



BIRMINGHAM

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Developing Site specific monitoring plans for egu mats units

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What is the purpose of this presentation?



- To refresh your awareness of the requirement for a Site-Specific Monitoring Plan, as required by Subpart UUUUU to Part 63.
- Subpart UUUUU is the “National Emission Standard for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units”
- We are normally focused on only monitoring systems thru a QAQC Plan but the Site Specific Monitoring Plan is so much more than a QAQC plan.
- It should address all the other compliance activities for the EGU MATS rule, not just monitoring.

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Resources for Developing These Plans



- ESC's Research Library has more than 30 presentations and webinars on various topics associated with the MATS reporting program.
- Two particular presentations stand out. Both have multiple lists of helpful information resources.
 - "MATS Readiness Center" Dated 02/09/2017, and
 - "MATS Data Guidance Documents" Dated 02/09/2017
- Check them Out!!

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Which sections are we reviewing? There are four areas that we reviewed.



1. Part 63 – General Provisions §§ 63.1 – 63.16
 - Table 9 of Subpart UUUUU tells you which sections of the General Provisions and the corresponding topics are applicable to subpart UUUUU. Many sections of the General Provisions are not relevant.
2. Subpart UUUUU §§ 63.9880 – 63.10042
3. Tables 1-9 of subpart UUUUU
4. And two Appendices, which are A for Hg monitoring & B for HCl and HF monitoring.

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Site Specific Monitoring Plans...



- These plans reflect so much more, such as all of the compliance plans developed for demonstrating MATS compliance activities, such as:
 - Continuous Emission Monitoring Systems (CEMS),
 - Continuous Monitoring Systems (CMS),
 - Periodic stack testing,
 - Low Emission Emitter (LEE) reporting,
 - Boiler tune up activities and schedule (how often),
 - Workplace practices and activities,
 - Record keeping and record retention.
- Basically any work or activities associated with showing compliance needs to be spelled out.

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Site Specific Monitoring Plans (SSMPs)



- First off, we are talking about the requirements for Subpart UUUUU – in common terms, the EGU MATS reporting rule.
- These plans are required to be prepared at least 60 days prior to a compliance test and/or CEMS Performance test. §63.10000(d)
 - This requires “Notice of Performance Test(s)”, §§63.7(b), 63.8(e)(2), and §§63.9(e). This is especially important for Performance Tests (stack testing) and Performance Evaluation Tests (RATAs).
- In our presentation today, we are going to identify topics which require further investigation on your part.
- And again, the plan should address all the compliance activities for the EGU MATS rule.

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SSMPs ...



- Why are we just skimming the surface and not discussing details?
- Because there are lots of details to investigate.
- These plans need to reflect all of your compliance activities under Subpart UUUUU and there are so many different ways and different combinations, you'll be board and confused.
- These plans should have been completed, in place and were being used before the compliance deadlines were reached.
- For most affected facilities, the compliance demonstration deadline was OCTOBER 13, 2015.

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Examples of MATS compliance activities



- The compliance plans for a given unit can include:
 - CEMS and sorbent traps systems - §63.8, §63.10000 (D)(1)
 - Periodic (quarterly or annual) performance testing - §63.7(e) and §63.10000 (C)(1)
 - On Going Low Emitting EGUs (LEE) testing – still require periodic testing - §63.10000 (h)
 - Work practice standards and maintenance activities - §63.9991, Tables 1-3 and §63.10006
 - Periodic tune ups - §63.8, §63.10000 (e)
 - There are record keeping and reporting activities associated with each of these strategies - §§63.10(e) (1) –(2)(i)

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More examples of compliance activities



- The development of a startup, shutdown and malfunction plan, and that the equipment be operated according to this same plan. §§63.6 (e)(1), 63.6 (e)(3) and 63.8 (c)(1).
- At all time, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
- You have noticed this plan covers more than just the monitoring systems.

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Requirements for a Continuous Monitoring system



- Operating and maintenance of continuous monitoring systems. The owner & operator shall maintain and operate each CMS in a manner consistent with good air pollution control practices. §63.8 (c)(1)
- At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
- Again You'll Notice: The SSMP covers more than just the monitoring systems.

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Operation and Maintenance of Continuous Monitoring Systems. §63.8 (c)



- The systems needed to be installed in a manner that ensures representative sampling of the emissions.
- They shall be in continuous operation except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments.
- Should include the required quality assurance activities, pass/fail criteria, description of when Out-of-Control (OOC) periods begin and end, what does it mean for the data, and how data is processed and packaged.

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More about Continuous Monitoring Systems. §63.8 (c)



- If the emission standards are based on extended averages (extended meaning longer than 1-hour), the plan needs to address:
 - Are there any operating conditions which allow the exclusion of emission data recorded during these periods (startup, shutdown, maintenance for example)
 - These exclusion periods need to be defined as when they begin and end.
 - How the data system identifies and flags these exclusion periods.
 - A clear explanation of how these extended averages are calculated.
 - An explanation of how these extended averages are validated.

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Still More about Continuous Monitoring Systems. §63.8(c)



- The plan needs to address:
 - What is required if the emission standard or limit is exceeded?
 - How are these events handled?
 - When are copies of performance or evaluation tests (data and results) to be submitted and under what format?
 - What reports are needed?
 - How often are they generated?
 - To whom are these report submitted to?
 - Are these reported submitted under the signature of an officer of the operators or owners?

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The SSMP shall include a Quality Control Program for Continuous Monitoring Systems. §63.8 (d)



- The procedures of this program are intended to help validate the monitoring data.
- A written protocol is developed for each procedure
 - Initial and any subsequent calibration of the CMS.
 - Determination and adjustment of the calibration drift of the CMS.
 - Preventive maintenance of the CMS, including spare parts inventory.
 - Data recording, calculations, and reporting.
 - Accuracy audit procedures, including sampling and analysis methods
 - Program of corrective action for a malfunctioning CMS.

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The SSMP shall include a Performance Evaluation Test Plan for CMS §63.8 (e)



- This evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.
- If requested, a site-specific performance evaluation test plan needs to be prepared and submitted to the Administration.
- The data and results for these evaluations shall be submitted to the Administrator within the time period required.

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The SSMP shall include Procedures for Reduction of Monitoring Data for CMS §63.8 (g)(1) thru (5)



- §63.8 (g)(2) describes the reduction process for COMS and CEMS
 - COMS – 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period.
 - Non-COMS, CMS, and CEM data is reduced to 1-hour averages computed from four or more data points spaced over each 1-hour period, except;
 - During periods when calibrations, quality assurance or maintenance activities are occurring, then a valid hourly average shall consist of at least two data points with each representing a 15-minute period.

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Continued Procedures for Reducing of Monitoring Data for CMS §63.8 (g)(1) thru (5)



- §63.8 (g)(3) The data may be recorded in reduced or nonreduced forms (e.g., ppm for pollutants and percent O₂ or ng/J of pollutant).
- §63.8 (g)(4) All emission data shall be converted into units of relevant standard or emission limit, using the conversion procedures specified in that standard (e.g. lb./TBtu).
- §63.8 (g)(5) Monitoring data recorded during periods of breakdown, out of control, repairs, maintenance periods, calibration checks, etc. must not be included in any data averages, except for §63.10(b)(2)(vii)(A) or (B).

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We recommend the SSMP shall include and spell out relevant terms or definitions §63.2



- These terms need to again be site specific, but some sample terms might be:
 - Continuous Emission Monitoring Systems (CEMS),
 - Continuous Monitoring Systems (CMS),
 - Continuous Opacity Monitoring System (COMS),
 - Continuous Parameter Monitoring Systems (CPMS), and
 - Plus whatever terms which might need clarifying...

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Applicable definitions. Sometimes they are used interchangeably



- **Continuous Emission Monitoring Systems (CEMS),**
 - These systems measure the concentration of pollutants in the flue gas streams, such as O₂, CO₂, SO₂, NO_x, Hg, PM or other chemicals of interest.
- **Continuous Monitoring Systems (CMS),**
 - These systems measure and record the status of various systems such as open/closed, on/off, temperature (°F), pressure (psi), etc..
- **Continuous Opacity Monitoring System (COMS),**
 - These systems measure and record the intensity or concentration of contaminants which interferes with the passage of light (transmittance) across a duct, stack, or an opening between two measurement points.
- **Continuous Parameter Monitoring Systems (CPMS),**
 - These systems measure and record the status of various systems such as power consumption for an ESP (kW/hr.), differential pressure across baghouse (in W.C.), electrical load (MWh), steam load (lb./hr.), etc..

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We recommend the SSMP should include;



- It should reflect how the work force is organized, who is responsible for operating and maintaining these systems, how the data generated is validated, reviewed, processed, used, packaged and reported.
- This description needs to be general in nature, using job titles and not the names of individuals.
- Keeping it general in nature allows for flexibility in addressing new topics as they come up.
- These SSMP have a much broader focus than QAQC plans.

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The requirement to Develop a SSMP is considered to be met for a CMS or sorbent trap system if they were:



- Installed, certified, maintained, and operated according to Part 75.
- Installed, certified, maintained, and operated according to Appendix A or B to Subpart UUUUU.
- The recordkeeping and reporting requirements of Part 75 or Appendix A or B to Subpart UUUUU are met.
- And the facility operates and maintains the CMS according to the SSMP.

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But in closing, we know...



- The SSMPs are far more than complicated than most people thought, including me at first.
- They extend beyond the monitoring systems.
- Because the compliance plans or strategies can vary greatly and can be very site specific, there is the need for a lot more research and digging in order to develop a well thought out plan.
- Lastly, consider the following. If the state decided to audit your MATS compliance status (are you in compliance or not?), this plan is the primary device that they would use in that audit.

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One last thought...



- When does your current permit expire?
- Why?
- Renewal applications are usually due no earlier than eighteen (18) months and no later than six (6) prior to the expiration date.
- Why am I bringing up this topic?
- These dates frequently sneak up on us!

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We are sure there are topics we've overlooked.
What questions do you have?



You can always contact me at jkonings@envirosys.com or at 512-250-7915.

Thanks for coming!

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