EPA Review of Standards for Uranium and Thorium Milling Facilities

PUBLIC INFORMATION MEETING
Corpus Christi, Texas
November 4, 2010

On November 4, 2010, EPA held two public information meetings in Corpus Christi, TX to provide an overview of the review of 40 CFR Part 192 and the revision of 40 CFR Part 61 (Subpart W) and to seek public input.

MEETING STRUCTURE

Two meetings were held for the convenience of the participants: one in the afternoon and one in the evening. Both meetings began with opening remarks and introductions. Loren Setlow and Tom Peake of EPA's Radiation Protection Division (RPD) opened each meeting by giving a presentation on the EPA's review of 40 CFR Part 192 and planned revision of 40 CFR Part 61 (Subpart W). The presentation was followed by a question and answer session. Participants were invited to submit their questions on an index card so that they could be read aloud for the benefit of all. After the question and answer session, the public was invited to provide input by signing up for five-minute presentations. In the remaining time, the floor was opened up for additional audience questions and input. George Brozowski of EPA Region 6 served as facilitator. Tony Nesky of the Radiation Protection Division took notes.

ATTENDANCE

Thirty-four people attended the afternoon session, with twenty-nine people signing-in. Twenty-four people attended the evening session; of those, nineteen had attended the afternoon session earlier in the day. In opening the afternoon session, facilitator George Brozowski asked participants about their affiliations. Seven people indicated affiliation with industry, two with non-governmental organizations, and two indicated that they were attending as private landowners. George also asked participants to indicate how far they had travelled to attend the meeting. A majority—twenty –five people—traveled between 20 and 50 miles to reach the meeting. Three persons had to travel more than 50 miles, and three people had to travel more than 100 miles.

AFTERNOON SESSION

PUBLIC PRESENTATIONS

Members of the public were invited to provide five-minute presentations on the following topics:

- Changes in uranium industry technologies (such as utilization of the In-Situ Leaching recovery process as the principal current technology for extracting uranium) and their potential environmental impacts
- Revisions in EPA drinking and groundwater protection standards
- Judicial decisions concerning the existing regulations
- Issues relating to children's health, Tribal impacts, and environmental justice
- Dose and risk factors and scenarios for assessing radiological and non-radiological risk
- Facilities proposed in states outside existing uranium mining and milling areas
- Costs and benefits of possible revisions.

Presentations given in the afternoon session are summarized as follows—

Raul M. Ramirez
Brooks County, TX

Mr. Ramirez is the county judge from Brooks County, where there is double-digit unemployment. He considers Brooks County to be fortunate to have the uranium industry, which provides over 200 jobs whose dollars multiply seven times. He considers them good partners; they are supportive of the volunteer department in a rural area. Mr. Ramirez said that Brooks County does not want increased government regulations that will negatively impact the uranium industry.

Dick Messbarger
Kingsville Industrial Foundation, Kingsville, TX

Mr. Messbarger stated that he was representing the Kingsville Industrial Foundation, which is a non-profit private organization whose focus is on job retention and recruitment and expansion of the job base. The Industrial Foundation hired Texas A&I University to evaluate a proposed mine in the area. Texas A&I concluded that the process was safe, and even took party status in the hearing with the Texas Water Commission. The president of the university, the mayor, and the head of the King Ranch all went to Austin testify in favor of the mine.

The Industrial Foundation hired a firm for an economic impact analysis for the one operation in Kleberg County. The analysis was done in 2008 based on 2007 expenditures, and showed that URI salaries, royalties, and expenditures contributed about $30 million in a county with a population of 10,000 people. The industry has had a significant economic impact over a ten year timeframe. The taxes it generated have funded construction of a new school. The Industrial Foundation finds that the uranium industry has been a vital part of the South Texan economy, contributing jobs and expanding the tax base.

Mike Kezar
Chairman, Texas Mining and Reclamation Association, Austin, TX

Mr. Kezar represented the Texas Mining and Reclamation Association, a non-profit trade association. Texas has the eighth largest mining market in the country. The mining industry in Texas provides over 14,000 direct jobs and over 200,000 indirect jobs, contributing $30 billion to the state economy. A typical uranium mining operation provides 100 high-quality career jobs. TMRA asks for oversight that is consistent, and asks that EPA consider that the impact of additional regulations on short term and long term viability of uranium industry in Texas.

Harry Anthony
Uranium Energy Corporation, Corpus Christi, TX.

Mr. Anthony represented the headquarters location of Uranium Energy Corporation in Corpus Christi. Uranium Energy Company is a U.S. energy company with about 55 employees and a number of projects in South Texas. Mr. Anthony said that he has seen good changes in the industry over the last 35 years, with more stringent regulations from TCEQ, commenting "the industry has abided by those regulations over the years." . He noted that there has been technological improvement in the process, so that there are no ponds are no longer used, and concluded "… the industry has certainly addressed issues that have come up from Washington and also from Austin, while competing worldwide with other countries that have stable regulations."

Mr. Anthony presented a series of examples of successful land restoration of former uranium mining sites. He specifically referred to one site that had been reclaimed, "The well fields are for unrestricted use, and are used for cattle crazing." He showed photographs of another site saying "Today you would never know that anything was there."

Mr. Anthony concluded his presentation by saying "I don't think that the industry needs additional regulations to impede its growth. As you know, we import about 95 percent of our uranium from foreign sources. We consume about 55 to 60 million pounds per year, and produce about three million. We need to get this industry restarted and any additional, undue regulation is not conducive to getting it started."

Mark Peliza
URI, Inc., Lewisville, TX

Mr. Peliza stated that he has been in the ISR business for 33 years, most of them in Texas, commenting "We have more ISR in Texas than in other states combined. There is more to see here."

Mr. Peliza said that that he had worked with TCEQ and its predecessors for years and that sites have all been regulated well, "We don't have a lot of legacy operations and issues." He said "Almost all uranium mining sites have gone through a formal PA process, much like an EIS." There has been a public participation process much like an EIS. There are many "green books" that predicted how the sites would proceed.

He discussed site cleanup. “We have years and years of monitoring data. We have sites that are in stability modes. There are 26 operations and 86 areas, of which 70 have been approved for restoration.”

He concluded, “You need to look at the reports to see if there are holes in the regulations. If there are, they need to be fixed. If not, do not add regulations to burden the industry.”

Steve Brown
Senes Centennial, CO

Mr. Brown stated that he has been practicing health physics for 40 years and is certified by the Health Physics Board. He is a member of the Health Physics Society. Mr. Brown submitted extensive comments in writing, but wanted to address the adequacy of the radiological exposure criteria in the EPA and Texas rules. He addressed three questions—

1. Are the existing regulations adequate to protect public health?
2. What is known about the potential health effects to populations living near uranium recovery facilities?
3. What are the circumstances of the known health effects (i.e., lung cancer) among miners in the 1950s and 60s?

He noted that he lives in Colorado, so his background exposure is 400 millirem per year. In Texas the background is 300 millirem per year, and in coastal states, it is 150. The difference in background radiation between the coastal areas and Colorado is higher than the 25 millirem per year that EPA promulgated under 40 CFR 190.

Mr. Brown noted that the amount of the maximum amount of radon emissions allowed under the standard at 40 by 80 acre impoundment is “equivalent to the amount of radon emissions that the surface of the earth emits in a couple of miles of Texas farmland, everywhere in Texas and most other places” Mr. Brown also stated that there have been numerous studies of people living around uranium mines and mills in the United States, specifically in Montrose County, Colorado, Grants, New Mexico, and here in Karnes County, Texas. He cited the conclusion of a study from Vanderbilt University’s Ingram Cancer Center, “No unusual patterns of cancer mortality could be seen in Karnes County over a period of 50 years, suggesting that the uranium mining and milling operations had not increased cancer rates among residents.” He added, “We associated uranium with lung cancer because of earlier unregulated mines 50 years ago.”

Charlie Ragland
Alice, TX

Mr. Ragland represented himself as a landowner and expressed concern about the impacts of regulation on industry. “We are in a sparsely populated county. There is not any industry to speak of in Duval County, aside from the oil and gas and ranching business. If you change the rules and try to tighten them up, it will have a negative economic impact. The method of operations has changed, and the mine will be a positive flow of income to Duval County.”

Mark Walsh
STOP, Kleberg County, TX

Mr. Walsh said that he lives in Kleberg County and represents STOP—South Texas Opposes Pollution. STOP is a group of residents that live in and around the area where uranium mining takes place. Mr. Walsh noted that uranium mining has been going on since 1983, and that there had been an investigation in 1988 because a permit was issued after some citizens complained that there may be some health issues and some contamination of water.

Mr. Walsh said that the permit required water to be restored to its original pre-mining quality, but that many experts and even uranium miners have said, "No, it can't be restored to its original quality." STOP's question is: "Why have a permit if technical experts say that pre-mine quality cannot be achieved?"

Mr. Walsh also raised another issue regarding restoration, mentioning that there was a five-year estimated plan to cleanup. He said that restoration had started in 1988, but we are only halfway to restoration. He said that only eight fields are restored, four were progress, and another seven have yet to begin restoration. Mr. Walsh asked what could be done to prevent delays in restoration for another 20 years. He also noted that permit amendments were issued frequently, and that in some situations, the amendments were still not able to restore the water back to its original quality.

Mr. Walsh also had questions about TCEQ's participation. He said that STOP complained that restorations had to be completed before others could begin, and an administrative judge agreed, but TCEQ overturned it. He said that STOP often finds that the Commissioners of TCEQ have overruled staff and even an administrative judge, and" that is a concern for protecting water quality." STOP requests that EPA conduct a complete review of uranium mining in Kleberg County, We are asking EPA for help to get this done."

Katherine Armstrong
Austin, TX

Ms. Armstrong introduced herself as a former Chairman of Texas Parks and Wildlife, and as an expert on the concerns of private landowners concerns. She values regulatory oversight from EPA and TCEQ. She has studied the issues, and looks at uranium recovery as a resource and property right, commenting, "…most of the private landowners I know are comfortable with the level of regulations that are going on and with the information that they get from the EPA and Texas Commission on Environmental Quality." She believes that ISR is a safe process.

She noted that when her family makes a business decision to use the minerals on property, it "will make it possible to steward our land, protect our wildlife, recover habitat and do all the amazing things that are done in Texas on private land to the benefit of all." She continued, "There aren't enough taxpayer dollars in the world to do the private land stewardship that goes on private lands in Texas today." Ms. Armstrong said that she supported the good work that EPA does, but asked: "Just don't go so far that you kill the ability of private landowners to recover and develop this natural resource."

Mr. Lupe Canales

Jim Hogg County, TX

Mr. Carnales introduced himself as the County Judge from Jim Hogg County, which he described as a rural area that is "economically devastated." He continued: "If you take away uranium mining, you will kill Jim Hogg County. We lost 30 percent of oil and gas in last two years." Mr. Canales said that the uranium industry was all that it is left, and citizens have to go to neighboring Brooks County for work. Mr. Carnales brought four businesses in, the most important of which is an Alco, which he described as "a mini-Wall Mart." A Quiznos brought in 18 jobs and most recently a Subway brought in another 15 jobs, but according to Mr. Lupe, "this is not enough, and these are not high-paying jobs. We need the uranium industry to stay where it is and to provide jobs to Duval County and other counties like ours."

Mr. Ted Long
Goliad County, TX

Ted Long introduced himself as having been a Goliad County Commissioner for ten years and commented "Everything I have heard was rather disturbing. I want to ask everybody. Is there anybody is this room that drinks water? Anybody? Is there anybody who has kids that drink water? Grandkids? Is there anybody planning on having anybody that drinks water? Future generations?" Mr. Long said that he was concerned about the drinking water supply, and asked EPA not to relax the rules.

Venice Scheurich
Coastal Bend Sierra Club, Corpus Christi, TX

Ms. Scheurich said that she had come to the meeting to talk about the statistical methodology used in deriving estimates for restoration table standards for post-mining groundwater restoration. "Four years ago, when uranium companies intensified their interest in mining in several South Texas counties within our region, the Coastal Bend Sierra Club began studying the in-situ mining process. Now, I believe that some of the discoveries we made on statistical matters may have an important connection to whether EPA is able to properly administer its mandate regarding the Safe Drinking Water Act. And I believe this because the statistical documentation, which I will also leave attached to the comments, indicates that pre-mining baseline groundwater quality has been, and is being, incorrectly assessed by present state regulations here."

According to Ms. Scheurich, the Sierra Club study indicated that restoration efforts for groundwater almost always fail. The Sierra Club believes that it has found "an extremely serious" sampling design flaw in one of the first steps of the regulatory process, the results of which "are really severe, because the resulting flawed process of estimating groundwater has an direct impact on whether EPA will grant an aquifer exemption, therefore whether the spirit or intent of the Safe Water Drinking Act is being violated."

The Coastal Bend Sierra Club asked two questions—

1. "What is EPA's justification for continuing to accept estimates of pre-mining groundwater quality based on selected, biased samples when EPA makes decisions on whether or not to grant an aquifer exemption?"
2. "Does EPA's acceptance of flawed estimates of groundwater quality from a mining company's application for an aquifer exemption result in one or more violations of the Safe Water Drinking Act?"

AUDIENCE QUESTIONS TO EPA

QUESTION	EPA RESPONSE
Are the folks at the table here decision-makers?	George answered that the review was a joint effort with the EPA Regions. Loren elaborated that EPA has a workgroup with 30 members across the agency. The workgroup is developing an options document for the Assistant Administrator of the Air Division. The workgroup has to come to agreement to select an option for the Assistant Administrator. The EPA representatives at the meeting are the decision-makers because they are preparing the final document that goes to the Assistant Administrator, and will select the option to make changes, leave the rule as is, or make minor changes. If EPA goes forward with any changes, we would issue a draft rule in 2012 that would be subject to public comment. The EPA representatives here are the decision makers, but the authority resides with the Assistant Administrator.
How close is EPA to deciding whether to revise the rule?	Loren replied that there are a couple of months of review left, and that EPA is considering the input from the on-line discussion forum and public meetings.
If EPA begins updating rules, will this have an effect on the processing of aquifer exemptions under review?	Loren answered that the aquifer exemption process is independent of this rule, but offered to pass along information to the appropriate persons at EPA.
Have you found pre-mining water or ore that meet EPA's MCLs?	Loren answered that EPA has seen a number of things, but the review is not complete and it is too early to make any conclusions.

Have there been any monitoring results for radon flux that raise concerns about the safety of project employees and the public?	Loren answered that there have been a couple of results that were high, and that EPA has been in discussions with the industries involved.
Is EPA looking at radon from natural gas and farming?	George Brozowski told the audience that the Region makes test kits available. Aside from that, the Region is not looking at radon per se. George invited the questioner to elaborate.
The questioner continued—	
I came from industry. Natural gas averages 1,500 pCi/liter. Gas in my house varied from 140 to 160 pCi/liter. In the summer, because of the time it takes to get it to Denver, it dropped to about 35 pCi/liter. Why are you concerned with uranium when natural gas affects 11,000 times more people than the uranium industry?	George said he would refer the question to others in EPA. Loren added that there was a study in 1970s that determined a level at which a homeowner would have to take actions.
Could changes in 40 CFR 192 result in retrofitting of old UMTRCA tailings sites?	Loren answered that any changes could be applicable to facilities institutionally controlled by DOE, so EPA has to look at costs to the government as well as public protection.
Will cost versus risk be considered?	Loren replied that cost-benefit analysis is required by legislation. The EPA Radiation Protection Division has an economist on its staff, and appreciates comments on the economic aspects of this rule. He added that EPA has a website that explains the development of regulations from start to finish— http://www.epa.gov/lawsregs/brochure/developing.html He explained that the analytic blueprint is deliberative. If EPA decides to make any changes to the rule, it will share the analytic blueprint and supporting materials on its website.

EVENING SESSION

PUBLIC PRESENTATIONS

Members of the public were invited to provide five-minute presentations on the following topics:

- Changes in uranium industry technologies (such as utilization of the In-Situ Leaching recovery process as the principal current technology for extracting uranium) and their potential environmental impacts
- Revisions in EPA drinking and groundwater protection standards
- Judicial decisions concerning the existing regulations
- Issues relating to children's health, Tribal impacts, and environmental justice
- Dose and risk factors and scenarios for assessing radiological and non-radiological risk
- Facilities proposed in states outside existing uranium mining and milling areas
- Costs and benefits of possible revisions.

Presentations given in the evening are summarized as follows--

Ty Embry

Texas Mining and Reclamation Association (TMRA), Austin TX

Mr. Embry spoke on behalf of the owner-operators of the uranium committee of the Texas Mining and Reclamation Association (TMRA) uranium committee, and addressed the cost and benefits of the possible revision of 40 CFR Part 192 and Part 61 Subpart W. TMRA thinks it is important that EPA understands Texas state law and the amount of oversight of the uranium industry, particularly in light of recent state legislation. Under Senate Bill 1604, House Bill 3837 and House Bill 3838, Texas consolidated oversight under TCEQ and clarified oversight under the railroad commission, TCEQ and local authorities. There were lengthy extensive stakeholders input in the rulemaking process, both in the Railroad Commission and the TCEQ. In the railroad, it went from 2007 to 2010, and in TCEQ it went from 2007 to 2009, and there was extensive opportunity for stakeholder input. TMRA does not think that additional Federal regulations are needed because of the extent of existing regulatory oversight.

Rich Jacoby

Texas Radiation Advisory Board, TX

Mr. Jacoby said that it was his understanding that a lot of people participating in the afternoon session expressed the opinion that the existing rules were protective. He agrees that that they are. Since most of the mining is done by ISR, Mr. Jacoby does not believe that the standards at 40 CFR Part 192 are applicable, because the ISR method is so much safer in terms of effluents and releases from the site. Mr. Jacoby finds it difficult to shoehorn ISR under the existing 192 regulations, which he thinks are perfectly protective for conventional mining, and often overly protective for ISR. Mr. Jacoby would like to see the implementation of performance-based licenses.

Mr. Jacoby thinks that Texas' integration of groundwater and radiation protection is a system that works, and would hate to see it interrupted, commenting "We have a lot of data in Texas that

I hope you will look at. We don't have a lot of radon emissions. We don't have a lot of ponds; people are moving toward the use of tanks."

Mr. Jacoby concluded by saying that the industry strives for regulatory certainty, asking EPA "Please don't make regulations that confuse ISR with mill tailings facilities."

Steve Brown
SENES, Centennial, CO

Mr. Brown is a practicing health physicist, who spoke to the radiological criteria of 40 CFR Part 192 and Subpart W. Mr. Brown presented the argument the current standards are already protective, stating "regulating to them does not really have any impact in controlling doses to the population of the United States." He suggested comparison of the rates in the regulations with natural background rates, saying "Our lifestyles, what we eat, where we choose to live, the things we do in our lives, have much greater impact on the radiation exposure of the American population." He continued, "I live in Colorado, my background exposure is about 450 millirem per year. The average U.S. population dose is about 310 millirem per year. In the coastal plains states, New Jersey, Virginia, Oregon, about 150 millirem per year, so the delta, depending on where one lives in the United States, can be about 200-300 millirem per year, and much of that is from radon relative to the 25 and 100 millirem standards."

Mr. Brown said that he had measured radon emissions from tailings ponds for years and found nothing. He concluded that regulations as they exist relative to the radiological criteria are protective, and reiterated his opinion that controlling to 25 or 100 millirem per year does not have a great impact on dose to the American population.

Sister Elizabeth Riebschlaeger
Cuero, TX

Sister Riebschlaeger began her remarks by thanking EPA for its presence here, saying "It represents to me a willingness to be accountable to citizens and to everyone involved in the decision-making process." When balancing the needs of business development and environment, Sister Riebschlaeger asked that rural communities be considered first. "The ranching industries and farming industries are primary to rural areas, especially in the area around Goliad." She expressed the concern that the experience of the Karnes City mine not be repeated. Sister Riebschlaeger asked the regulatory agencies to take a long-range view of the value of our environment as primary to any development in the future, because "public health is essential to any business development and to the workforce."

Mina Williams
Coastal Bend Sierra Club, Corpus Christi, TX

Ms. Williams said that she had heard that people can buy land over exempted aquifer areas and drink the groundwater. She commented "It's expensive to have the landowner bear the cost of having his or her own well tested in order to protect himself against the possibility of what Venice spoke of today: inappropriate tests for establishing baseline. Thereafter we can never establish what baseline was after the area has been disturbed. And so this gets very complicated."

She asked for clarification about use of water from an exempted aquifer.

Loren Setlow answered—

"There is no method for revoking an exempted aquifer. EPA is considering a method for revocation."

Ms. Williams said that should a deed should indicate that a piece of property lies above an exempted aquifer and asked for clarification.

Loren Setlow responded—

"The aquifer exemption, when it applies, applies to the use of that prohibits the use of that aquifer for public drinking water. The fact that it is contaminated, and not suitable for a public supply does not exempt the individual who owns that property from using it as a drinking water supply, even if it is to their detriment. Now I cannot speak to the disclosure laws in the state of Texas."

Ms. Williams said that she would like to be told that a piece of property she was buying had an aquifer that had been condemned by EPA and was non-potable.

Loren Setlow responded—

"EPA Region 6 in this instance would pull those records from the office of groundwater and drinking water. I would also assume that the state keeps those records."

Susan Jablonski of TCEQ also responded that TCEQ considered revocation in the rulemaking, and changed requirements to include notification for surface and subsurface rights. The commission didn't pass the revocation rule, but wants to make this information more accessible."

Jeff Hill, an attorney, added—

"Your question is difficult to answer because there are at least two animals called aquifer exemption. One is the aquifer exemption, which is issued by TCEQ. The other is a petition to the US EPA for a Federal aquifer exemption which is a program amendment to the state program. They have slightly different standards and have slightly different processes for approval. The question needs to be addressed specifically to the location with which you are concerned. Denver, CO rules don't help you much in Texas."

Kerry Culpepper
Karnes County, TX

Ms. Culpepper stated that she lives in Karnes County about three football field from those uranium mines. She urged caution about regulation, and gave an example of children growing up near uranium mines in Karnes County. "These kids went out and all got in a tailing pile, because they put fish in there. They were fishing and they fell in. There's nothing wrong with any of those children. They're grown men, they're doing great. So we can't just get overboard with this stuff."

AUDIENCE QUESTIONS TO EPA

QUESTION	EPA RESPONSE
Are the folks at the table here decision-makers?	George Brozowski replied that he was from the Regional office, and will be working with other Regional offices, notably Region 6 and Region 9, to come up with a final conclusion. Loren Setlow replied that he was working with our regional offices in Region 7 and Region 5 to develop an option paper for the Assistant Administrator of the Office of Air and Radiation. EPA is conducting the analysis to determine to revise the rule, make minor revisions, or leave it as is. If EPA decides to go through with a rule, draft language will be published and there will be the opportunity for public comment during public hearings.
Will the presentation be on the website?	The presentation and meeting notes will be posted on the website.
Who made the list of license applications?	Loren replied that the NRC made the list. Tom Peake added that NRC had approved the license of the Moore Ranch in Wyoming since the publication of the list.
Assuming limited government resources, how does EPA justify this rulemaking effort?	Loren replied that EPA has been conducting reviews with limited staff for a long time. The Uranium Mill Tailings Radiation Control Act (UMTRCA) specifically states that the EPA should review the rule and make revisions from time to time. EPA must take changes in science into account.
Isn't there a greater bang for the buck to be had elsewhere in the EPA or the Federal Budget?	Loren replied that Agency evaluated possibilities for a number of analysis, and determined that it was worthwhile to undertake this review. "It is not a zero-sum game in terms of ranking these against others, although this is not going to have a ten or 100 million dollar impact, but it may have environmental impact if we do decide to change the rule." Loren reiterated that EPA is required to do a cost-benefit

QUESTION	EPA RESPONSE
	analysis of any revised rule."
Are constituents other than uranium—molybdenum, iron, arsenic— that are liberated in the ISR process, taken into account in an aquifer exemption granted by EPA?	Loren replied that he could not speak about what constituents are considered in the aquifer exemption process, but did note that the EPA Office of Water looks at the aquifer's potability, its mineral characteristics, and its total dissolved solids (TSS). The requirements for aquifer exemptions can be found in 40 CFR Part 144.
Who was on the Texas committee who wrote the regulations for the uranium mining? How many lobbyists were involved?	Loren replied that he could not speak to that question, as the purpose of the meeting was to discuss EPA's rules. Susan Jablonski of TCEQ replied that that TCEQ had an extensive stakeholder process when they developed the rule, and that some people in the room had participated in it. Ms. Jablonski said that it had been an open process.
What are the justifications for aquifer exemptions?	Loren replied that he didn't have the list with him, but that the requirements could be found in 40 CFR Part 144. Tom Peake added that granting an aquifer exemption requires documentation that the groundwater quality is so poor that it can never be used as a public drinking water supply.
Does EPA have any examples of successful restoration of aquifers to baseline conditions?	Loren replied that he could not provide an answer, as EPA is still studying this. He mentioned that the U.S. Geological Survey had some published studies.
I did not hear you mention Region 9. Don't they have all Indian countries?	George Brozowski replied that Region 9 is involved and that they have Apache and Navajo territories.
Regulators in Texas have 30 years experience in regulating uranium extraction. What will EPA do?	Loren replied that EPA has reached out to states to share their information, and will continue to do so. EPA will also ask for the input from the people of Texas for reports and information that they think is important to review. EPA will also look at what has happened since the regulations were developed to determine if revisions are needed.
Where does the water sample come from? From the mining company, from the locals, from the water district?	Loren answered that this was the jurisdiction of the state regulator. There is nothing in the rule that specifies where the sample comes from. The rule does not address that issue. EPA is taking a look at the information that is available on this matter.
This question was followed by a series of questions and answers:	

QUESTION	EPA RESPONSE
Available from where?	Loren replied that EPA is looking at the wealth of information for establishing baseline water quality and restoration under such programs as RCRA and CERCLA.
In other words, you look at the sample that the uranium company provides when you're considering whether an aquifer exemption is granted.	Loren replied that he could not provide answers on aquifer exemptions.
You still haven't answered my questions.	Tom Peake answered that EPA sets standards and the agreement states implement them.
My original question was— "Are constituents other than uranium considered in aquifer exemptions?"	Tom Peake answered that other constituents were considered in granting the exemptions.
What went into EPA's coming to the conclusion that ISR ponds fall under Subpart W??	Loren replied that the liquids generated by the process of uranium extraction meet the definition of wastes under Subpart W. The water contains dissolved radium and the numbers are such that the radon emissions from dissolved uranium can equal those of tailings piles. In some cases of excursion, EPA has 7000 pCI/L from dissolved radium. We saw numbers of 7000 pCi from dissolved radium.
Is this information publically available?	Loren replied that EPA presented this information at the National Mining Association meeting and will post it on the Subpart W page of its website.
Can you discuss the court cases that required EPA to review this standard, aside from the Colorado one already discussed?	Loren replied that he thought the suits were found in favor of the Environmental Defense Fund in 1990 or 1991. In one case, a Court ruled that NRC did not have to adopt all of EPA's language. In the 1990s, there was another decision that EPA did not have oversight authority over NRC's determination of alternative concentration limits were to make a decision on an alternative concentration limit on restoration.
What sites are testing new groundwater restoration techniques?	EPA has not completed this study yet and thus cannot give an answer.

QUESTION	EPA RESPONSE
What labs are evaluating it?	Same answer as above.
Are there research gaps?	Same answer as above.
If the EPA fails to set up an aquifer exemption, is it a takings case?	Loren replied that it varies from case to case. EPA is not required to grant an aquifer exemption if the criteria are not met.
What happens to the residue from mining water?	Susan Jablonski of TCEQ replied that the residues must be disposed of as licensed waste, and that for the most part, disposal of such wastes takes place outside of Texas.
How are mining wastes disposed?	Susan Jablonski replied that they are generally disposed by deep well injection.