
To:	Thornton, Marisa
Subject:	Fw: NSCEP Pub# Request
Date:	Tuesday, January 10, 2017 8:37:34 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:31 PM
To: Collections.SubW
Subject: Fw: NSCEP Pub# Request

From: Schultheisz, Daniel
Sent: Thursday, December 1, 2016 10:09 AM
To: Shogren, Angela
Subject: RE: NSCEP Pub# Request

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From: Shogren, Angela
Sent: Tuesday, November 29, 2016 11:48 AM
To: Schultheisz, Daniel <Schultheisz.Daniel@epa.gov>
Subject: FW: NSCEP Pub# Request

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-----Original Message-----
From: Angela Shogren [mailto:shogren.angela@epa.gov]
Sent: Monday, November 28, 2016 3:13 PM
Cc: Angela Shogren <shogren.angela@epa.gov>
Subject: NSCEP Pub# Request

___DOC_TYPE: NEW

00_DATE: 11/28/2016
01_INTERNAL_DISTRIBUTION: NO
13_COMPLETE_PROTRAC:
02_REQ_EMAIL: shogren.angela@epa.gov
03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela
05_REQ_OFFICE: OAR
06_REQ_MAIL_CODE: 6608-J
07_REQ_PHONE: (202)343-9761
08_REQ_FAX:
09_REQ_ADDRESS: 1200 Pennsylvania Ave NW, MC-6608J
10_REQ_CITY: Washington
11_REQ_STATE: District Of Columbia
12_REQ_ZIP: 20460
13_PUB_PRINTED: NO
15_PUB_ORIGINAL_OR_REVISION: ORIGINAL
17_PUB_DUE_DATE: 11/16
18_NS_PUB_RESPONS_CODE: 40x-45x
19_PUB_TYPE: R.
20_PUB_TITLE: Radionuclide NESHAPs: 40 CFR Part 61, Subpart W â€“ Summary of Public Comments and Responses
21_PUB_URL: https://www.epa.gov/radiation/subpart-w-rulemaking-activity
22_PUB_URL_DIGITAL_ONLY:
23_DIS_NSCEP_OR_OTHER:
25_DIS_ORG:
26_DIS_MAIL_CODE:
27_DIS_PHONE:
28_DIS_ADDRESS:
27_DIS_CITY:
28_DIS_STATE:
29_DIS_ZIP:
30_DIS_URL:
30_DIS_URL_DIGITAL_ONLY:
31_COMMENTS:

03_REQ_LAST_NAME: Shogren
04_REQ_FIRST_NAME: Angela

From: Thornton, Marisa on behalf of Collections.SubW
To: Thornton, Marisa
Subject: Fw: Technology Transfer Network
Date: Tuesday, January 10, 2017 8:37:47 AM

From: Schultheisz, Daniel
Sent: Monday, December 26, 2016 1:30 PM
To: Collections.SubW
Subject: Fw: Technology Transfer Network

From: Schultheisz, Daniel
Sent: Thursday, December 1, 2016 10:01 AM
To: Shine, Brenda
Subject: Technology Transfer Network

Brenda:

Thanks for looking into this. The rule is 40 CFR part 61, subpart W – "National Emission Standard for Radon Emissions from Operating Mill Tailings." The previous rule manager retired earlier this year, and I am trying to get it finished. The proposed rule (79 FR 25388, May 2, 2014) said this:

D. Where can I get a copy of this document?
In addition to being available in the docket, an electronic copy of this proposed action will also be available on the Worldwide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of this proposed action will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg/.* The TTN provides information and technology exchange in various areas of air pollution control.

So it would be good to know if there is a new website, or new language to replace the reference to TTN. It would also be good to know how it gets posted, and who is the point of contact for doing so. Please let me know if you need more information from me. Thanks.

Dan Schultheisz
U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Radiation Protection Division

(202) 343-9349