Owens, Mike

From: Eric Olsen [eolsen@deseretpower.com]
Sent: Tuesday, April 15, 2014 9:46 AM
To: Owens, Mike
Cc: Rothery, Deirdre; Laumann, Sara; Dave Crabtree; Gene Grindle
Subject: RE: Compliance Assurance Monitoring
Attachments: removed.txt; Bonanza CAM Plan-Draft (4-15-14).pdf

Mike,

Per your email below and our conversation yesterday, I have attached the revised CAM Plan for Bonanza Unit 1. This revision should address EPA's concerns/comments and does supersedes previous versions.

Please confirm receipt of this plan and let me know if you have any other questions.

Thanks,

Eric C. Olsen, P.E.
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From: Owens, Mike [mailto:Owens.Mike@epa.gov]
Sent: Friday, April 11, 2014 4:54 PM
To: Eric Olsen
Cc: Rothery, Deirdre
Subject: RE: Compliance Assurance Monitoring

Eric,

I sent your proposed CAM plan to our CAM experts at EPA's Office of Air Quality Planning & Standards and received some comments, which I am passing on to you. I would appreciate your response as soon as possible:

1. The proposed CAM plan does not indicate whether the emission limits are only for the filterable portion of PM.

EPA comment: Since the limits in conditions 24.A and 24.B of the 2001 PSD permit are only for the filterable portion (i.e., there is no requirement in those conditions to test for condensable particulate matter), the CAM plan should indicate that the emission limits are for filterable PM and filterable PM10. We note that RM5 and PM CEMS only measure the filterable portion.

2. The proposed CAM plan identifies opacity as the key performance indicator, prior to installation of PM CEMS.

EPA comment: EPA is concerned that the correlation data in the CAM plan do not support the choice of opacity as the key indicator prior to installation of PM CEMS. EPA acknowledges the apparent high margin of compliance for PM (highest PM level is 3.3 times lower than the limit), but EPA is reluctant to have the CAM plan rely on COMS information as the sole indicator of emission compliance, prior to installation of PM CEMS, particularly when the correlation between opacity and mass PM is low ($r^2 = 0.15$), opacity values increase more than six times for the same PM emissions level (0.006), and the opacity trigger level (20%) is 2.5 times higher than the highest test value. Moreover, a linear

relationship obtained from the test data suggests that opacity levels drop as PM emissions increase. See the graph at the bottom of this email. EPA questions whether some other monitoring parameter might be better (e.g., number of baghouse compartments in service, or wet scrubber parameters).

3. The proposed CAM plan defines an excursion, after installation of the PM CEMS, as "any time the average PM reading from the PM CEMS exceeds 0.0297 lb/MMBtu (particulate matter) over a continuous period of 90 minutes, excluding intervals and events when the control equipment experiences a malfunction."

EPA comment: 0.0297 is the emission limit for total PM, but the emission limit for PM10 is lower, at 0.0286. Since PM CEMS does not differentiate particle size, EPA does not see how PM CEMS can be used to also assure compliance for PM10 unless everyone agrees that total PM = PM10. Given this situation, the CAM plan would need to define an excursion as a PM CEMS reading in excess of 0.0286 lb/MMBtu, not 0.0297 lb/MMBtu. Also, there is no explanation why a continuous period of 90 minutes was chosen. This should be explained. Also, the phrase about excluding malfunctions should be deleted. A key objective of CAM monitoring is to identify periods when the control equipment is malfunctioning, so that it can be restored to its normal or usual manner of operation as expeditiously as practicable. Excluding control equipment malfunctions from the definition of an excursion is contrary to that objective.

4. The proposed CAM plan says that "Correlation means the primary mathematical relationship for correlating the output from the PM CEMS to a PM concentration, as determined by the PM reference method."

EPA comment: EPA does not agree. Performance Specification 11 (PS11), not Reference Method 5, explains how a correlation can be developed. We would normally expect PS11 to be specified. It is not clear why Deseret Power does not want to rely on PS11. No explanation has been provided.

5. The proposed CAM plan says "This use of PM CEMS as an additional Bonanza Unit 1 Particulate CAM Plan performance indicator shall not be subject to EPA Performance Specification 11 for PM CEMS."

EPA comment: EPA disagrees with this statement. No explanation has been provided why Deseret Power does not want to rely on PS11. As we stated above, PS11 explains how a correlation can be developed. We would normally expect PS11 to be specified. This statement about not being subject to PS11 should be deleted.

6. The proposed CAM plan says "If the average of the three runs differs from the PM CEMS reading by more than 25% of the PM or PM10 emission limit, then the PM CEMS shall be biased plus or minus to match the RM5 test average."

EPA comment: EPA does not see why this needs to be done. If the PM CEMS is correlated per PS11, this situation will not occur. If the PM CEMS is used as a PM CPMS (per the MATS rule), then the use of a scaling factor, where appropriate, would be allowed. Why do something different here?

7. The proposed CAM plan says "If the PM CEMS still shows an excursion existing after the verification and/or adjustment of the PM CEMS, the PM CEMS will be replaced or repaired to read accurately in order to comply with this plan."

EPA comment: This language is unclear. Replace with what? Another PM CEMS? Or give up on PM CEMS entirely and install something else? Is there some misconception that PM CEMS cannot be relied upon to work? Previous paragraphs in the proposed CAM plan already provide for calibration and adjustment of the PM CEMS. If the PM CEMS is still showing excursions, why shouldn't the baghouse be checked again to see if something is wrong with it, rather than just assume that something is wrong with the PM CEMS? We recommend this sentence in the CAM plan be deleted.

8. The proposed CAM plan indicates that annual performance testing for filterable PM consists of three RM5 performance tests, but does not indicate the duration of the performance test.

EPA comment: The duration of the test runs should be indicated.

9. The last two paragraphs of the proposed CAM plan contain statements that appear to be certain types of savings clauses about "... purposes of settlement and/or avoidance of potential issues(s) in dispute... " as well as "... shall not be construed as an admission or deemed to be an acceptance..." as well as a statement about the prospect that EPA might determine "that the data generated from the PM CEMS are no longer a useful component of the Bonanza CAM Plan."

EPA comment: These statements have no bearing on what CAM requirements need to go into the title V operating permit. The requirements that need to go into the permit are laid out in 40 CFR 64.6(c). We recommend these two paragraphs be deleted from the CAM plan, but in any event what we include in the permit will be as laid out in 40 CFR 64.6(c).

Finally, to simplify things, we recommend that the MATS rule be examined for PM monitoring requirements that might also satisfy CAM purposes. The MATS rule requires demonstration of compliance with metals (or PM) limits. Although we recognize there may be some lag time before the MATS requirements go into effect, perhaps that monitoring or testing could be incorporated into the CAM plan.

Feel free to call me to discuss. I would like to resolve any issues by late April, so that we can get a draft title V operating permit out to public comment by May 1.

Mike Owens
Environmental Engineer
Air Program
EPA Region 8
303-312-6440

From: Eric Olsen [mailto:eolsen@deseretpower.com]
Sent: Thursday, April 10, 2014 2:36 PM
To: Owens, Mike
Cc: Rothery, Deirdre; Laumann, Sara; Dave Crabtree; Gene Grindle
Subject: RE: Compliance Assurance Monitoring

Mike,

Per your request, I've incorporated some language from 40 CFR 64.7(d)(1) to Bonanza Unit 1's CAM Plan. Please confirm receipt of this revision.

Let me know if you have any other questions or comments.

Thanks,

Eric C. Olsen, P.E.
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From: Eric Olsen
Sent: Wednesday, April 09, 2014 4:01 PM
To: 'Owens, Mike'
Cc: 'Rothery, Deirdre'; 'Laumann, Sara'; 'Dave Crabtree'; Gene Grindle
Subject: RE: Compliance Assurance Monitoring

Mike,

Per your voicemail you left me last Friday, I have clarified and revised the CAM Plan section you questioned. The revised copy is attached and supersedes the one I emailed you on April 3, 2014. Please confirm receipt.

Let me know if you have any other questions or comments.

Thanks,
Eric C. Olsen, P.E.
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From: Eric Olsen
Sent: Thursday, April 03, 2014 2:56 PM
To: 'Owens, Mike'
Cc: Rothery, Deirdre; Laumann, Sara; 'Dave Crabtree'; Gene Grindle
Subject: RE: Compliance Assurance Monitoring

Mike,

Per your request and pursuant to 40 CFR 64, I've attached a draft copy of our proposed CAM Plan. Please confirm receipt.

Let me know if you have any questions or comments.

Thanks,
Eric C. Olsen, P.E.
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From: Owens, Mike [mailto:Owens.Mike@epa.gov]
Sent: Wednesday, February 26, 2014 1:58 PM
To: Eric Olsen
Cc: Rothery, Deirdre; Laumann, Sara
Subject: Compliance Assurance Monitoring

Eric,

This is to inform you that, after further considering applicability of the Compliance Assurance Monitoring (CAM) rule at 40 CFR part 64, EPA has determined that the Bonanza plant is subject to CAM with respect to particulate matter and PM10 emission limits for Unit 1. Those limits are 0.0297 lb/MMBtu for particulate matter and 0.0286 lb/MMBtu for PM10.

Please see the attached letter that our office wrote to Deseret Power on March 30, 1999. The letter requests that Deseret Power examine 40 CFR 64.2 to determine applicability of the CAM rule and, if subject, submit the information required under 40 CFR 64.4, which we typically refer to as a "CAM plan." 40 CFR 64.5(a) states that the information required under 40 CFR 64.4 must be submitted as part of the Part 71 permit application, if the application has not been filed by April 30, 1998, or has not yet been determined complete by the permitting authority by that date. Deseret Power first submitted a Part 71 permit application to EPA in March of 2000. The application did not include a CAM plan.

The updated Part 71 permit application submitted by Deseret Power on April 3, 2012 also did not include a CAM plan. Instead, the application states that Part 64 does not apply to Unit 1 because it is exempted from CAM under 40 CFR 64.2(b)(iii) and 64.2(b)(vi). (These citations should actually be 64.2(b)(1)(iii) and (vi).) The first exemption, at 64.2(b)(1)(iii), says the requirements of Part 64 shall not apply to any of the emission limitations or standards under the Acid Rain Program. For Bonanza Unit 1, Acid Rain Program emission limitations or standards exist only for SO2 and NOx, not for particulate matter or PM10. The second exemption, at 64.2(b)(1)(vi), says the requirements of Part 64 shall not apply to any emission limitations or standards for which the Part 71 permit specifies a continuous compliance determination method. For Bonanza Unit 1, continuous compliance determination methods are specified in the draft 2002 Part 71 permit only for SO2 and NOx, not for particulate matter or PM10. No requirements have come into effect since 2002 that specify continuous compliance determination methods for particulate matter or PM10 at Bonanza Unit 1.

The three criteria for determining whether a pollutant-specific emitting unit (PSEU) is subject to Part 64 are laid out in 64.2(a). For particulate matter and PM10, Bonanza Unit 1 meets all three criteria. Therefore, it will be necessary for Deseret Power to submit a CAM plan for particulate matter and PM10 emissions from Bonanza Unit 1. Please do so if at all possible within the next 30 days. If there is any reason why you need more time, please notify me. If you would like some orientation on the CAM rule or examples of CAM plans, please feel free to let me know. You might find the CAM Guidance Document to be helpful as well. It has some examples. It's at www.epa.gov/ttn/emc/cam.html.

Thank you for your cooperation.

Mike Owens
Environmental Engineer
Air Program
EPA Region 8
303-312-6440

Appendix ___ Bonanza Unit 1 Particulate Compliance Assurance Monitoring Plan

1. Background:

a. Emissions Unit Identification

Deseret Generation & Transmission Co-operative
Bonanza Station – Unit 1
Uintah County, Utah
Emission Unit ID I-1 (10100201)

b. Applicable Regulations, Emission Limits, and Monitoring Requirements

(i) Applicable Regulation: 40 CFR Part 60, Appendix A, Methods 1-5 and 19 (PSD-UO-0001-2000, 40 CFR 60.42a(a)(1)); 40 CFR 60 appendix A, Methods 1, 2, 3, 4, 201, 201a and 19 or other methods approved by the administrator (PSD-UO-0001-2000, 40 CFR 60.42a(a)(1)).

(ii) Emission Limit: 0.0297 lb/mmBtu for filterable particulate matter and 0.0286 lb/mmBtu for filterable PM10

(iii) Compliance Method: 3-run RM5 Test (particulate matter)* (see requirement to install PM CEMS set forth in Part 2 of this Appendix ___ below).

c. Control Technology Description

Flyash and other particulates created by the coal combustion are removed by a fabric filter baghouse. The baghouse consists of two separate sections with twelve compartments each. Each compartment has 450 bags for a total of 10,800 bags. Ducting in the baghouse allows for use of any combination of compartments at any time and under normal circumstances a number of compartments are taken out of service for planned, rotating maintenance. Both section of the baghouse are in use at the same time under normal operations, and all compartments other than those undergoing maintenance or repair are on line. Automated monitoring equipment tracks each compartment in the baghouse individually and provides a constant reading of that compartment's status to the plant control system.

2. Particulate CAM Plan Approach and Performance Indicators

Baghouse In-Service

The Baghouse used at Bonanza Unit 1 is a key control for assuring compliance with the PM limit. Effective PM Control from proper baghouse operation has been consistently demonstrated at Bonanza Unit 1 by annual performance testing. The annual testing conducted to calculate filterable PM consists of three Reference Method 5 performance tests typically 2 hours in duration. These tests support the

effectiveness of the baghouse to ensure compliance with applicable PM limits. These three tests are typically conducted within 48 hours.

Bonanza Unit 1 PM compliance testing has consistently demonstrated a high margin of compliance for PM (the highest PM level measured during compliance testing is 3.3 times lower than the applicable limit) when the baghouse is in service. The results of these tests and high margin of compliance demonstrate that compliance with the particulate emission standard is achieved whenever at least 80% of baghouse compartments are in service (the "Baghouse In-Service Ratio"); therefore, it is appropriate to use the Baghouse In-Service Ratio as assurance that the unit is in compliance with applicable PM emission limits. Previous PM stack test results are as follows:

Year	Filterable Method 5 (lb/mmBtu)
2004	0.006
2005	0.009
2006	0.006
2007	0.006
2008	0.005
2009	0.004
2010	0.004
2011	0.005
2012	0.009
2013	0.006

The annual performance tests have indicated that the PM standard is met whenever at least 80% of baghouse compartments are in service. On this basis, the PM standard is considered met when at least 80% of baghouse compartments are in-service as indicated by plant control system monitors.

Operation of the baghouse is subject to conditions set forth in the baghouse operating procedure incorporated into the Title V Operating Permit for conditions under which the baghouse bypass is engaged as well as record keeping for baghouse bypass conditions.

Particulate Monitoring

Notwithstanding the foregoing, within 12 months after the effective date of the Title V Operating Permit for Bonanza Unit 1, a system of continuous or virtually continuous emissions monitoring equipment for particulate matter (the "PM CEMS") shall be installed and maintained at Bonanza Unit 1 for the limited purpose of providing another performance monitoring indicator to the Bonanza Unit 1 Particulate Compliance Assurance Monitoring Plan.

1. The PM CEMS shall be installed according to the manufacturer's standards.

2. An initial calibration/correlation test shall be performed on the PM CEMS prior to finalizing the installation. The correlation procedure will be developed in cooperation with the PM CEMS manufacturer, using methodology designed to be substantively consistent with procedures specified for correlation as if the PM CEMS were subject to EPA Performance Specification 11, so as to reliably address and establish an initial site-specific correlation of the PM CEMS response against manual gravimetric reference method measurements made using EPA Method 5. The preceding procedure shall not be deemed to render the PM CEMS subject to certification as contemplated pursuant to Performance Specification 11, as it is not being used for any permit compliance demonstration but solely as an additional CAM Plan monitoring indicator under this PM CAM Plan. Correlation means the primary mathematical relationship for correlating the output from the PM CEMS to a PM concentration, as determined by the PM reference method. The correlation is expressed in the measurement units that are consistent with the measurement conditions (e.g., lbs/mmBtu) of the PM CEMS.

3. For purposes of the Bonanza Unit 1 PM CAM Plan, after the installation of the PM CEMS, a CAM Plan monitoring excursion is defined as anytime the average filterable PM reading from the PM CEMS exceeds 0.0286 lb/mmBtu (filterable particulate matter) over a continuous period of 90 minutes. The 90 minute averaging time is selected in order to eliminate data communication errors (i.e., telemetry excursions) and to ensure consistent data readings from the PM CEMS.

4. A zero and span check/calibration of the PM CEMS shall be performed daily. The PM CEMS will be adjusted, if needed, according to manufacturer's standards. Also, this check/calibration and/or adjustment could be a corrective action as defined in number 6 and must be accomplished after any PM CEMS maintenance activity.

5. On an annual basis, the calibration of PM CEMS shall be verified using Reference Method 5 (three runs). If the average of the three reference runs differs from the PM CEMS by plus or minus 25% or more of the CAM Plan monitoring excursion limit, then the PM CEMS will be biased plus or minus to match the reference tests average. No RM5 testing shall be required to be completed during winter months, inclement weather conditions, at time(s) when the unit is offline, or under any conditions that could pose unnecessary or unreasonable risk to personnel conducting such test(s).

6. If a CAM Plan monitoring excursion is shown by the PM CEMS, as defined in number 3, corrective action will be taken immediately to investigate the cause of the monitoring excursion. The corrective actions are not limited and could include verification of baghouse operating status, and corrective maintenance and/or repair to baghouse compartments. If a monitoring excursion still exists after corrective actions are taken, a mandatory Reference Method 5 test (three runs) shall be conducted under unit operating conditions representative of the CAM Plan monitoring excursion to verify compliance, such testing to be undertaken without undue delay at

a time when conditions (including weather conditions) permit.

The operator will maintain records of its PM CEMS monitoring data and maintenance. Once PM CEMS has been added as another performance indicator to the Bonanza Unit 1 Particulate CAM Plan, DGT will provide to EPA, upon EPA's request, PM CEMS data for Bonanza Unit 1 with measurements in lb/mmBtu averaged daily for the requested time period. If EPA requests this data to be submitted continuously, it will be submitted with the Part 60 quarterly report by the 30th of the month following the end of the quarter.

Deseret is not proposing this use of PM CEMS as an additional Bonanza Unit 1 Particulate CAM Plan monitoring indicator due to any requirement under Title 40 CFR or other authority under the Clean Air Act; as such, it is not proposed to be subject to EPA Performance Specification 11 for PM CEMS.

Installation and use of PM CEMS as a Particulate CAM Plan performance indicator at Bonanza Unit 1 is incorporated into this PM CAM Plan and will be done solely for purposes of facilitating additional monitoring to assist Deseret in assuring continuous compliance, and for no other reason; its incorporation into this PM CAM Plan shall not constitute nor be deemed any admission by Deseret that PM CEMS is required under Title 40 CFR or "pursuant to other authority under the Clean Air Act or state or local law," as addressed in 40 CFR § 64.3(d). Deseret maintains that no PM CEMS installation or use is required at Bonanza Unit 1. Future modification of this PM CAM Plan may be proposed by Deseret that may not include PM CEMS as an additional monitoring indicator, and the PM CEMS may be replaced or discontinued in future modified CAM Plan(s); nothing in this CAM Plan shall be construed to prevent or prohibit Deseret or EPA from proposing to make any such future modification to its CAM Plan.