

FACTSHEET: Requirements for Opacity Monitoring for NSPS Boilers, Subpart Dc, that do not use COMS for measuring opacity

The North Carolina Division of Air Quality (DAQ) is providing this factsheet for sources operating a boiler that is subject to the New Source Performance Standards (NSPS) Subpart Dc and is also listed as not operating a continuous opacity monitoring system (COMS) for opacity because it is exempt from that requirement. The US Environmental Protection Agency (EPA) has made changes to the rules concerning periodic opacity monitoring using visual methods beyond the initial performance test required for these boilers without COMS. These changes were made on January 28, 2009 and January 20, 2011. In order to assist in compliance with these changes, the DAQ is providing this summary of the requirements in the regulations and clarifying the means of complying with these regulations.

The regulations may be accessed through the following websites. The subpart (Subpart Dc) can be found through the *Electronic Code of Federal Regulations* (e-CFR) at <http://ecfr.gpoaccess.gov>. The Federal Register notices for the 2009 and 2011 revisions are available through the EPA Website at www.gpo.gov/fdsys by selecting the Federal register for these dates and clicking on the EPA link for those specific federal register dates.

Introduction

On January 28, 2009, the US EPA promulgated additional periodic opacity monitoring requirements for certain boilers subject to this Subpart that had taken the allowable exemption from installing a continuous opacity monitoring system (COMS). In addition to the initial performance test required under the subpart, these rules added provisions for periodic opacity monitoring using opacity performance tests under 40 CFR 60.47c (a). The frequency of such performance tests were governed by the results of the previous performance testing (visible emissions/opacity) measured by either Method 9 or Method 22.

On January 20, 2011, the EPA issued direct final rules to further clarify the requirements added in 2009 and to address certain conflicts in performance testing and notification requirements contained within Subpart Dc and the General Provisions of Subpart A of the NSPS regulations.

This letter serves as a notification of requirements that may apply to your boiler that must meet the requirements of Subpart Dc and to assist in compliance with these requirements,

Regulatory Requirements

The NSPS Subpart Dc applies to commercial, industrial and small boilers (steam generating units) that commenced construction or were modified after June 9, 1989 and have a rated heat input greater than 10 million Btu/hr (MMBtu/hr) and less than 100 MMBtu/hr. There have been numerous additions and modifications to the regulations since its initial proposal and promulgation. For the purpose of this letter, the Division of Air Quality is focusing on the requirements for periodic performance monitoring of

opacity through visual observation for those units with an opacity standard AND not using COMS. This periodic monitoring is periodic performance testing under the NSPS definitions and is used interchangeably in this letter.

Over a period of time, EPA has increased the type and number of exemptions from the installation, operation, and maintenance of COMS. As of January 28, 2009 the following exemptions from the COMS requirements were allowed under the regulations:

1. Any boiler burning distillate oil (basically No. 2 fuel oil) containing less than 0.5% sulfur by weight or any gas/liquid fuel fired boiler with a potential emission rate of less than 0.060 lb/MMBtu heat input. The boiler must not use post-combustion controls for particulate matter (PM) or sulfur dioxide (SO₂) and fuel sampling and certification procedures must be followed (see 40.CFR 60.48c(f)). The requirements are found in 60.47c(c);
2. Any boiler that uses a certified PM continuous emissions monitoring system (CEMS) to demonstrate compliance with the PM emission limit. The requirements are found in 60.47c(d);
3. Any boiler that burns gaseous fuels or oils (this includes all oils in classified through the range of from No. 1-through No.6 grades) with less than 0.5% sulfur by weight **and** does not use post combustion controls for PM, SO₂ or carbon monoxide (CO) **except** a wet-scrubber as an add-on control. The combination of condensed water vapor and the expectation of low opacities if good combustion is maintained is the basis for this exemption. There are additional requirements for combustion control and monitoring of CO included in this exemption. The requirements are found in 60.47c(e);
4. Any boiler that uses a fabric filter for control of PM and uses a bag-leak detection system as outlined in Subpart Da. The requirements are found in 60.47c(f), and;
5. Any boiler that burns gaseous or liquid fuels with less than 0.5% sulfur by weight and that operates according to an approved site-specific monitoring plan. The requirements are found in 60.47c(g).

The 2009 regulations also included additional periodic opacity monitoring using Method 9 or Method 22 for those facilities that were exempted from using COMS. These requirements were effective as of January 28, 2009 for all facilities exempted from using COMS except for those facilities that burned gaseous and liquid fuels and had an approved site-specific monitoring plan (60.47c(g)). The monitoring plan requires a demonstration of relationships between the parameter being monitored and demonstration of compliance with the opacity standard.

For those sources required to conduct the periodic opacity monitoring, the frequency of monitoring is dependent upon the opacity or visible emissions observed during the previous periodic opacity observation.

Under rules promulgated on January 20, 2011, the EPA clarified and changed several aspects of the 2009 rules. In the 2011 rule's preamble, EPA noted that this periodic opacity monitoring should have been occurring since 2009. Those systems using COMS and those facilities with an approved site-specific monitoring plan do not need to conduct periodic visual opacity monitoring using either Method 9 or Method 22. However, for those facilities that had been required to conduct this periodic visual monitoring and had not yet conducted that monitoring, the EPA set a compliance date of April 29, 2011. If you were exempted from having a COMS, you either needed to conduct the periodic opacity monitoring by April 29, 2011 or you had to have an approved site-specific monitoring plan.

For those facilities with no visible emissions using Method 9 to measure opacity, the maximum length of time between two periodic measurements of opacity was an annual (12-month) period. As the observed opacity increases towards the opacity standard, the maximum period between periodic measurements decreases through semi-annual, quarterly and finally every 45 days. In other words, the higher the observed opacity, the more frequent the required periodic opacity observations. These requirements are found in 60.47c(a). There are similar requirements for using Method 22 which does not require a certified Method 9 observer, but does have a daily and weekly component to the periodic observations.

In the 2009 regulations, this "most frequent" Method 9 observation period was 30 days. However, EPA changed this length of time because this 30-day requirement conflicted with the notification requirements in 40 CFR 60.8(d) in Subpart A. A careful reading of the rules as written in 2011, suggests that EPA intended and requires a facility to notify the delegated authority (in this case DAQ) when the facility conducts this periodic opacity monitoring (performance test) just like it would for the initial performance test. For annual, semi-annual, and quarterly, there is no problem in providing at least 30-days advance notice. The change from 30-days between observations in the 2009 regulations to 45-days in the 2011 regulations allows the 30-day notification requirement in Subpart A to be met.

There are also requirements to submit the periodic opacity monitoring performance test results to the DAQ just as you would with the initial performance test. You must also maintain the records and forms used to conduct the test as well as any supporting documentation and any adjustments made to the boiler in your files for a period of two years from the date you conduct the observation or the adjustment.

Under the NSPS subpart, periods of excess emissions must be reported to DAQ semi-annually. However, your permit may have additional deviation reporting requirements that you should check.

What You May Need to Do

- If you have an approved site-specific monitoring plan or have been using a COMS and continue to do so, there is nothing you need to do at this time. You will have received approval of a site-specific monitoring plan from DAQ and/or had the plan incorporated into your permit.

- If you have not operated the boiler since 2009, and you would have been required to conduct periodic opacity monitoring if you were operating (e.g., you would have burned oil), you should plan to conduct the first periodic monitoring within 45 days of re-starting the boiler and provide DAQ 30 days notification of the periodic monitoring
- If you have been conducting the periodic opacity monitoring as required in the rules but have not previously notified the DAQ of such testing nor provided DAQ with the results of the tests, in the future, you must provide 30 days notification of the periodic monitoring and provide the test results to the DAQ. Keep the records of your previous monitoring and have that available for the inspector at your next DAQ inspection.
- If you have been burning only gaseous fuels since 2009 (with oil back-up), advise DAQ of this situation and plan (to the extent possible) to conduct the visible emissions/opacity evaluation the next time you have the boiler operating normally on liquid fuels. We recognize that the 30 day requirement may not be fulfilled under this scenario if an interruptible gas contract is invoked. However, it is DAQ's interpretation that the advance notification requirement under 60.8 (d) also allows for this set of circumstances.
- If you have not conducted the first required periodic monitoring, you routinely fire liquid fuel and you are otherwise exempted from the COMS requirements you should schedule your initial periodic evaluation and provide DAQ with 30 days advance notice of this test.
- You may develop a site-specific monitoring plan if you burn liquid or gaseous fuels and have it approved in lieu of the periodic opacity monitoring.

Please feel free to contact your DAQ regional office or Gary Saunders at gary.saunders@ncdenr.gov or 919-733-1497 for questions concerning compliance with these requirements.