

Regulatory Updates

Major Source Boiler MACT Reconsideration

Aerospace MACT Risk and Technology Review

Susan Lancey
U.S. EPA Region I



Connecticut SIPRAC Meeting
February 11, 2016

Overview

- Residual Risk and Technology Review (RTR) Background
- National Emission Standards for Hazardous Air Pollutants (NESHAP) for Aerospace Manufacturing and Rework Facilities, 40 CFR Part 63 Subpart GG
 - RTR Amendments
- NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart DDDDD
 - Reconsideration Amendments
- NESHAP/NSPS for Stationary Engines
 - Upcoming electronic reporting for emergency engines in emergency demand response programs

Residual Risk and Technology Review

- Residual risk and technology review (RTR) required within 8 years of promulgation of MACT standards
 - 2-step risk analysis
 1. Determine if risk is acceptable considering health info only, and if not acceptable, tighten standards so risks are acceptable
 2. Determine if standards provide an ample margin of safety, which considers health info, costs and feasibility
- Technology review takes into account new developments in practices, processes and control technologies
- We also consider previously unregulated processes and HAP, and we make technical corrections

2015 RTR Program Rules

- Issued 1 proposal and 10 final rules
 - Off-Site Waste Manufacturing Operations, Published 3/18/15
 - Ferroalloys, Published 6/30/15
 - Mineral Wool, Published 7/29/15
 - Wool Fiberglass, Published 7/29/15
 - Phosphoric Acid Production, Published 8/19/15
 - Phosphate Fertilizer Manufacturing, Published 8/19/15
 - Secondary Aluminum, Published 9/18/15
 - Primary Aluminum, Published 10/15/15
 - Petroleum Refineries, Published 12/1/15
 - Aerospace, Proposal Published 02/17/15; Published 12/7/15

Aerospace Manufacturing and Rework Residual Risk and Technology Review (RTR)

40 CFR Part 63 Subpart GG

Initial Promulgation September 1, 1995

RTR Amendments December 7, 2015

Aerospace NESHAP Amendments

- Summary of Changes
 - **Specialty Coatings:** added requirements to limit organic and inorganic HAP emissions from specialty coating application operations
 - **Electronic Reporting:** added electronic reporting requirements for reporting performance testing through the EPA's CDX
 - **Reporting and Recordkeeping:** simplified requirements for facilities using compliant coatings
 - **Startup, Shutdown, Malfunction (SSM):** eliminated SSM exemptions
 - **Minor technical amendments and clarifications**

Specialty Coatings Requirements

- **Organic HAP Coating Requirements**
 - Organic HAP and VOC coating content limits in Table 1 for uncontrolled coatings (no control device);
 - If coatings contain HAP solvents that are exempt VOCs, must use HAP content to demonstrate compliance
 - Or use control systems to reduce HAP and VOC emissions by 81% or greater

Specialty Coatings Requirements

- **Application equipment requirements** (same as primers and topcoats)
 - Spray-applied coatings use high efficiency spray method (high volume low concentration (HVLC)), electro-static spray application, **airless spray guns and air-assisted airless (added for all coatings not just specialty)**
 - Excludes application of adhesives, sealants, maskants, caulking materials, and inks
 - **Excludes high solid coatings (20 g/L VOC or 20 g/L HAP) (all coatings)**
 - **Excludes hand-held application equipment with paint cup capacity of 3 oz. or less (all coatings not just specialty)**
 - Allows specialty coatings to use another coating application method capable of achieving equivalent transfer efficiency. Owners must maintain records demonstrating transfer efficiency.

Specialty Coating Requirements

- **Inorganic HAP control requirements** for spray-applied coatings containing inorganic HAP (same as primers and topcoats)
 - Apply coatings in a booth, hangar, or **portable enclosure** and either:
 - Pass airstream through dry particulate filter system;
 - Continuously monitor the pressure drop across the filter and record once per shift, **or facilities that use spray booths can use an interlock system that will automatically shut down surface coating if pressure drop deviates from manufacturers recommendations (all coatings)**
 - Or pass airstream through waterwash system (existing sources only);
 - Continuously monitor the water flow rate and record once per shift, **or facilities that use spray booths can use an interlock system that will automatically shut down surface coating if water flow rate deviates from manufacturers recommendations (all coatings)**

Other changes - Definitions

- Spray-applied coating definition- Coatings applied using a device that creates an atomized mist of coatings and deposits the coating on a substrate. Spray-applied coatings are not:
 - Coatings applied using a hand-held device with 3 oz. capacity or less;
 - Powder coating, hand-held non-refillable aerosol containers, or non-atomizing application technology, including but not limited to paint brushes, rollers, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, marking pens, trowels, spatulas, daubers, rags, sponges, mechanically and/or pneumatic driven syringes, and inkjet machines.
 - Adhesives, sealants, maskants, caulking materials, and inks
- Definition and exemption for “Classified National Security Information”

Other Changes

- Added method 311, Analysis of Hazardous Air Pollutant Compounds in Paints and Coatings, as reference method for determining HAP content
- Allow facilities to use coating manufacturers supplied data to demonstrate compliance with content limits for all coatings
- Startup, Shutdown, Malfunctions (SSM): Eliminated SSM exemptions and requirements for SSM plans. Standards apply at all times.

Other Changes

- Electronic Reporting: added electronic reporting requirements for reporting performance testing through the EPA's CDX for test methods supported by the Electronic Reporting Tool (ERT) and listed on the ERT website (www.epa.gov/ttn/chief/ert/index.html)
- Allow any facility not using averaging provisions to keep only annual records of consumption of each coating instead of having to keep monthly records

Compliance Dates

- Compliance dates for SSM requirements and electronic reporting requirements – is effective date of standards December 7, 2015
- Compliance date for existing specialty coating application operations, constructed or reconstructed on or before February 17, 2015, to control organic HAP and inorganic HAP is December 7, 2018
- Compliance date for new specialty coating application operations, constructed or reconstructed after February 17, 2015, to control organic HAP and inorganic HAP is December 7, 2015, or upon startup, whichever is later

Major Source Boiler and Process Heater MACT Reconsideration

40 CFR Part 63 Subpart DDDDD

IMPORTANT DATES (§63.7495)

- **Proposal Date – June 4, 2010**
 - Units which commenced construction before proposal are considered **EXISTING** units

- **Promulgation – March 21, 2011**
 - Compliance date for existing sources: March 21, 2014

- **Reconsideration (1st) – January 31, 2013**
 - Compliance date for existing sources: January 31, 2016

- **Reconsideration (2nd) – November 20, 2015**

Reconsideration (2nd)

- Proposed on January 21, 2015
- Final notice signed on November 5, 2015
- Published on November 20, 2015
- Effective date: November 20, 2015
- Compliance date for existing sources: January 31, 2016

Issues Granted Reconsideration (2nd)

- Definition of startup and shutdown periods and the work practices that apply during such periods
 - November 2015 final rule finalized the alternate definition and work practice for periods of startup.
- January 2013 revised CO limits based on a minimum CO level of 130 parts per million (ppm)
 - November 2015 final rule retained these limits
- The use of PM CPMS, including the consequences of exceeding the operating parameter
 - November 2015 final rule retained these requirements

Reconsideration (2nd)

Finalized technical corrections/clarifications. Significant changes are:

- Opacity Operating Limit
 - Removed the need to request an alternative opacity limit through rulemaking by adding that the opacity operating limit can be established during the performance test consistent with the other operating limits.
- Start-up work practice
 - Clarified that variance to the PM controls requirement can be granted by the state, local or tribal authority, instead of by rulemaking, to provide a more streamlined procedure.
- Clarified that natural gas-fired EGUs firing at least 85% natural gas are not subject to Boiler MACT
- Corrected the compliance date for EGUs that become subject to Boiler MACT
- Removed the startup and shutdown recordkeeping requirements for gas-fired affected units
- Finalized the removal of the affirmative defense provision

Startup and Shutdown - Definitions

Startup means:

- (1) Either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying **useful thermal energy** 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 **useful thermal energy** or heat from the boiler or process heater is supplied for heating, and/or producing electricity, or for any other purpose, or
- (2) The period in which operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier.

Startup and Shutdown - Definitions

- *Shutdown* means the period in which cessation of operation of a boiler or process heater is initiated for any purpose. Shutdown begins when the boiler or process heater no longer supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes and/or generates electricity or when no fuel is being fed to the boiler or process heater, whichever is earlier. Shutdown ends when the boiler or process heater no longer supplies useful thermal energy (such as steam or heat) for heating, cooling, or process purposes and/or generates electricity, and no fuel is being combusted in the boiler or process heater.

Startup Work Practice Item 5 of Table 3 of subpart DDDDD

- Item 5.a - Must operate all CMS during startup
- Item 5.b - Must use one or combination of clean fuels: natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, **clean dry biomass, and any fuels meeting the HCL, mercury or TSM emission standards by fuel analysis**
- Item 5.c.(1) – for “startup” definition 1
 - When start firing fuels that are not clean fuels, must vent emissions to main stack and engage all of the applicable control devices except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR.
 - Must start limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible.

Startup Work Practice (cont.)

- Item 5.c.(2) – for “startup” definition 2
 - Once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other applicable standards that require operation of the control devices. You must develop and implement a written startup and shutdown plan.
 - Sources can apply to the delegated state for a variance from the PM controls requirement. Requires a documented manufacturer-identified safety issue and documentation that PM control device is adequately sized to meet the PM emission limit.
- Item 5.d.
 - Must comply with emission limits at all times, except startup and shutdown periods meeting the work practice standard.
 - Must collect monitoring data during startup periods.
 - Must keep records during periods of startup.
 - You must provide reports concerning activities and periods of startup.

Shutdown Work Practice – Table 3 Item 6

- You must operate all CMS during shutdown
- When firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR, but in any case, when necessary to comply with other standards
- If another fuel must be used to support shutdown, that additional fuel must be 1 of the following clean fuels: natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas

Shutdown Work Practice (cont'd)

- Must comply with emission limits at all times, except startup and shutdown periods meeting the work practice standard.
- Must collect monitoring data during shutdown periods.
- Must keep records during periods of shutdown.
- You must provide reports concerning activities and periods of shutdown.

Notifications

- Initial Notification of Applicability
 - Existing sources – No later than May 31, 2013
 - New sources – Within 120 days after source becomes subject

- New Sources
 - Notification of Intent to Construct (Section 63.9(b)(4))
 - Notification of Actual Startup (Section 63.9(b)(4))
 - within 15 days after startup

Notifications

- Notification of Performance Evaluation of Continuous Monitoring System (Section 63.9(g))
 - 60 days prior
- Notification of Compliance Status (NOCS) (63.7545(e))
 - No later than 60 days after completion of all initial compliance demonstrations
 - If not required to conduct an initial compliance performance test, the NOCS **must be submitted within 60 days of the compliance date specified at 63.7495(b).**
- Notification of fuel switch, physical change, or permit limitation resulting in applicability (63.7545(h))
 - Within 30 days of the switch/change

Notifications

- Notification of Performance Test
 - 60 days before
- Notification of Intent to use another fuel during period of natural gas curtailment [section 63.7545(f)]
 - Within 48 hours of declaration of curtailment
 - Only units in the Gas 1 subcategory
- Implementation Plan to Demonstrate Compliance by Emission Averaging [section 63.7522(g)(1)]
 - 180 days prior to date of testing, if requested
- Notification of Intent to commence combustion of solid waste (§63.7545(g))
 - 30 days prior to date of solid waste combustion

Reporting

Compliance certification report

- Semi-annually, except in some cases annually, biennially or every 5 years
 - Semi-annual reports due by July 31 or January 31
 - **First semi-annual reporting period starts January 31, 2016 and ends December 31, 2016. The first semi-annual report is due January 31, 2017.**
 - Must submit annual, biennial, and 5 year reports no later than January 31 within 1, 2, or 5 years after the compliance date
- **Electronic Reports:** Must submit **all ongoing compliance reports, test results, CEMS audits** results electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx)

Reciprocating Internal Combustion Engines (RICE) NESHAP and NSPS

40 CFR Part 63 Subpart ZZZZ

40 CFR Part 60 Subparts III and JJJJ

Upcoming Electronic Reporting

- Electronic Reporting for Emergency RICE >100 HP that are:
 - Operated or contractually obligated to be available >15 hr/yr for emergency demand response or voltage/frequency deviation, or operated for local reliability
- Beginning with 2015 operation, report electronically by March 31, 2016
- Submit report electronically through the Compliance and Emissions Data Reporting Interface (CEDRI)
 - Accessed through EPA's Central Data Exchange at <http://www.epa.gov/cdx>

Emergency Engine Operational Limitations

- Unlimited use for emergencies (e.g., power outage, fire, flood)
- 100 hours/year for a combination of:
 - maintenance/testing
 - emergency demand response if Energy Emergency Alert (EEA) Level 2 declared by reliability coordinator
 - deviation of voltage or frequency by 5% or greater below the standard

Emergency Engine Operational Limitations (cont'd)

- 50 hr/yr of the 100 hr/yr allocation can be used for:
 - non-emergency situations if no financial arrangement
 - local reliability as part of a financial arrangement with another entity (only for NESHAP area sources and NSPS) if:
 - engine dispatched by local balancing authority or local transmission and distribution system operator
 - dispatch mitigates local transmission and/or distribution system limitations
 - dispatch follows reliability, emergency operation or similar protocols by NERC, regional, state, public utility commission or local standards
 - power is provided only to the facility itself or to support local system

For More Information

For Sources in New England:

Susan Lancey

EPA Region I

617-918-1656

Lancey.susan@epa.gov

Risk and Technology Reviews

www3.epa.gov/ttn/atw/rrisk/rtrpg.html

NESHAP Rules

www3.epa.gov/ttn/atw/mactfnlalph.html