

## **Area Source Boilers**

### **National Emission Standards for Hazardous Air Pollutants Subpart JJJJJJ Guidance Document**

#### **Applicable Citations per Source Classification, Boiler Fuel Type, & Size**

*Based on March 21, 2011 Rule (currently under reconsideration)*

11-010



Nebraska Department  
of Environmental Quality

*The intent of this document is to provide an assistance tool for complying with the National Emission Standards for Hazardous Air Pollutant regulations. These tables are by no means inclusive and are not meant to serve as a substitute for being aware of and understanding all applicable regulations.*

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## Introduction

The Environmental Protection Agency (EPA) developed regulations to reduce hazardous air pollutant emissions from commercial, industrial, and institutional boilers located at area sources of hazardous air pollutants (HAPs). These regulations were finalized March 21, 2011 (effective May 20, 2011). The regulations are found in 40 Code of Federal Regulations Part 63 – National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart JJJJJJ for Area Sources – Commercial, Industrial, and Institutional Boilers.

This regulation only applies to boilers burning coal, oil, or biomass located at an area source of hazardous air pollutants. Gas-fired boilers are exempt from this regulation. A gas-fired boiler means any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel cannot exceed a combined total of 48 hours per year.

The intent of this document is to provide a tool to assist in complying with the NESHAP regulations. Be advised that these tables are not inclusive and are not a substitute for being aware of and understanding all applicable regulations.

## How to Use This Document

### 1. Determine if You are an Area or Major Source

The first step is to determine if your source is an *area* or *major* source of hazardous air pollutants (HAPs). *Area sources* emit or have the potential-to-emit less than 10 tons per year of a single HAP or 25 tons per year of combined HAPs. *Major sources* emit or have the potential-to-emit greater than or equal to 10 tons per year of a single HAP or 25 tons per year of combined HAPs.

Potential-to-emit is the maximum quantity of HAPs a source could emit in a year given its physical and operational design. Your potential emissions can include reductions for control equipment or other process limitations if they are included in a federally enforceable permit or applicable federal regulation. If you need help determining whether you are an area or major source of HAP, contact the Nebraska Department of Environmental Quality (NDEQ) Air Quality Permit Hotline at 877-834-0474.

Area sources with boilers fueled by coal, oil, and biomass are subject to NESHAP Subpart JJJJJJ. Major sources with boilers and process heaters are subject to NESHAP Subpart DDDDD. The requirements of NESHAP Subpart DDDDD are currently stayed and are not in effect. For more information, visit the Air Toxics Notebook at [www.deq.state.ne.us/AirToxic.nsf/pages/DDDDD](http://www.deq.state.ne.us/AirToxic.nsf/pages/DDDDD).

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## 2. Determine if Your Boiler is New or Existing

Next, you'll need to determine if your boiler is classified as *existing* or *new* under the NESHAP regulations.

You are an *existing source* if:

- The unit was installed or built on-site on or before 6/4/10.

You are a *new source* if:

- The unit was installed, built on-site, or reconstructed after 6/4/10.

## 3. Determine Your Boiler Fuel Type (Subcategory) & Size

The boiler regulations are categorized by boiler size, type of fuel burned, and source classification. The rule defines a boiler as an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state or near steady-state process wherein fuel and/or oxidizer feed rates are controlled. Waste heat boilers are excluded.

You'll make the following determinations for each boiler:

- Fuel type (subcategory)
  - *Coal-fired* = Burns any solid fossil fuel and no more than 15% biomass on an annual heat input basis.
  - *Biomass-fired* = Burns at least 15% biomass fuel on an annual heat input basis.
    - Biomass = biomass-based solid fuel that is not a solid waste. To determine if the material you are burning is a non-hazardous solid waste, 40 CFR Part 241 Subparts A and B or EPA's website at [www.epa.gov/epawaste/nonhaz/define/index.htm](http://www.epa.gov/epawaste/nonhaz/define/index.htm).
    - Biomass and bio-based fuels include, but are not limited to, wood residue; wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds.
  - *Oil-fired* = Burns any liquid fuel and is not in the biomass or coal subcategory. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel are not considered oil-fired. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours per year.
- Size
  - Identify the heat input capacity of the boiler in million British thermal units per hour (MMBtu/hr).

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#### **4. Locate the Appropriate Table Based on Size, Fuel Type, and Source Classification**

In the following tables, locate your type of boiler based on its size, fuel type, and source classification.

Existing boilers are listed first and new/reconstructed sources follow. The tables include the requirements based on the fuel type (subcategory) and size. Each table also includes regulatory citations from 40 CFR Part 63 NESHAP Subpart JJJJJJ. The tables are divided into subsections including: applicability; general requirements and provisions, compliance, notifications, reports, and records. Following the subsection citations is a general summary of the requirements. Be sure to read the rule citation for the specific requirements.

*Note: The Table of Contents includes a hyperlink to each boiler table within the document. A hyperlink is located at the end of each table which will take you back to the Table of Contents.*

#### **Resources and Tools Available**

The NDEQ Air Toxics Notebook located at [www.deq.state.ne.us/AirToxic.nsf/pages/JJJJJJ](http://www.deq.state.ne.us/AirToxic.nsf/pages/JJJJJJ) contains the electronic Code of Federal Regulations link for the rule citations, federal register documents, guidance documents, training materials, and other helpful information.

You can also find the page by going to the NDEQ website and selecting "Focus on Air." The Air Toxics Notebook is under the Air Toxics Program. From the Notebook, select Subpart JJJJJJ – Boilers – Area Sources. EPA's boiler website can be found at [www.epa.gov/ttn/atw/boiler/boilerpg.html](http://www.epa.gov/ttn/atw/boiler/boilerpg.html). You can also contact the NDEQ Air Toxics Coordinator at (402) 471-2189.

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## Existing Coal-Fired Boiler $\geq$ 10 MMBtu/hr

REQUIREMENTS	CITATION
<b>Applicability</b>	63.11193 = Who is Subject
	63.11194 (a)(1); (b); and (e) = Affected Source
	63.11200 = Subcategories
<b>General Requirements and Provisions</b>	63.11205 (a) = General Compliance
	63.11226 = Affirmative Defense
	63.11235 & Table 8 = General Provisions
	63.11236 = Implementation & Enforcement
	63.11237 = Definitions
<b>Compliance</b>	63.11196 (a) and (d) = Compliance Date
	63.11201 = Standards
	63.11205 (b) and (c) = General Compliance
	63.11210 (a); (b); (c); and (e) = Initial Compliance
	63.11211 = Initial Compliance with Emission Limits
	63.11212 = Performance Tests
	63.11213 = Fuel Analysis
	63.11214 (c) and (d) = Initial Compliance with Work Practice
	63.11220 = Subsequent Tests
	63.11221 = Monitoring
	63.11222 = Continuous Compliance with Emission Limit
	63.11223 (c) = Continuous Compliance with Work Practice
	63.11224 = Monitoring, Installation, Operation, & Maintenance
Table 1 (#6); Table 2 (#1 & #4); Table 3; Table 4; Table 5; Table 6; and Table 7	
<ul style="list-style-type: none"> <li>• <i>This source must be in compliance with the startup and shutdown requirements by March 21, 2012. They must be in compliance with the emission limits and energy assessment by March 21, 2014.</i></li> <li>• <i>The source is required to meet a mercury emission limit of .0000048 lb/MMBtu and a</i></li> </ul>	

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carbon monoxide limit of 400 ppm by volume @ 3% oxygen.

- *The source must minimize the boiler's startup and shutdown periods following the manufacturer's recommendations. If the manufacturer's procedures are not available, they must follow recommendations for a similar unit.*
- *The source must conduct a one-time energy assessment performed by a qualified energy assessor, as defined by the rule. The assessment must include the following:*
  - *Visual inspection of the unit;*
  - *Facility energy evaluation;*
  - *Inventory of major energy consuming systems at the facility;*
  - *Review plans, operation, maintenance, and fuel usage for facility;*
  - *A listing of major energy conservation measures;*
  - *A listing of the energy savings potential of identified energy conservation measures; and*
  - *The development of a report detailing ways to improve efficiency, cost, benefits, and a timeframe for recouping investments.*
- *If the source is exempt from this rule because they are currently combusting solid waste and comply with the incinerator requirements, but eventually cease combusting solid waste, they must comply with this rule on the date they stop burning waste and start burning fuel.*
- *The source may elect to demonstrate compliance with the mercury limit by conducting fuel analysis or by stack testing.*
- *If the source conducts stack testing to comply with an emission limit and subsequent operating parameters and they are using a continuous emissions monitor (CEMS) or continuous opacity monitor (COMS), they must develop a site-specific monitoring plan. The plan must be developed and submitted (upon request) 60 days prior to the initial performance evaluation. If the source was already required to develop a monitoring plan under 40 CFR Part 60 Appendix B, a new plan is not required.*
- *If the source uses control equipment to comply with an emission limit and subsequent operating parameters, they must develop a site-specific monitoring plan. The plan must be developed (and submitted to NDEQ upon request) 60 days prior to the initial performance evaluation.*
- *All continuous monitoring systems must be properly installed, maintained, and operated at all times.*
- *Initial compliance demonstrations with the emission limits must be conducted no later than 180 days after the compliance date.*
- *The following requirements are specific to the method utilized in demonstrating continuous compliance with emission limits:*
  - *Fabric filter: must maintain opacity to  $\leq$  10% or install and operate a bag leak detection system.*
  - *Electrostatic Precipitator: must maintain opacity to  $\leq$  10% or maintain the secondary power input at or above what was measured during the most recent stack test.*
  - *Wet Particulate Matter (PM) Scrubber: must maintain the pressure drop and liquid flow rate at or above the levels established during the most recent stack test.*
  - *Dry Sorbent or Carbon Injection: must maintain injection rate at or above the levels established during the most recent stack test. When the boiler operates at lower loads, multiply the injection rate by the load fraction (actual heat input divided by heat input during stack test).*
  - *Other Dry Control Systems: must maintain opacity to  $\leq$  10%.*
  - *Mercury Limit using Fuel Analysis: test fuel samples monthly and maintain*

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<ul style="list-style-type: none"> <li>○ <i>the fuel type or mixture below the emission limits.</i></li> <li>○ <i>Carbon monoxide limit: a continuous oxygen monitor must be installed and operated. The oxygen level must be at or above the levels established during the most recent stack test.</i></li> <li>○ <i>Opacity limit: a COMS must be properly operated and installed.</i></li> <li>● <i>The operating load of each unit cannot exceed 110% of the average load recorded during the most recent stack test.</i></li> <li>● <i>Subsequent performance testing must be conducted every three years.</i></li> </ul>	
<b>Notifications</b>	63.11225 (a); (f); and (g)
<ul style="list-style-type: none"> <li>● <i>An initial notification is required to be submitted by September 17, 2011.</i></li> <li>● <i>A notice of intent to test is required 60 days prior to the stack test.</i></li> <li>● <i>A compliance status notification is required 60 days after the stack test.</i></li> <li>● <i>If the source intends to combust solid waste, a notification must be submitted 30 days prior to initiation of the combustion of the waste.</i></li> <li>● <i>If the source intends to do either of the following, they source must provide a 30 day notification prior to the change:</i> <ul style="list-style-type: none"> <li>○ <i>change fuels and the fuel change may result in the applicability of a different subcategory; or</i></li> <li>○ <i>change to 100% natural gas.</i></li> </ul> </li> </ul>	
<b>Reports</b>	63.11225 (b) and (e)
<ul style="list-style-type: none"> <li>● <i>By March 1<sup>st</sup> of each year, the source must prepare an annual compliance report. The report must be submitted to the permitting authority if requested or if there are deviations. If there are deviations, the report must be submitted by March 15<sup>th</sup>.</i></li> <li>● <i>Within 60 days of completing a stack test, the source must submit the test data electronically to EPA's Electronic Reporting Tool at <a href="http://www.epa.gov/ttn/chief/ert/ert_tool.html">www.epa.gov/ttn/chief/ert/ert_tool.html</a>.</i></li> </ul>	
<b>Records</b>	63.11225 (c) and (d)
<ul style="list-style-type: none"> <li>● <i>The source must keep a copy of each report and notification submitted to the permitting authority.</i></li> <li>● <i>If the source burns non-hazardous secondary material that has been determined to be a legitimate fuel, all documentation must be kept for verification.</i></li> <li>● <i>The source must keep records of the type and amount of fuel burned monthly and fuel analysis conducted.</i></li> <li>● <i>The source must keep records of the occurrence and duration of each malfunction of the unit, air pollution control equipment, or monitoring system.</i></li> <li>● <i>Records of the corrective actions taken during periods of malfunction to minimize emissions must be kept.</i></li> <li>● <i>The manufacturer's recommendations must be available to demonstrate compliance with the startup and shutdown procedures.</i></li> <li>● <i>All monitoring, stack test, and inspection data and records to demonstrate compliance must be kept.</i></li> <li>● <i>All records must be in a suitable form and readily available for expeditious review. All records must be kept for five years and two years of records must be kept on-site.</i></li> </ul>	

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## Existing Biomass- or Oil-Fired Boiler $\geq$ 10 MMBtu/hr

REQUIREMENTS	CITATION
<b>Applicability</b>	63.11193 = Who is Subject
	63.11194 (a)(1); (b); and (e) = Affected Source
	63.11200 = Subcategories
<ul style="list-style-type: none"> <li>• <i>This source owns or operates an industrial, commercial, or institutional boiler that burns coal, oil, or biomass and is located an area source of hazardous air pollutant (HAP).</i></li> <li>• <i>They are not required to obtain a Title V permit solely due to this subpart.</i></li> <li>• <i>They are an existing source (commenced construction on or before 6/4/10).</i></li> </ul>	
<b>General Requirements and Provisions</b>	63.11205 (a) = General Compliance
	63.11226 = Affirmative Defense
	63.11235 & Table 8 = General Provisions
	63.11236 = Implementation & Enforcement
	63.11237 = Definitions
<ul style="list-style-type: none"> <li>• <i>Sources must comply with limitations at all times. They must operate in a manner consistent with good air pollution control practices and have a general duty to minimize emissions at all times.</i></li> <li>• <i>In response to an action to enforce the applicable standards, sources may assert an affirmative defense to a claim for civil penalties for exceedances of the numerical emission limits.</i></li> <li>• <i>Sources must comply with the applicable requirements of Subpart A – General Provisions.</i></li> <li>• <i>The EPA can delegate to the State the authority to enforce and implement the subpart requirements. The EPA maintains authority over approval of specified compliance alternatives.</i></li> <li>• <i>The definitions apply to all sources subject to the rule.</i></li> </ul>	
<b>Compliance</b>	63.11196 (a)(1); (a)(3); and (d) = Compliance Date
	63.11201 (b) and (d) = Standards
	63.11210 (c) and (e) = Initial Compliance
	63.11214 (b) and (c) = Initial Compliance with Work Practice
	63.11223 (a) and (b) = Continuous Compliance with Work Practice
	Table 2 (#3 & #4)
<ul style="list-style-type: none"> <li>• <i>This source must be in compliance with the tune-up requirements by March 21, 2012. They must conduct the energy assessment by March 21, 2014.</i></li> <li>• <i>The source must conduct a biennial tune-up of the boiler. The tune-up must be performed no more than 25 months after the previous tune-up. The tune-up must include the following:</i> <ul style="list-style-type: none"> <li>○ <i>Inspection of the burner, clean/replace components as necessary;</i></li> <li>○ <i>Inspection of the flame pattern and perform necessary adjustments to optimize the pattern;</i></li> <li>○ <i>Inspection and calibration of the system controlling the air-to-fuel ratio;</i></li> <li>○ <i>Optimize the boiler consistent with the manufacturer specifications to reduce carbon monoxide (CO) emissions;</i></li> <li>○ <i>Measurement of the CO emissions before and after the adjustments; and</i></li> <li>○ <i>Maintenance on-site of an annual report of the tune-up, including all documentation/findings, and it must be available for submission upon request. The report must include:</i> <ul style="list-style-type: none"> <li>▪ <i>CO and oxygen (O<sub>2</sub>) emissions; and</i></li> <li>▪ <i>Fuel usage</i></li> </ul> </li> <li>○ <i>If the unit isn't operating during the time of the scheduled tune-up, the tune-up must</i></li> </ul> </li> </ul>	

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*be conducted within 1 week.*

- *The source must conduct a one-time energy assessment performed by a qualified energy assessor, as defined by the rule. The assessment must include:*
  - *Visual inspection of unit;*
  - *Facility energy evaluation;*
  - *Inventory of major energy consuming systems at the facility;*
  - *Review plans, operation and maintenance, and fuel usage for facility;*
  - *A listing of major energy conservation measures;*
  - *A listing of the energy savings potential of identified energy conservation measures; and*
  - *The development of a report detailing ways to improve efficiency, cost, benefits, and a timeframe for recouping investments.*
- *If the source is exempt from this rule because they are currently combusting solid waste and comply with the incinerator requirements, but eventually cease combusting solid waste, they must comply with this rule on the date they stop burning waste and start burning fuel.*

**Notifications**

63.11225 (a); (f); and (g)

- *An initial notification is required to be submitted by September 17, 2011.*
- *A compliance status notification is due 120 days after the compliance date.*
- *If the source intends to combust solid waste, a notification must be submitted 30 days prior to initiation of the combustion of the waste.*
- *If the source intends to do either of the following, they source must provide a 30 day notification prior to the change:*
  - *change fuels and the fuel change may result in the applicability of a different subcategory; or*
  - *change to 100% natural gas.*

**Reports**

63.11225 (b)

- *By March 1<sup>st</sup> of each year, the source must prepare an annual compliance report. The report must be submitted to the permitting authority if requested or if there are deviations. If there are deviations, the report must be submitted by March 15<sup>th</sup>.*

**Records**

63.11225 (c) and (d)

- *The source must keep a copy of each report and notification submitted to the permitting authority.*
- *If the source burns non-hazardous secondary material that has been determined to be a legitimate fuel, all documentation must be kept for verification.*
- *The source must keep records of the occurrence and duration of each malfunction of the unit, air pollution control equipment, or monitoring system.*
- *Records of the corrective actions taken during periods of malfunction to minimize emissions must be kept.*
- *The manufacturer's recommendations must be available to demonstrate compliance with the startup and shutdown procedures.*
- *All inspection, tune-up, and maintenance records to demonstrate compliance must be kept.*
- *All records must be in a suitable form and readily available for expeditious review. All records must be kept for five years and two years of records must be kept on-site.*

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## Existing Coal-, Biomass-, or Oil-Fired Boiler < 10 MMBtu/hr

REQUIREMENTS	CITATION
<b>Applicability</b>	63.11193 = Who is Subject
	63.11194 (a)(1); (b); and (e) = Affected Source
	63.11200 = Subcategories
<ul style="list-style-type: none"> <li>• <i>This source owns or operates an industrial, commercial, or institutional boiler that burns coal, oil, or biomass and is located an area source of hazardous air pollutant (HAP).</i></li> <li>• <i>They are not required to obtain a Title V permit solely due to this subpart.</i></li> <li>• <i>They are an existing source (commenced construction on or before 6/4/10).</i></li> </ul>	
<b>General Requirements and Provisions</b>	63.11205 (a) = General Compliance
	63.11226 = Affirmative Defense
	63.11235 & Table 8 = General Provisions
	63.11236 = Implementation & Enforcement
	63.11237 = Definitions
<ul style="list-style-type: none"> <li>• <i>Sources must comply with limitations at all times. They must operate in a manner consistent with good air pollution control practices and have a general duty to minimize emissions at all times.</i></li> <li>• <i>In response to an action to enforce the applicable standards, sources may assert an affirmative defense to a claim for civil penalties for exceedances of the numerical emission limits.</i></li> <li>• <i>Sources must comply with applicable requirements of Subpart A – General Provisions.</i></li> <li>• <i>The EPA can delegate to the State the authority to enforce and implement the subpart requirements. The EPA maintains authority over approval of specified compliance alternatives.</i></li> <li>• <i>The definitions apply to all sources subject to the rule.</i></li> </ul>	
<b>Compliance</b>	63.11196 (a)(1) and (d) = Compliance Date
	63.11201 (b) and (d) = Standards
	63.11210 (c) and (e) = Initial Compliance
	63.11214 (a) or (b) = Initial Compliance with Work Practice
	63.11223 (a) and (b) = Continuous Compliance with Work Practice
	Table 2 (#2 or #3)
<ul style="list-style-type: none"> <li>• <i>This source must be in compliance with the tune-up requirements by March 21, 2012.</i></li> <li>• <i>The source must conduct a biennial tune-up of the boiler. The tune-up must be performed no more than 25 months after the previous tune-up. The tune-up must include the following:</i> <ul style="list-style-type: none"> <li>○ <i>Inspection of the burner, clean/replace components as necessary;</i></li> <li>○ <i>Inspection of the flame pattern and perform necessary adjustments to optimize the pattern;</i></li> <li>○ <i>Inspection and calibration of the system controlling the air-to-fuel ratio;</i></li> <li>○ <i>Optimize the boiler consistent with manufacturer’s specifications to reduce carbon monoxide (CO) emissions;</i></li> <li>○ <i>Measurement of the CO emissions before and after adjustments; and</i></li> <li>○ <i>Maintenance on-site of an annual report of tune-up, including all documentation/findings, and it must be available for submission upon request. The report must include:</i> <ul style="list-style-type: none"> <li>▪ <i>CO and oxygen (O<sup>2</sup>) emissions; and</i></li> </ul> </li> </ul> </li> </ul>	

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<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>▪ <i>Fuel usage</i> <ul style="list-style-type: none"> <li>○ <i>If the unit isn't operating during the time of the scheduled tune-up, the tune-up must be conducted within 1 week.</i></li> </ul> </li> </ul> </li> <li>• <i>If the source is exempt from this rule because they are currently combusting solid waste and comply with the incinerator requirements, but eventually cease combusting solid waste, they must comply with this rule on the date they stop burning waste and start burning fuel.</i></li> </ul>	
<b>Notifications</b>	63.11225 (a); (f); and (g)
<ul style="list-style-type: none"> <li>• <i>An initial notification is required to be submitted by September 17, 2011.</i></li> <li>• <i>A compliance status notification is due 120 days after the compliance date.</i></li> <li>• <i>If the source intends to combust solid waste, a notification must be submitted 30 days prior to initiation of combustion of the waste.</i></li> <li>• <i>If the source intends to do either of the following, they source must provide a 30 day notification prior to the change:</i> <ul style="list-style-type: none"> <li>○ <i>change fuels and the fuel change may result in the applicability of a different subcategory; or</i></li> <li>○ <i>change to 100% natural gas.</i></li> </ul> </li> </ul>	
<b>Reports</b>	63.11225 (b)
<ul style="list-style-type: none"> <li>• <i>By March 1<sup>st</sup> of each year, the source must prepare an annual compliance report. The report must be submitted to the permitting authority if requested or if there are deviations. If there are deviations, the report must be submitted by March 15<sup>th</sup>.</i></li> </ul>	
<b>Records</b>	63.11225 (c) and (d)
<ul style="list-style-type: none"> <li>• <i>The source must keep a copy of each report and notification submitted to the permitting authority.</i></li> <li>• <i>If the source burns non-hazardous secondary material that has been determined to be a legitimate fuel, all documentation must be kept for verification.</i></li> <li>• <i>The source must keep records of the occurrence and duration of each malfunction of the unit, air pollution control equipment, or monitoring system.</i></li> <li>• <i>Records of the corrective actions taken during periods of malfunction to minimize emissions must be kept.</i></li> <li>• <i>The manufacturer's recommendations must be available to demonstrate compliance with the startup and shutdown procedures.</i></li> <li>• <i>All inspection, tune-up, and maintenance records to demonstrate compliance must be kept.</i></li> <li>• <i>All records must be in a suitable form and readily available for expeditious review. All records must be kept for five years and two years of records must be kept on-site.</i></li> </ul>	

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## New Coal-Fired Boiler $\geq$ 10 MMBtu/hr

REQUIREMENTS	CITATION
<b>Applicability</b>	63.11193 = Who is Subject
	63.11194 (a)(2); (c); (d); and (e) = Affected Source
	63.11200 = Subcategories
<b>General Requirements and Provisions</b>	63.11205 (a) = General Compliance
	63.11226 = Affirmative Defense
	63.11235 & Table 8 = General Provisions
	63.11236 = Implementation & Enforcement
	63.11237 = Definitions
<b>Compliance</b>	63.11196 (b) or (c); and (d) = Compliance Date
	63.11201 = Standards
	63.11205 (b) and (c) = General Compliance
	63.11210 (a); (d); and (e) = Initial Compliance
	63.11211 = Initial Compliance with Emission Limits
	63.11212 = Performance Tests
	63.11213 = Fuel Analysis
	63.11214 (d) = Initial Compliance with Work Practice
	63.11220 = Subsequent Tests
	63.11221 = Monitoring
	63.11222 = Continuous Compliance with Emission Limit
	63.11223 (c) = Continuous Compliance with Work Practice
	63.11224 = Monitoring, Installation, Operation, & Maintenance
Table 1 (#1 or #2); Table 2 (#1); Table 3; Table 4; Table 5; Table 6; and Table 7	
<ul style="list-style-type: none"> <li>• <i>The source must be in compliance by May 20, 2011 or upon startup, whichever is later.</i></li> <li>• <i>Units with a heat input capacity of <math>\geq</math> 30 MMBtu/hr are required to meet a particulate matter limit of .03 lb/MMBtu, a mercury emission limit of .0000048 lb/ MMBtu, and a carbon monoxide limit of 400 ppm by volume @ 3% oxygen.</i></li> <li>• <i>Units with a heat input capacity between 10-30 MMBtu/hr are required to meet a particulate</i></li> </ul>	

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matter limit of .42 lb/MMBtu, a mercury emission limit of .0000048 lb/ MMBtu, and a carbon monoxide limit of 400 ppm by volume @ 3% oxygen.

- The source must minimize the boiler's startup and shutdown periods following the manufacturer's recommendations. If the manufacturer's procedures are not available, they must follow recommendations for a similar unit.
- The source must conduct a one-time energy assessment performed by a qualified energy assessor, as defined by the rule. The assessment must include the following:
  - Visual inspection of the unit;
  - Facility energy evaluation;
  - Inventory of major energy consuming systems at the facility;
  - Review plans, operation, maintenance, and fuel usage for facility;
  - A listing of major energy conservation measures;
  - A listing of the energy savings potential of identified energy conservation measures; and
  - The development of a report detailing ways to improve efficiency, cost, benefits, and a timeframe for recouping investments.
- If the source is exempt from this rule because they are currently combusting solid waste and comply with the incinerator requirements, but eventually cease combusting solid waste, they must comply with this rule on the date they stop burning waste and start burning fuel.
- The source may elect to demonstrate compliance with the mercury limit by conducting fuel analysis or by stack testing.
- If the source conducts stack testing to comply with an emission limit and subsequent operating parameters and they are using a continuous emissions monitor (CEMS) or continuous opacity monitor (COMS), they must develop a site-specific monitoring plan. The plan must be developed and submitted (upon request) 60 days prior to the initial performance evaluation. If the source was already required to develop a monitoring plan under 40 CFR Part 60 Appendix B, a new plan is not required.
- If the source uses control equipment to comply with an emission limit and subsequent operating parameters, they must develop a site-specific monitoring plan. The plan must be developed (and submitted to NDEQ upon request) 60 days prior to the initial performance evaluation.
- All continuous monitoring systems must be properly installed, maintained, and operated at all times.
- Initial compliance demonstrations with the emission limits must be conducted no later than September 17, 2011 or within 180 days of startup, whichever is later.
- The following requirements are specific to the method utilized in demonstrating continuous compliance with emission limits:
  - Fabric filter: must maintain opacity to  $\leq 10\%$  or install and operate a bag leak detection system.
  - Electrostatic Precipitator: must maintain opacity to  $\leq 10\%$  or maintain the secondary power input at or above what was measured during the most recent stack test.
  - Wet Particulate Matter (PM) Scrubber: must maintain the pressure drop and liquid flow rate at or above the levels established during the most recent stack test.
  - Dry Sorbent or Carbon Injection: must maintain injection rate at or above the levels established during the most recent stack test. When the boiler operates at lower loads, multiply the injection rate by the load fraction (actual heat input divided by heat input during stack test).
  - Other Dry Control Systems: must maintain opacity to  $\leq 10\%$ .
  - Mercury Limit using Fuel Analysis: test fuel samples monthly and maintain the

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<ul style="list-style-type: none"> <li>○ fuel type or mixture below the emission limits.</li> <li>○ Carbon monoxide limit: a continuous oxygen monitor must be installed and operated. The oxygen level must be at or above the levels established during the most recent stack test.</li> <li>○ Opacity limit: a COMS must be properly operated and installed.</li> </ul> <ul style="list-style-type: none"> <li>● The operating load of each unit cannot exceed 110% of the average load recorded during the most recent stack test.</li> <li>● Subsequent performance testing must be conducted every three years.</li> </ul>	
<b>Notifications</b>	63.11225 (a); (f); and (g)
<ul style="list-style-type: none"> <li>● An initial notification is required to be submitted by September 17, 2011 or 120 days after startup.</li> <li>● A notice of intent to test is required 60 days prior to a stack test.</li> <li>● A compliance status notification is required 60 days after a stack test. If a stack test is not required, the compliance status notification is due 120 days after the compliance date.</li> <li>● If the source intends to combust solid waste, a notification must be submitted 30 days prior to initiation of the combustion of the waste.</li> <li>● If the source intends to do either of the following, they source must provide a 30 day notification prior to the change: <ul style="list-style-type: none"> <li>○ change fuels and the fuel change may result in the applicability of a different subcategory; or</li> <li>○ change to 100% natural gas.</li> </ul> </li> </ul>	
<b>Reports</b>	63.11225 (b) and (e)
<ul style="list-style-type: none"> <li>● By March 1<sup>st</sup> of each year, the source must prepare an annual compliance report. The report must be submitted to the permitting authority if requested or if there are deviations. If there are deviations, the report must be submitted by March 15<sup>th</sup>.</li> <li>● Within 60 days of completing a stack test, the source must submit the test data electronically to EPA's Electronic Reporting Tool at <a href="http://www.epa.gov/ttn/chief/ert/ert_tool.html">www.epa.gov/ttn/chief/ert/ert_tool.html</a>.</li> </ul>	
<b>Records</b>	63.11225 (c) and (d)
<ul style="list-style-type: none"> <li>● The source must keep a copy of each report and notification submitted to the permitting authority.</li> <li>● If the source burns non-hazardous secondary material that has been determined to be a legitimate fuel, all documentation must be kept for verification.</li> <li>● The source must keep records of the type and amount of fuel burned monthly and fuel analysis conducted.</li> <li>● The source must keep records of the occurrence and duration of each malfunction of the unit, air pollution control equipment, or monitoring system.</li> <li>● Records of the corrective actions taken during periods of malfunction to minimize emissions must be kept.</li> <li>● The manufacturer's recommendations must be available to demonstrate compliance with the startup and shutdown procedures.</li> <li>● All monitoring, stack test, and inspection data and records to demonstrate compliance must be kept.</li> <li>● All records must be in a suitable form and readily available for expeditious review. All records must be kept for five years and two years of records must be kept on-site.</li> </ul>	

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## New Biomass- or Oil-Fired Boiler $\geq$ 10 MMBtu/hr

REQUIREMENTS	CITATION
<b>Applicability</b>	63.11193 = Who is Subject
	63.11194 (a)(2); (c); (d); and (e) = Affected Source
	63.11200 = Subcategories
<ul style="list-style-type: none"> <li>• <i>This source owns or operates an industrial, commercial, or institutional boiler that burns coal, oil, or biomass and is located an area source of hazardous air pollutant (HAP).</i></li> <li>• <i>They are not required to obtain a Title V permit solely due to this subpart.</i></li> <li>• <i>They are a new source (commenced construction or reconstruction after 6/4/10). A boiler is also considered new if they switch from burning natural gas to burning solid fossil fuel, oil, or biomass after 6/4/10.</i></li> </ul>	
<b>General Requirements and Provisions</b>	63.11205 (a) = General Compliance
	63.11226 = Affirmative Defense
	63.11235 & Table 8 = General Provisions
	63.11236 = Implementation & Enforcement
	63.11237 = Definitions
<ul style="list-style-type: none"> <li>• <i>Sources must comply with limitations at all times. They must operate in a manner consistent with good air pollution control practices and have a general duty to minimize emissions at all times.</i></li> <li>• <i>In response to an action to enforce the applicable standards, sources may assert an affirmative defense to a claim for civil penalties for exceedances of the numerical emission limits.</i></li> <li>• <i>Sources must comply with applicable requirements of Subpart A – General Provisions.</i></li> <li>• <i>The EPA can delegate to the State the authority to enforce and implement the subpart requirements. The EPA maintains authority over approval of specified compliance alternatives.</i></li> <li>• <i>The definitions apply to all sources subject.</i></li> </ul>	
<b>Compliance</b>	63.11196 (b) or (c) and (d) = Compliance Date
	63.11201 = Standards
	63.11205 (c) = General Compliance
	63.11210 (a); (d); and (e) = Initial Compliance
	63.11211 (a) and (b) = Initial Compliance with Emission Limits
	63.11212 = Performance Tests
	63.11214 (b) and (d) = Initial Compliance with Work Practice
	63.11220 (a); (b); and (c) = Subsequent Tests
	63.11221 = Monitoring
	63.11222 = Continuous Compliance with Emission Limit
	63.11223 (a) and (b) = Continuous Compliance with Work Practice
	63.11224 (b); (c); (d); (e); and (f) = Monitoring, Installation, Operation, & Maintenance
	Table 1 (#3, #4, or #5); Table 2 (#1 & #3); Table 3 (#1–5 & #7); Table 4 (#1); Table 6 (#1); and Table 7 (#1-6)

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- *The source must be in compliance by May 20, 2011 or upon startup, whichever is later.*
- *Biomass units with a heat input capacity of  $\geq 30$  MMBtu/hr are required to meet a particulate matter limit of .03 lb/MMBtu.*
- *Biomass units with a heat input capacity between 10-30 MMBtu/hr are required to meet a particulate matter limit of .07 lb/MMBtu.*
- *Oil-fired units are required to meet a particulate matter limit of .03 lb/MMBtu.*
- *The source must minimize the boiler's startup and shutdown periods following the manufacturer's recommendations. If the manufacturer's procedures are not available, they must follow recommendations for a similar unit.*
- *The source must conduct a biennial tune-up of the boiler. The tune-up must be performed no more than 25 months after the previous tune-up. The tune-up must include the following:*
  - *Inspection of the burner, clean/replace components as necessary;*
  - *Inspection of the flame pattern and perform necessary adjustments to optimize the pattern;*
  - *Inspection and calibration of the system controlling the air-to-fuel ratio;*
  - *Optimize the boiler consistent with manufacturer's specifications to reduce carbon monoxide (CO) emissions;*
  - *Measurement of the CO emissions before and after adjustments; and*
  - *Maintenance on-site of an annual report of tune-up, including all documentation/findings, and it must be available for submission upon request. The report must include:*
    - *CO and oxygen (O<sup>2</sup>) emissions; and*
    - *Fuel usage*
  - *If the unit isn't operating during the time of the scheduled tune-up, the tune-up must be conducted within 1 week.*
- *If the source is exempt from this rule because they are currently combusting solid waste and comply with the incinerator requirements, but eventually cease combusting solid waste, they must comply with this rule on the date they stop burning waste and start burning fuel.*
- *The source may elect to demonstrate compliance with the mercury limit by conducting fuel analysis or by stack testing.*
- *If the source conducts stack testing to comply with an emission limit and subsequent operating parameters and they are using a continuous emissions monitor (CEMS) or continuous opacity monitor (COMS), they must develop a site-specific monitoring plan. The plan must be developed and submitted (upon request) 60 days prior to the initial performance evaluation. If the source was already required to develop a monitoring plan under 40 CFR Part 60 Appendix B, a new plan is not required.*
- *If the source uses control equipment to comply with an emission limit and subsequent operating parameters, they must develop a site-specific monitoring plan. The plan must be developed (and submitted to NDEQ upon request) 60 days prior to the initial performance evaluation.*
- *All continuous monitoring systems must be properly installed, maintained, and operated at all times.*
- *Initial compliance demonstrations with the emission limits must be conducted no later than September 17, 2011 or within 180 days of startup, whichever is later.*
- *The following requirements are specific to the method utilized in demonstrating continuous compliance with emission limits:*
  - *Fabric filter: must maintain opacity to  $\leq 10\%$  or install and operate a bag leak detection system.*

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<ul style="list-style-type: none"> <li>○ <i>Electrostatic Precipitator: must maintain opacity to <math>\leq</math> 10% or maintain the secondary power input at or above what was measured during the most recent stack test.</i></li> <li>○ <i>Wet Particulate Matter (PM) Scrubber: must maintain the pressure drop and liquid flow rate at or above the levels established during the most recent stack test.</i></li> <li>○ <i>Dry Sorbent or Carbon Injection: must maintain injection rate at or above the levels established during the most recent stack test. When the boiler operates at lower loads, multiply the injection rate by the load fraction (actual heat input divided by heat input during stack test).</i></li> <li>○ <i>Other Dry Control Systems: must maintain opacity to <math>\leq</math> 10%.</i></li> <li>○ <i>Mercury Limit using Fuel Analysis: test fuel samples monthly and maintain the fuel type or mixture below the emission limits.</i></li> <li>○ <i>Carbon monoxide limit: a continuous oxygen monitor must be installed and operated. The oxygen level must be at or above the levels established during the most recent stack test.</i></li> <li>○ <i>Opacity limit: a COMS must be properly operated and installed.</i></li> <li>● <i>The operating load of each unit cannot exceed 110% of the average load recorded during the most recent stack test.</i></li> <li>● <i>Subsequent performance testing must be conducted every three years.</i></li> </ul>	
<b>Notifications</b>	63.11225 (a); (f); and (g)
<ul style="list-style-type: none"> <li>● <i>An initial notification is required to be submitted by September 17, 2011 or 120 days after startup.</i></li> <li>● <i>A notice of intent to test is required 60 days prior to the stack test.</i></li> <li>● <i>A compliance status notification is required 60 days after the stack test.</i></li> <li>● <i>If the source intends to combust solid waste, a notification must be submitted 30 days prior to initiation of the combustion of the waste.</i></li> <li>● <i>If the source intends to do either of the following, they source must provide a 30 day notification prior to the change:</i> <ul style="list-style-type: none"> <li>○ <i>change fuels and the fuel change may result in the applicability of a different subcategory; or</i></li> <li>○ <i>change to 100% natural gas.</i></li> </ul> </li> </ul>	
<b>Reports</b>	63.11225 (b) and (e)
<ul style="list-style-type: none"> <li>● <i>By March 1<sup>st</sup> of each year, the source must prepare an annual compliance report. The report must be submitted to the permitting authority if requested or if there are deviations. If there are deviations, the report must be submitted by March 15<sup>th</sup>.</i></li> <li>● <i>Within 60 days of completing a stack test, the source must submit the test data electronically to EPA's Electronic Reporting Tool at <a href="http://www.epa.gov/ttn/chief/ert/ert_tool.html">www.epa.gov/ttn/chief/ert/ert_tool.html</a>.</i></li> </ul>	
<b>Records</b>	63.11225 (c) and (d)
<ul style="list-style-type: none"> <li>● <i>The source must keep a copy of each report and notification submitted to the permitting authority.</i></li> <li>● <i>If the source burns non-hazardous secondary material that has been determined to be a legitimate fuel, all documentation must be kept for verification.</i></li> <li>● <i>The source must keep records of type and amount of fuel burned monthly.</i></li> <li>● <i>The source must keep records of the occurrence and duration of each malfunction of the unit, air pollution control equipment, or monitoring system.</i></li> <li>● <i>Records of the corrective actions taken during periods of malfunction to minimize emissions must be kept.</i></li> </ul>	

- *The manufacturer's recommendations must be available to demonstrate compliance with the startup and shutdown procedures.*
- *All monitoring, maintenance, tune-up, and inspection data and records to demonstrate compliance must be kept.*
- *All records must be in a suitable form and readily available for expeditious review. All records must be kept for five years and two years of records must be kept on-site.*

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## New Coal-, Biomass-, or Oil-Fired Boiler < 10 MMBtu/hr

REQUIREMENTS	CITATION
<b>Applicability</b>	63.11193 = Who is Subject
	63.11194 (a)(2); (c); (d); and (e) = Affected Source
	63.11200 = Subcategories
<ul style="list-style-type: none"> <li>• <i>This source owns or operates an industrial, commercial, or institutional boiler that burns coal, oil, or biomass and is located an area source of hazardous air pollutant (HAP).</i></li> <li>• <i>They are not required to obtain a Title V permit solely due to this subpart.</i></li> <li>• <i>They are a new source (commenced construction or reconstruction after 6/4/10). A boiler is also considered new if they switch from burning natural gas to burning solid fossil fuel, oil, or biomass after 6/4/10.</i></li> </ul>	
<b>General Requirements and Provisions</b>	63.11205 (a) = General Compliance
	63.11226 = Affirmative Defense
	63.11235 & Table 8 = General Provisions
	63.11236 = Implementation & Enforcement
	63.11237 = Definitions
<ul style="list-style-type: none"> <li>• <i>Sources must comply with limitations at all times. They must operate in a manner consistent with good air pollution control practices and have a general duty to minimize emissions at all times.</i></li> <li>• <i>In response to an action to enforce the applicable standards, sources may assert an affirmative defense to a claim for civil penalties for exceedances of the numerical emission limits.</i></li> <li>• <i>Sources must comply with applicable requirements of Subpart A – General Provisions.</i></li> <li>• <i>The EPA can delegate to the State the authority to enforce and implement the subpart requirements. The EPA maintains authority over approval of specified compliance alternatives.</i></li> <li>• <i>The definitions apply to all sources subject to this rule.</i></li> </ul>	
<b>Compliance</b>	63.11196 (b) or (c) and (d) = Compliance Date
	63.11201 (b) and (d) = Standards
	63.11210 (d) and (e) = Initial Compliance
	63.11214 (a) or (b) = Initial Compliance with Work Practice
	63.11223 (a) and (b) = Continuous Compliance with Work Practice
	Table 2 (#2 or #3)
<ul style="list-style-type: none"> <li>• <i>This source must be in compliance May 20, 2011 or upon startup, whichever is later.</i></li> <li>• <i>The source must conduct a biennial tune-up of the boiler. The tune-up must be performed no more than 25 months after the previous tune-up. The tune-up must include the following:</i> <ul style="list-style-type: none"> <li>○ <i>Inspection of the burner, clean/replace components as necessary;</i></li> <li>○ <i>Inspection of the flame pattern and perform necessary adjustments to optimize the pattern;</i></li> <li>○ <i>Inspection and calibration of the system controlling the air-to-fuel ratio;</i></li> <li>○ <i>Optimize the boiler consistent with manufacturer’s specifications to reduce carbon monoxide (CO) emissions;</i></li> <li>○ <i>Measurement of the CO emissions before and after adjustments; and</i></li> <li>○ <i>Maintenance on-site of an annual report of tune-up, including all documentation/findings, and it must be available for submission upon</i></li> </ul> </li> </ul>	

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<p>request. The report must include:</p> <ul style="list-style-type: none"> <li>▪ CO and oxygen (O<sub>2</sub>) emissions; and</li> <li>▪ Fuel usage</li> </ul> <ul style="list-style-type: none"> <li>○ If the unit isn't operating during time of the scheduled tune-up, the tune-up must be conducted within 1 week.</li> </ul> <ul style="list-style-type: none"> <li>● If the source is exempt from this rule because they are currently combusting solid waste and comply with the incinerator requirements, but eventually cease combusting solid waste, they must comply with this rule on the date they stop burning waste and start burning fuel.</li> </ul>	
<b>Notifications</b>	63.11225 (a); (f); and (g)
<ul style="list-style-type: none"> <li>● An initial notification is required to be submitted by September 17, 2011 or 120 days after startup.</li> <li>● A compliance status notification is due 120 days after the compliance date.</li> <li>● If the source intends to combust solid waste, a notification must be submitted 30 days prior to initiation of the combustion of the waste.</li> <li>● If the source intends to do either of the following, they source must provide a 30 day notification prior to the change: <ul style="list-style-type: none"> <li>○ change fuels and the fuel change may result in the applicability of a different subcategory; or</li> <li>○ change to 100% natural gas.</li> </ul> </li> </ul>	
<b>Reports</b>	63.11225 (b)
<ul style="list-style-type: none"> <li>● By March 1<sup>st</sup> each year, the source must prepare an annual compliance report. The report must be submitted to the permitting authority if requested or if there are deviations. If there are deviations, the report must be submitted by March 15<sup>th</sup>.</li> </ul>	
<b>Records</b>	63.11225 (c) and (d)
<ul style="list-style-type: none"> <li>● The source must keep a copy of each report and notification submitted to the permitting authority.</li> <li>● If the source burns non-hazardous secondary material that has been determined to be a legitimate fuel, all documentation must be kept for verification.</li> <li>● The source must keep records of the occurrence and duration of each malfunction of the unit, air pollution control equipment, or monitoring system.</li> <li>● Records of the corrective actions taken during periods of malfunction to minimize emissions must be kept.</li> <li>● The manufacturer's recommendations must be available to demonstrate compliance with the startup and shutdown procedures.</li> <li>● All inspection, tune-up, and maintenance records to demonstrate compliance must be kept.</li> <li>● All records must be in a suitable form and readily available for expeditious review. All records must be kept for five years and two years of records must be kept on-site.</li> </ul>	

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