



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

To: Interested Parties

Date: August 16, 2016

From: Matthew Stuckey, Chief
Permits Branch
Office of Air Quality

Source Name: Miller's Wood Specialties, Inc.

Permit Level: Registration

Permit Number: 177-37144-00124

Source Location: 850 E Church St Cambridge City, IN 47327

Type of Action Taken: Initial Permit

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the matter referenced above.

The final decision is available on the IDEM website at: <http://www.in.gov/apps/idem/caats/>
To view the document, select Search option 3, then enter permit 37144.

If you would like to request a paper copy of the permit document, please contact IDEM's central file room:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

(continues on next page)

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



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REGISTRATION OFFICE OF AIR QUALITY

Miller's Wood Specialties, Inc.
850 East Church Street
Cambridge City, Indiana 47327

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R177-37144-00124	
Issued by:  Nathan C. Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 16, 2016

SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary pallet manufacturing/remanufacturing and mulch production operation.

Source Address:	850 East Church St., Cambridge City, Indiana 47327
General Source Phone Number:	765-478-3248
SIC Code:	2448 (Wood Pallets and Skids)
County Location:	Wayne County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) Sawing operations, consisting of:
 - (1) Three (3) trim saws and one (1) package saw, constructed between 2006 and 2013, with a combined maximum capacity of 1479 pounds of wood processed per hour, uncontrolled, with the trim saws exhausting indoors and the package saw exhausting outdoors;
 - (2) Two (2) bandsaws and two (2) chop saws, constructed between 2001 and 2006, with a combined maximum capacity of 12,378 pounds of wood processed per hour, controlled by a cyclone (C-1), exhausting outdoors; and
 - (3) One (1) chop saw, constructed in 2006, with a maximum capacity of 56 pounds of wood processed per hour, controlled by a dust collector (DC-1), exhausting indoors.
- (b) One (1) wood grinder, identified as WG-1, constructed in 2004, with a maximum capacity of 11,690 pounds of wood per hour, powered by a portable non-road diesel engine (E1) with a 630 horsepower capacity.
- (c) One (1) mulch dyeing operation, identified as MD-1, utilizing dyes that do not contain VOC or HAPs, using non-atomized flow coating method of application.
- (d) One (1) pallet stenciling operation, identified as PS-1, using 171.55 gallons of coatings per year, using roller and aerosol can methods of application, uncontrolled, and exhausting outdoors.
- (e) One (1) wood-fired outdoor hydronic heater, identified as HH-1, constructed in 2009, with a maximum heat rate of 0.30 MMBtu/hr, and exhausting outdoors.

The Registrant will only combust clean wood in the wood-fired outdoor hydronic heater. Clean wood consists of uncoated, unpainted, and untreated wood scrap, sawdust, chips, millings or shavings, and natural growth wood materials. Clean wood does not include wood products that have been painted, pigment-stained, or pressure treated by

compounds such as chromate copper arsenate, pentachlorophenol, and creosote, or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board).

This unit is considered an affected sources under 40 CFR 63, Subpart JJJJJJ.

- (f) One (1) natural gas-fired office furnace, identified as OF-1, constructed in 2007, with a heat input rate of 0.25 MMBtu/hr.
- (g) One (1) natural gas-fired pallet oven, identified as PO-1, constructed in 2002, with a heat input rate of 1.5 MMBtu/hr. The wood dried in the pallet oven is not green wood. All wood dried in the pallet oven has been previously kiln-dried.
- (h) Sawdust, mulch, and animal bedding loading, with a combined maximum throughput capacity of 27,653 tons per year.
- (i) One (1) material storage pile, with a maximum throughput of 4.18 cubic yards of ground wood per hour on 0.20 acres.
- (j) Paved roads.
- (k) Unpaved roads.

SECTION B

GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. R177-37144-00124 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003

Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Registrant shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

SECTION D.1

EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description:

- (a) Sawing operations, consisting of:
 - (2) Two (2) bandsaws and two (2) chop saws, constructed between 2001 and 2006, with a combined maximum capacity of 12,378 pounds of wood processed per hour, controlled by a cyclone (C-1), exhausting outdoors; and
 - (3) One (1) chop saw, constructed in 2006, with a maximum capacity of 56 pounds of wood processed per hour, controlled by a dust collector (DC-1), exhausting indoors.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Control [326 IAC 6-3-2]

In order to assure that the sawing operation is exempt from the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the cyclone (C-1) shall be in operation and control emissions from the two (2) bandsaws and two (2) chop saws at all times that any one or more of these units are in operation, and the dust collector (DC-1) shall be in operation and control emissions from the one (1) chop saw at all times that this unit is in operation.

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and their control devices. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

SECTION D.2

EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description:

- (b) One (1) wood grinder, identified as WG-1, constructed in 2004, with a maximum capacity of 11,690 pounds of wood per hour, powered by a portable non-road diesel engine (E1) with a 630 horsepower capacity.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate matter (PM) emissions from the wood grinder (WG-1) shall not exceed the pounds per hour limitation as follows:

Emission Unit Description	Maximum Process Weight Rate (tons/hour)	326 IAC 6-2-3 Allowable Particulate Emissions (lbs/hour)	Uncontrolled PTE of PM (lbs/hour)
WG-1	5.85	13.39	8.96

These pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
 P = process weight rate in tons per hour

D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

SECTION D.3

EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description:

- (e) One (1) wood-fired outdoor hydronic heater, identified as HH-1, constructed in 2009, with a maximum heat rate of 0.30 MMBtu/hr, and exhausting outdoors.

The Registrant will only combust clean wood in the wood-fired outdoor hydronic heater. Clean wood consists of uncoated, unpainted, and untreated wood scrap, sawdust, chips, millings or shavings, and natural growth wood materials. Clean wood does not include wood products that have been painted, pigment-stained, or pressure treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote, or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board).

This unit is considered an affected sources under 40 CFR 63, Subpart JJJJJJ.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.3.1 Outdoor Hydronic Heaters [326 IAC 4-3]

- (a) Pursuant to 326 IAC 4-3-4:

- (1) the wood-fired outdoor hydronic heater (HH-1) must have permanent stacks extending five (5) feet higher than the peak of the roof of any occupied building:
 - (i) located within one hundred fifty (150) feet of the unit; and
 - (ii) not located on the same property on which the heater is installed.
- (2) The maximum stack height required under this rule is twenty-two (22) feet above the ground.

- (b) Pursuant to 326 IAC 4-3-5:

- (1) The source shall not operate the wood-fired outdoor hydronic heater (HH-1) from May 1 through September 30 if the units are located less than three hundred (300) feet way from an occupied building not located on the same property on which the heaters are installed.
- (2) The source shall burn only clean wood or other approved renewable solid fuel.
- (3) Home heating oil, natural gas, or other fuels recommended by the manufacturer may be used as a starter or supplemental fuel for dual-fired outdoor hydronic heaters.
- (4) The source shall not cause or allow the emission of a smoke plume from the two wood-fired outdoor hydronic heater (HH-1) to exceed an average of twenty percent (20%) opacity, a measure of the amount of light obscured by particulate pollution, for six (6) consecutive minutes in any one (1) hour period. Upon initial firing of the unit where no wood coal bed exists, visible emissions may not exceed forty percent (40%) opacity for twenty (20) consecutive minutes during the start-up period. Measurements of opacity shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 by a representative of the commissioner.

D.3.2 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate matter emissions from the wood-fired outdoor hydronic heater (HH-1), with a maximum heat input capacity of 0.30 MMBtu/hr, shall not exceed 0.6 lb/MMBtu heat input.

D.3.3 Wood Fuel Limitation [326 IAC 2-5.5-1]

In order to comply with 326 IAC 2-5.5-1, the Registrant shall only combust clean wood in the one (1) wood-fired outdoor hydronic heater. Clean wood consists of uncoated, unpainted, and untreated wood scrap, sawdust, chips, millings, or shavings, and natural growth wood materials. Clean wood does not include wood products that have been painted, pigment-stained, or pressure treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote, or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board).

D.3.4 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for the wood-fired outdoor hydronic heater (HH-1). Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

SECTION D.4

EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description:

(h) Sawdust, mulch, and animal bedding loading, with a combined maximum throughput of 27,653 tons per year,

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.4.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate matter (PM) emissions from the truck loading of mulch and animal bedding shall not exceed the pounds per hour limitation as follows:

Emission Unit Description	Maximum Process Weight Rate (tons/hour)	326 IAC 6-2-3 Allowable Particulate Emissions (lbs/hour)
Truck Loading of Mulch and Animal Bedding	3.15	8.73

The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

D.4.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

SECTION E.1

NESHAP

Emissions Unit Description:

- (e) One (1) wood-fired outdoor hydronic heater, identified as HH-1, constructed in 2009, with a maximum heat rate of 0.30 MMBtu/hr, and exhausting outdoors.

The Registrant will only combust clean wood in the wood-fired outdoor hydronic heater. Clean wood consists of uncoated, unpainted, and untreated wood scrap, sawdust, chips, millings or shavings, and natural growth wood materials. Clean wood does not include wood products that have been painted, pigment-stained, or pressure treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote, or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board).

This unit is considered an affected sources under 40 CFR 63, Subpart JJJJJJ.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

**National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-5.5-4(a)]**

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1][40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 63, Subpart JJJJJJ.

- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR 63, Subpart JJJJJJ]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart JJJJJJ (included as Attachment A to the operating permit), for the wood-fired outdoor hydronic heater (HH-1):

- (a) 40 CFR 63.11193
- (b) 40 CFR 63.11194(a), (b), and (f)
- (c) 40 CFR 63.11196(a)
- (d) 40 CFR 63.11200

- (e) 40 CFR 63.11201(b) and (d)
- (f) 40 CFR 63.11205(a)
- (g) 40 CFR 63.11210(c)
- (h) 40 CFR 63.11214(b)
- (i) 40 CFR 63.11223(a) and (d)
- (j) 40 CFR 63.11225(a), (b), (c), (d), (f), and (g)
- (k) 40 CFR 63.11235
- (l) 40 CFR 63.236
- (m) 40 CFR 63.237
- (n) Table 2 (Item 8)
- (o) Table 8

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Miller's Wood Specialties, Inc.
Address:	850 East Church St.
City:	Cambridge City, Indiana 47327
Phone Number:	765-478-3248
Registration No.:	R177-37144-00124

I hereby certify that Miller's Wood Specialties, Inc. is:

- still in operation.
- no longer in operation.
- in compliance with the requirements of Registration No. R177-37144-00124.
- not in compliance with the requirements of Registration No. R177-37144-00124.

I hereby certify that Miller's Wood Specialties, Inc. is:

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Attachment A

Registration No: R177-37144-00124

[Downloaded from the eCFR on May 13, 2013]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart JJJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Source: 76 FR 15591, Mar. 21, 2011, unless otherwise noted.

What This Subpart Covers

§ 63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in § 63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in § 63.2, except as specified in § 63.11195.

§ 63.11194 What is the affected source of this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in § 63.11200 and defined in § 63.11237, located at an area source.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in § 63.11200 and as defined in § 63.11237, located at an area source.

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.

(c) An affected source is a new source if you commenced construction of the affected source after June 4, 2010, and the boiler meets the applicability criteria at the time you commence construction.

(d) An affected source is a reconstructed source if the boiler meets the reconstruction criteria as defined in § 63.2, you commenced reconstruction after June 4, 2010, and the boiler meets the applicability criteria at the time you commence reconstruction.

(e) An existing dual-fuel fired boiler meeting the definition of gas-fired boiler, as defined in § 63.11237, that meets the applicability requirements of this subpart after June 4, 2010 due to a fuel switch from gaseous fuel to solid fossil fuel, biomass, or liquid fuel is considered to be an existing source under this subpart as long as the boiler was designed to accommodate the alternate fuel.

(f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or part 71 as a result of this subpart. You may, however, be required to obtain a title V permit due to another reason or reasons. See 40 CFR 70.3(a) and (b) or 71.3(a) and (b). Notwithstanding the

exemption from title V permitting for area sources under this subpart, you must continue to comply with the provisions of this subpart.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

§ 63.11195 Are any boilers not subject to this subpart?

The types of boilers listed in paragraphs (a) through (k) of this section are not subject to this subpart and to any requirements in this subpart.

(a) Any boiler specifically listed as, or included in the definition of, an affected source in another standard(s) under this part.

(b) Any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.

(c) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers), unless such units do not combust hazardous waste and combust comparable fuels.

(d) A boiler that is used specifically for research and development. This exemption does not include boilers that solely or primarily provide steam (or heat) to a process or for heating at a research and development facility. This exemption does not prohibit the use of the steam (or heat) generated from the boiler during research and development, however, the boiler must be concurrently and primarily engaged in research and development for the exemption to apply.

(e) A gas-fired boiler as defined in this subpart.

(f) A hot water heater as defined in this subpart.

(g) Any boiler that is used as a control device to comply with another subpart of this part, or part 60, part 61, or part 65 of this chapter provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.

(h) Temporary boilers as defined in this subpart.

(i) Residential boilers as defined in this subpart.

(j) Electric boilers as defined in this subpart.

(k) An electric utility steam generating unit (EGU) covered by subpart UUUUU of this part.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

§ 63.11196 What are my compliance dates?

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.

(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in § 63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in § 60.2145(a)(2) and (3) of subpart CCCC or § 60.2710(a)(2) and (3) of subpart DDDD.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices

§ 63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in § 63.11237 are:

- (a) Coal.
- (b) Biomass.
- (c) Oil.
- (d) Seasonal boilers.
- (e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.
- (f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.
- (g) Limited-use boilers.

[78 FR 7506, Feb. 1, 2013]

§ 63.11201 What standards must I meet?

- (a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.
- (b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.
- (c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.
- (d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in § 63.11237, during which time you must comply only with Table 2 to this subpart.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

General Compliance Requirements

§ 63.11205 What are my general requirements for complying with this subpart?

(a) At all times you 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. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to § 63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of § 63.11224.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7506, Feb. 1, 2013]

Initial Compliance Requirements

§ 63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to § 63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to § 63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2), except as provided in paragraph (j) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2), except as provided in paragraph (j) of this section.

(d) For new or reconstructed affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after March 21, 2011 or within 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(e) For new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted. If you intend to burn a new type of fuel or fuel mixture that does not meet the requirements of this paragraph, you must conduct a performance test within 60 days of burning the new fuel.

(f) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in § 63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

(g) For affected boilers that ceased burning solid waste consistent with § 63.11196(d) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch as specified in § 60.2145(a)(2) and (3) of subpart CCCC or § 60.2710(a)(2) and (3) of subpart DDDD. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

(h) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJJ or the boiler becoming subject to subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to § 63.11225(g).

(i) For boilers located at existing major sources of HAP that limit their potential to emit (e.g., make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (i)(1) through (3) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(2) Any new or reconstructed boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2011 or startup.

(3) Notification of such changes must be submitted according to § 63.11225(g).

(j) For existing affected boilers that have not operated between the effective date of the rule and the compliance date that is specified for your source in § 63.11196, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.

(1) You must complete the initial compliance demonstration, if subject to the emission limits in Table 1 to this subpart, as specified in paragraphs (a) and (b) of this section, no later than 180 days after the re-start of the affected boiler and according to the applicable provisions in § 63.7(a)(2).

(2) You must complete the initial performance tune-up, if subject to the tune-up requirements in § 63.11223, by following the procedures described in § 63.11223(b) no later than 30 days after the re-start of the affected boiler.

(3) You must complete the one-time energy assessment, if subject to the energy assessment requirements specified in Table 2 to this subpart, no later than the compliance date specified in § 63.11196.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7507, Feb. 1, 2013]

§ 63.11211 How do I demonstrate initial compliance with the emission limits?

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to § 63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler according to § 63.11213 and Table 5 to this subpart, establishing operating limits according to § 63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to § 63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under § 63.11213 and Table 5 to this subpart.

(b) You must establish parameter operating limits according to paragraphs (b)(1) through (4) of this section.

(1) For a wet scrubber, you must establish the minimum scrubber liquid flow rate and minimum scrubber pressure drop as defined in § 63.11237, as your operating limits during the three-run performance stack test. If you use a wet scrubber and you conduct separate performance stack tests for PM and mercury emissions, you must establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. If you conduct multiple performance stack tests, you must set the minimum scrubber liquid flow rate and pressure drop operating limits at the highest minimum values established during the performance stack tests.

(2) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum total secondary electric power (secondary voltage and secondary current), as defined in § 63.11237, as your operating limits during the three-run performance stack test.

(3) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in § 63.11237, as your operating limit during the three-run performance stack test.

(4) The operating limit for boilers with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.11224, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to § 63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (\text{SD} * t) \quad (\text{Eq. 1})$$

Where:

P_{90} = 90th percentile confidence level mercury concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to § 63.11213, in units of pounds per million Btu.

SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to § 63.11213, in units of pounds per million Btu.

t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7508, Feb. 1, 2013]

§ 63.11212 What stack tests and procedures must I use for the performance tests?

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in § 63.7(c).

(b) You must conduct each stack test according to the requirements in Table 4 to this subpart. Boilers that use a CEMS for carbon monoxide (CO) are exempt from the initial CO performance testing in Table 4 to this subpart and the oxygen concentration operating limit requirement specified in Table 3 to this subpart.

(c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in § 63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7508, Feb. 1, 2013]

§ 63.11213 What fuel analyses and procedures must I use for the performance tests?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.

(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

§ 63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

(a) If you own or operate an existing or new coal-fired boiler with a heat input capacity of less than 10 million Btu per hour, you must conduct a performance tune-up according to § 63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to § 63.11223(b) and you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and is an accurate depiction of your facility.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7508, Feb. 1, 2013]

Continuous Compliance Requirements

§ 63.11220 When must I conduct subsequent performance tests or fuel analyses?

(a) If your boiler has a heat input capacity of 10 million British thermal units per hour or greater, you must conduct all applicable performance (stack) tests according to § 63.11212 on a triennial basis, except as specified in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test.

(b) When demonstrating initial compliance with the PM emission limit, if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM but must continue to comply with all applicable operating limits and monitoring requirements. If your initial performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests as specified in paragraph (a) of this section.

(c) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to § 63.11213 for each type of fuel burned as specified in paragraphs (c)(1) and (2) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of § 63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

(1) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling but must continue to comply with all applicable operating limits and monitoring requirements.

(2) When demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are greater than half of the mercury emission limit, you must conduct quarterly sampling.

(d) For existing affected boilers that have not operated since the previous compliance demonstration and more than 3 years have passed since the previous compliance demonstration, you must complete your subsequent compliance demonstration no later than 180 days after the re-start of the affected boiler.

[78 FR 7508, Feb. 1, 2013]

§ 63.11221 Is there a minimum amount of monitoring data I must obtain?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.11205(c).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see § 63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data collected during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in § 63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7508, Feb. 1, 2013]

§ 63.11222 How do I demonstrate continuous compliance with the emission limits?

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§ 63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).

(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of § 63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in § 63.11225.

§ 63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in § 63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(d) Seasonal boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed seasonal boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Seasonal boilers are not subject to the emission limits in Table 1 to this subpart or the operating limits in Table 3 to this subpart.

(e) Oil-fired boilers with a heat input capacity of equal to or less than 5 million Btu per hour must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed oil-fired boiler with a heat input capacity of equal to or less than 5 million Btu per hour, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

(f) Limited-use boilers must conduct a tune-up every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed limited-use boiler, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. Limited-use boilers are not subject to the emission limits in Table 1 to this subpart, the energy assessment requirements in Table 2 to this subpart, or the operating limits in Table 3 to this subpart.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification

of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7509, Feb. 1, 2013]

§ 63.11224 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler is subject to a CO emission limit in Table 1 to this subpart, you must either install, operate, and maintain a CEMS for CO and oxygen according to the procedures in paragraphs (a)(1) through (6) of this section, or install, calibrate, operate, and maintain an oxygen analyzer system, as defined in § 63.11237, according to the manufacturer's recommendations and paragraphs (a)(7) and (d) of this section, as applicable, by the compliance date specified in § 63.11196. Where a certified CO CEMS is used, the CO level shall be monitored at the outlet of the boiler, after any add-on controls or flue gas recirculation system and before release to the atmosphere. Boilers that use a CO CEMS are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in § 63.11211(a) of this subpart. Oxygen monitors and oxygen trim systems must be installed to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location.

(1) Each CO CEMS must be installed, operated, and maintained according to the applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, and each oxygen CEMS must be installed, operated, and maintained according to Performance Specification 3 at 40 CFR part 60, appendix B. Both the CO and oxygen CEMS must also be installed, operated, and maintained according to the site-specific monitoring plan developed according to paragraph (c) of this section.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8(e) and according to Performance Specifications 3 and 4, 4A, or 4B at 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) every 15 minutes. You must have CEMS data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2).

(5) You must calculate hourly averages, corrected to 3 percent oxygen, from each hour of CO CEMS data in parts per million CO concentrations and determine the 10-day rolling average of all recorded readings, except as provided in § 63.11221(c). Calculate a 10-day rolling average from all of the hourly averages collected for the 10-day operating period using Equation 2 of this section.

$$\text{10-day average} = \frac{\sum_{i=1}^n Hpvi}{n} \quad (\text{Eq. 2})$$

Where:

Hpvi = the hourly parameter value for hour i

n = the number of valid hourly parameter values collected over 10 boiler operating days

(6) For purposes of collecting CO data, you must operate the CO CEMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).

(7) You must operate the oxygen analyzer system at or above the minimum oxygen level that is established as the operating limit according to Table 6 to this subpart when firing the fuel or fuel mixture utilized during the most recent CO performance stack test. Operation of oxygen trim systems to meet these requirements shall not be done in a manner which compromises furnace safety.

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under § 63.8(f).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (3), and (4)(ii).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each CPMS according to the procedures in paragraphs (d)(1) through (4) of this section.

(1) The CPMS must complete a minimum of one cycle of operation every 15 minutes. You must have data values from a minimum of four successive cycles of operation representing each of the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed, to have a valid hour of data.

(2) You must calculate hourly arithmetic averages from each hour of CPMS data in units of the operating limit and determine the 30-day rolling average of all recorded readings, except as provided in § 63.11221(c). Calculate a 30-day rolling average from all of the hourly averages collected for the 30-day operating period using Equation 3 of this section.

$$\text{30-day average} = \frac{\sum_{i=1}^n Hpvi}{n} \quad \text{[Eq. 3]}$$

Where:

H_{pvi} = the hourly parameter value for hour i

n = the number of valid hourly parameter values collected over 30 boiler operating days

(3) For purposes of collecting data, you must operate the CPMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when CPMS data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).

(4) Record the results of each inspection, calibration, and validation check.

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in § 63.11196.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.

(3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in § 63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in § 63.11221(c).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in § 63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in § 63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in § 63.11221(d).

(f) If you use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see § 63.14).

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

- (4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.
- (5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.
- (6) The bag leak detection system must be equipped with an audible or visual alarm system that will activate automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard or seen by plant operating personnel.
- (7) For positive pressure fabric filter systems that do not duct all compartments or cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.
- (8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7510, Feb. 1, 2013]

§ 63.11225 What are my notification, reporting, and recordkeeping requirements?

- (a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.
 - (1) You must submit all of the notifications in §§ 63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.
 - (2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.
 - (3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.
 - (4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in § 63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.
 - (i) You must submit the information required in § 63.9(h)(2), except the information listed in § 63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in § 63.13.
 - (ii) "This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler."
 - (iii) "This facility has had an energy assessment performed according to § 63.11214(c)."
 - (iv) For units that install bag leak detection systems: "This facility complies with the requirements in § 63.11224(f)."
 - (v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."
 - (vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in § 63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to § 63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in § 63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."

(iii) "This facility complies with the requirement in §§ 63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under § 241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of § 241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by § 63.11214 and § 63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under § 241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2 and each of the legitimacy criteria in § 241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the

requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per § 241.4, you must keep records documenting that the material is a listed non-waste under § 241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in § 63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§ 63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)(1) Within 60 days after the date of completing each performance test (defined in § 63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including CBI, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator at the appropriate address listed in § 63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation test as defined in § 63.2, you must submit relative accuracy test audit (RATA) data to EPA's CDX by using CEDRI in accordance with paragraph (e)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator at the appropriate address listed in § 63.13.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within subpart JJJJJJ, in the boiler becoming subject to subpart JJJJJJ, or in the boiler switching out of subpart JJJJJJ due to a change to 100 percent natural gas, or you have taken a permit limit that resulted in you being subject to subpart JJJJJJ, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7511, Feb. 1, 2013] .

§ 63.11226 Affirmative defense for violation of emission standards during malfunction.

In response to an action to enforce the standards set forth in § 63.11201 you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2.

Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) *Assertion of affirmative defense.* To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The violation:

(i) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when a violation occurred; and

(3) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(4) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment, and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(b) *Report.* The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

Other Requirements and Information

§ 63.11235 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.11236 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or an administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emission standard and work practice standards in § 63.11223(a).

(2) Approval of alternative opacity emission standard under § 63.6(h)(9).

(3) Approval of major change to test methods under § 63.7(e)(2)(ii) and (f). A “major change to test method” is defined in § 63.90.

(4) Approval of a major change to monitoring under § 63.8(f). A “major change to monitoring” is defined in § 63.90.

(5) Approval of major change to recordkeeping and reporting under § 63.10(f). A “major change to recordkeeping/reporting” is defined in § 63.90.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7513, Feb. 1, 2013]

§ 63.11237 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2 (the General Provisions), and in this section as follows:

10-day rolling average means the arithmetic mean of all valid hours of data from 10 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

30-day rolling average means the arithmetic mean of all valid hours of data from 30 successive operating days, except for periods of startup and shutdown and periods when the unit is not operating.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Annual heat input means the heat input for the 12 months preceding the compliance demonstration.

Bag leak detection system means a group of instruments that are capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biodiesel means a mono-alkyl ester derived from biomass and conforming to ASTM D6751-11b, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels (incorporated by reference, see § 63.14).

Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and 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. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

Biomass subcategory includes any boiler that burns any biomass and is not in the coal subcategory.

Boiler means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/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. A device combusting solid waste, as defined in § 241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of *Boiler*.

Boiler system means the boiler and associated components, such as, feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.

Calendar year means the period between January 1 and December 31, inclusive, for a given year.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388 (incorporated by reference, see § 63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of "coal" includes synthetic fuels derived from coal including, but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

Coal subcategory includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis.

Commercial boiler means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water.

Common stack means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

Daily block average means the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown and periods when the unit is not operating.

Deviation (1) Means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any applicable requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see § 63.14) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 63.14), kerosene, and biodiesel as defined by the American Society of Testing and Materials in ASTM D6751-11b (incorporated by reference, see § 63.14).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems used as control devices in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

Electric boiler means a boiler in which electric heating serves as the source of heat. Electric boilers that burn gaseous or liquid fuel during periods of electrical power curtailment or failure are included in this definition.

Electric utility steam generating unit (EGU) means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. To be "capable of combusting" fossil fuels, an EGU would need to have these fuels allowed in their operating permits and have the appropriate fuel handling facilities on-site or otherwise available (e.g., coal handling equipment, including coal storage area, belts and conveyers, pulverizers, etc.; oil storage facilities). In addition, fossil fuel-fired EGU means any EGU that fired fossil fuel for more than 10.0 percent of the average annual heat input in any 3 consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year after April 16, 2015.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

Energy assessment means the following for the emission units covered by this subpart:

(1) The energy assessment for facilities with affected boilers with less than 0.3 trillion Btu per year (TBtu/year) heat input capacity will be 8 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing an 8-hour energy assessment.

(2) The energy assessment for facilities with affected boilers with 0.3 to 1.0 TBtu/year heat input capacity will be 24 on-site technical labor hours in length maximum, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 33 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities, within the limit of performing a 24-hour energy assessment.

(3) The energy assessment for facilities with affected boilers with greater than 1.0 TBtu/year heat input capacity will be up to 24 on-site technical labor hours in length for the first TBtu/year plus 8 on-site technical labor hours for every additional 1.0 TBtu/year not to exceed 160 on-site technical hours, but may be longer at the discretion of the owner or operator of the affected source. The boiler system(s) and any on-site energy use system(s) accounting for at least 20 percent of the affected boiler(s) energy (e.g., steam, hot water, or electricity) production, as applicable, will be evaluated to identify energy savings opportunities.

(4) The on-site energy use system(s) serving as the basis for the percent of affected boiler(s) energy production, as applicable, in paragraphs (1), (2), and (3) of this definition may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g., product X manufacturing area; product Y drying area; Building Z).

Energy management program means a program that includes a set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility. Facilities may establish their program through energy management systems compatible with ISO 50001.

Energy use system (1) Includes the following systems located on the site of the affected boiler that use energy provided by the boiler:

(i) Process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot water systems; building envelop; and lighting; or

(ii) Other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler.

(2) Energy use systems are only those systems using energy clearly produced by affected boilers.

Equivalent means the following only as this term is used in Table 5 to this subpart:

(1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or

EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.

(2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.

(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining mercury using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing this metal. On the other hand, if metals analysis is done on an "as received" basis, a separate aliquot can be dried to determine moisture content and the mercury concentration mathematically adjusted to a dry basis.

(6) An equivalent mercury determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for mercury and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 5 to this subpart for the same purpose.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse. A fabric filter is a dry control system.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including, but not limited to, the requirements of 40 CFR parts 60, 61, 63, and 65, requirements within any applicable state implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed boiler means a boiler utilizing a fluidized bed combustion process that is not a pulverized coal boiler.

Fluidized bed combustion means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, distillate oil, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

Gaseous fuels includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas.

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Heat input means heat derived from combustion of fuel in a boiler and does not include the heat input from preheated combustion air, recirculated flue gases, returned condensate, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (*i.e.*, not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on-demand hot water.

Hourly average means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Institutional boiler means a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, and/or hot water.

Limited-use boiler means any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.

Liquid fuel includes, but is not limited to, distillate oil, residual oil, any form of liquid fuel derived from petroleum, used oil meeting the specification in 40 CFR 279.11, liquid biofuels, biodiesel, and vegetable oil, and comparable fuels as defined under 40 CFR 261.38.

Load fraction means the actual heat input of a boiler divided by heat input during the performance test that established the minimum sorbent injection rate or minimum activated carbon injection rate, expressed as a fraction (*e.g.*, for 50 percent load the load fraction is 0.5).

Minimum activated carbon injection rate means load fraction multiplied by the lowest hourly average activated carbon injection rate measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum oxygen level means the lowest hourly average oxygen level measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable carbon monoxide emission limit.

Minimum scrubber liquid flow rate means the lowest hourly average scrubber liquid flow rate (*e.g.*, to the particulate matter scrubber) measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum scrubber pressure drop means the lowest hourly average scrubber pressure drop measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limit.

Minimum total secondary electric power means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 6 to this subpart during the most recent performance stack test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions (*i.e.*, a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals). Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or

(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8 .

Oil subcategory includes any boiler that burns any liquid fuel and is not in either the biomass or coal subcategories. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not included in this definition. Periodic testing on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

Oxygen analyzer system means all equipment required to determine the oxygen content of a gas stream and used to monitor oxygen in the boiler flue gas, boiler firebox, or other appropriate intermediate location. This definition includes oxygen trim systems.

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or carbon monoxide monitor that automatically provides a feedback signal to the combustion air controller.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

Performance testing means the collection of data resulting from the execution of a test method used (either by stack testing or fuel analysis) to demonstrate compliance with a relevant emission standard.

Period of gas curtailment or supply interruption means a period of time during which the supply of gaseous fuel to an affected boiler is restricted or halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas due to normal market fluctuations not during periods of supplier delivery restriction does not constitute a period of natural gas curtailment or supply interruption. On-site gaseous fuel system emergencies or equipment failures qualify as periods of supply interruption when the emergency or failure is beyond the control of the facility.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the

combustion gases do not come into direct contact with process materials. Process heaters include units that heat water/water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

Qualified energy assessor means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vii) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Regulated gas stream means an offgas stream that is routed to a boiler for the purpose of achieving compliance with a standard under another subpart of this part or part 60, part 61, or part 65 of this chapter.

Residential boiler means a boiler used to provide heat and/or hot water and/or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility (e.g., university campus, military base, church grounds) or commercial/industrial facility (e.g., farm) used primarily to provide heat and/or hot water for:

- (1) A dwelling containing four or fewer families, or
- (2) A single unit residence dwelling that has since been converted or subdivided into condominiums or apartments.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society of Testing and Materials in ASTM D396-10 (incorporated by reference, see § 63.14(b)).

Responsible official means responsible official as defined in § 70.2.

Seasonal boiler means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory.

Shutdown means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose, or at the point of no fuel being fired in the boiler, whichever is earlier. Shutdown ends when there is no steam and no heat being supplied and no fuel being fired in the boiler.

Solid fossil fuel includes, but is not limited to, coal, coke, petroleum coke, and tire-derived fuel.

Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.

Startup means either the first-ever firing of fuel in a boiler for the purpose of supplying steam or heat 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 steam or heat from the boiler is supplied for heating and/or producing electricity, or for any other purpose.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
- (4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

Tune-up means adjustments made to a boiler in accordance with the procedures outlined in § 63.11223(b).

Vegetable oil means oils extracted from vegetation.

Voluntary Consensus Standards (VCS) mean technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428-B2959, (800) 262-1373, <http://www.astm.org>), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016-5990, (800) 843-2763, <http://www.asme.org>), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, <http://www.iso.org/iso/home.htm>), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 <http://www.stadards.org.au>), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, <http://www.bsigroup.com>), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, <http://www.csa.ca>), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B-1000 Brussels, Belgium +32 2 550 08 11, <http://www.cen.eu/cen>), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214-230, <http://www.vdi.eu>). The types of standards that are not considered VCS are standards developed by: the United States, e.g., California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, e.g., Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

Waste heat boiler means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, which is promulgated pursuant to section 112(h) of the Clean Air Act.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7513, Feb. 1, 2013]

Table 1 to Subpart JJJJJJ of Part 63—Emission Limits

As stated in § 63.11201, you must comply with the following applicable emission limits:

If your boiler is in this subcategory . . .	For the following pollutants . . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .
1. New coal-fired boilers with heat input capacity of 30 million British thermal units per hour (MMBtu/hr) or greater that do not meet the definition of limited-use boiler	a. PM (Filterable) b. Mercury c. CO	3.0E-02 pounds(lb) per million British thermal units (MMBtu) of heat input. 2.2E-05 lb per MMBtu of heat input. 420 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).

If your boiler is in this subcategory . . .	For the following pollutants . . .	You must achieve less than or equal to the following emission limits, except during periods of startup and shutdown . . .
2. New coal-fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of limited-use boiler	a. PM (Filterable) b. Mercury c. CO	4.2E-01 lb per MMBtu of heat input. 2.2E-05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average or 10-day rolling average).
3. New biomass-fired boilers with heat input capacity of 30 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler	PM (Filterable)	3.0E-02 lb per MMBtu of heat input.
4. New biomass fired boilers with heat input capacity of between 10 and 30 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler	PM (Filterable)	7.0E-02 lb per MMBtu of heat input.
5. New oil-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of seasonal boiler or limited-use boiler	PM (Filterable)	3.0E-02 lb per MMBtu of heat input.
6. Existing coal-fired boilers with heat input capacity of 10 MMBtu/hr or greater that do not meet the definition of limited-use boiler	a. Mercury b. CO	2.2E-05 lb per MMBtu of heat input. 420 ppm by volume on a dry basis corrected to 3 percent oxygen.

[78 FR 7517, Feb. 1, 2013]

Table 2 to Subpart JJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices

As stated in § 63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

If your boiler is in this subcategory . . .	You must meet the following . . .
1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)	Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler biennially as specified in § 63.11223.
3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler biennially as specified in § 63.11223.

If your boiler is in this subcategory . . .	You must meet the following . . .
5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler biennially as specified in § 63.11223.
7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in § 63.11223.
8. Existing seasonal boilers	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
9. New seasonal boilers	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
10. Existing limited-use boilers	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
11. New limited-use boilers	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct an initial tune-up as specified in § 63.11214, and conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct a tune-up of the boiler every 5 years as specified in § 63.11223.
16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers	<p>Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in § 63.11237:</p>
	(1) A visual inspection of the boiler system,
	(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,

If your boiler is in this subcategory . . .	You must meet the following . . .
	(3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,
	(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
	(5) A list of major energy conservation measures that are within the facility's control,
	(6) A list of the energy savings potential of the energy conservation measures identified, and
	(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

[78 FR 7518, Feb. 1, 2013]

Table 3 to Subpart JJJJJJ of Part 63—Operating Limits for Boilers With Emission Limits

As stated in § 63.11201, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable emission limits using . . .	You must meet these operating limits except during periods of startup and shutdown . . .
1. Fabric filter control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Install and operate a bag leak detection system according to § 63.11224 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.
2. Electrostatic precipitator control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in § 63.11237.
3. Wet scrubber control	Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in § 63.11237 and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in § 63.11237.
4. Dry sorbent or activated carbon injection control	Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in § 63.11237. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5).
5. Any other add-on air pollution control type.	This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).
6. Fuel analysis	Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to § 63.11211(c) are less than the applicable emission limit for mercury.
7. Performance stack testing	For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.
8. Oxygen analyzer system	For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in § 63.11224(a), maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in § 63.11237. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.11224(a)(7).

[78 FR 7519, Feb. 1, 2013]

Table 4 to Subpart JJJJJ of Part 63—Performance (Stack) Testing Requirements

As stated in § 63.11212, you must comply with the following requirements for performance (stack) test for affected sources:

To conduct a performance test for the following pollutant. . .	You must. . .	Using. . .
1. Particulate Matter	a. Select sampling ports location and the number of traverse points	Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), ^a or ANSI/ASME PTC 19.10-1981. ^a
	d. Measure the moisture content of the stack gas	Method 4 in appendix A-3 to part 60 of this chapter.
	e. Measure the particulate matter emission concentration	Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.
	f. Convert emissions concentration to lb/MMBtu emission rates	Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.
2. Mercury	a. Select sampling ports location and the number of traverse points	Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), ^a or ANSI/ASME PTC 19.10-1981. ^a
	d. Measure the moisture content of the stack gas	Method 4 in appendix A-3 to part 60 of this chapter.
	e. Measure the mercury emission concentration	Method 29, 30A, or 30B in appendix A-8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02. ^a Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A.
	f. Convert emissions concentration to lb/MMBtu emission rates	Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.
3. Carbon Monoxide	a. Select the sampling ports location and the number of traverse points	Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005), ^a or ANSI/ASME PTC 19.10-1981. ^a

To conduct a performance test for the following pollutant. . .	You must. . .	Using. . .
	c. Measure the moisture content of the stack gas	Method 4 in appendix A-3 to part 60 of this chapter.
	d. Measure the carbon monoxide emission concentration	Method 10, 10A, or 10B in appendix A-4 to part 60 of this chapter or ASTM D6522-00 (Reapproved 2005) ^a and a minimum 1 hour sampling time per run.

^a Incorporated by reference, see § 63.14.

Table 5 to Subpart JJJJJJ of Part 63—Fuel Analysis Requirements

As stated in § 63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:

To conduct a fuel analysis for the following pollutant . . .	You must. . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in § 63.11213(b) or ASTM D2234/D2234M ^a (for coal) or ASTM D6323 ^a (for biomass) or equivalent.
	b. Compose fuel samples	Procedure in § 63.11213(b) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B ^a (for solid samples) or EPA SW-846-3020A ^a (for liquid samples) or ASTM D2013/D2013M ^a (for coal) or ASTM D5198 ^a (for biomass) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 ^a (for coal) or ASTM E711 ^a (for biomass) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 ^a or ASTM E871 ^a or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722 ^a (for coal) or EPA SW-846-7471B ^a (for solid samples) or EPA SW-846-7470A ^a (for liquid samples) or equivalent.
	g. Convert concentrations into units of lb/MMBtu of heat content	

^a Incorporated by reference, see § 63.14.

Table 6 to Subpart JJJJJ of Part 63—Establishing Operating Limits

As stated in § 63.11211, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
1. PM or mercury	a. Wet scrubber operating parameters	Establish site-specific minimum scrubber pressure drop and minimum scrubber liquid flow rate operating limits according to § 63.11211(b)	Data from the pressure drop and liquid flow rate monitors and the PM or mercury performance stack tests	(a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance stack tests;
				(b) Determine the average pressure drop and liquid flow rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
	b. Electrostatic precipitator operating parameters	Establish a site-specific minimum total secondary electric power operating limit according to § 63.11211(b)	Data from the secondary electric power monitors and the PM or mercury performance stack tests	(a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests;
				(b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
2. Mercury	Dry sorbent or activated carbon injection rate operating parameters	Establish a site-specific minimum sorbent or activated carbon injection rate operating limit according to § 63.11211(b)	Data from the sorbent or activated carbon injection rate monitors and the mercury performance stack tests	(a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests;
				(b) Determine the average sorbent or activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
				(c) When your unit operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance stack test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
3. CO	Oxygen	Establish a unit-specific limit for minimum oxygen level	Data from the oxygen analyzer system specified in § 63.11224(a)	(a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests;
				(b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
4. Any pollutant for which compliance is demonstrated by a performance stack test	Boiler operating load	Establish a unit-specific limit for maximum operating load according to § 63.11212(c)	Data from the operating load monitors (fuel feed monitors or steam generation monitors)	(a) You must collect operating load data (fuel feed rate or steam generation data) every 15 minutes during the entire period of the performance test.
				(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

[78 FR 7520, Feb. 1, 2013]

Table 7 to Subpart JJJJJ of Part 63—Demonstrating Continuous Compliance

As stated in § 63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits . . .	You must demonstrate continuous compliance by . . .
1. Opacity	a. Collecting the opacity monitoring system data according to § 63.11224(e) and § 63.11221; and
	b. Reducing the opacity monitoring data to 6-minute averages; and
	c. Maintaining opacity to less than or equal to 10 percent (daily block average).

If you must meet the following operating limits . . .	You must demonstrate continuous compliance by . . .
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to § 63.11224(f) and operating the fabric filter such that the requirements in § 63.11222(a)(4) are met.
3. Wet Scrubber Pressure Drop and Liquid Flow Rate	<p>a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.11224 and 63.11221; and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to § 63.11211.</p>
4. Dry Scrubber Sorbent or Activated Carbon Injection Rate	<p>a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§ 63.11224 and 63.11221; and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to § 63.11211.</p>
5. Electrostatic Precipitator Total Secondary Electric Power	<p>a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§ 63.11224 and 63.11221; and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to § 63.11211.</p>
6. Fuel Pollutant Content	<p>a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.11213 as applicable; and</p> <p>b. Keeping monthly records of fuel use according to §§ 63.11222(a)(2) and 63.11225(b)(4).</p>
7. Oxygen content	<p>a. Continuously monitoring the oxygen content of flue gas according to § 63.11224 (This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in § 63.11224(a)(7)); and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.</p>
8. CO emissions	<p>a. Continuously monitoring the CO concentration in the combustion exhaust according to §§ 63.11224 and 63.11221; and</p> <p>b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and</p> <p>c. Reducing the data from the hourly averages to 10-day rolling averages; and</p> <p>d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.</p>
9. Boiler operating load	<p>a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and</p> <p>b. Reducing the data to 30-day rolling averages; and</p> <p>c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to § 63.11212(c) and Table 6 to this subpart.</p>

Table 8 to Subpart JJJJJ of Part 63—Applicability of General Provisions to Subpart JJJJJ

As stated in § 63.11235, you must comply with the applicable General Provisions according to the following:

General provisions cite	Subject	Does it apply?
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes. Additional terms defined in § 63.11237.
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities and Circumvention	Yes.
§ 63.5	Preconstruction Review and Notification Requirements	No
§ 63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes.
§ 63.6(e)(1)(i)	General Duty to minimize emissions	No. See § 63.11205 for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(3)	SSM Plan	No.
§ 63.6(f)(1)	SSM exemption	No.
§ 63.6(h)(1)	SSM exemption	No.
§ 63.6(h)(2) to (9)	Determining compliance with opacity emission standards	Yes.
§ 63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.
§ 63.7(e)(1)	Performance testing	No. See § 63.11210.
§ 63.8(a), (b), (c)(1), (c)(1)(ii), (c)(2) to (c)(9), (d)(1) and (d)(2), (e), (f), and (g)	Monitoring Requirements	Yes.
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No.
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	No.
§ 63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to an SSM plan. SSM plans are not required.
§ 63.9	Notification Requirements	Yes, excluding the information required in § 63.9(h)(2)(i)(B), (D), (E) and (F). See § 63.11225.
§ 63.10(a) and (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns	No.
§ 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See § 63.11225 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunctions.
§ 63.10(b)(2)(iii)	Maintenance records	Yes.
§ 63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.

General provisions cite	Subject	Does it apply?
§ 63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§ 63.10(b)(3)	Recordkeeping requirements for applicability determinations	No.
§ 63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(10)	Recording nature and cause of malfunctions	No. See § 63.11225 for malfunction recordkeeping requirements.
§ 63.10(c)(11)	Recording corrective actions	No. See § 63.11225 for malfunction recordkeeping requirements.
§ 63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§ 63.10(c)(15)	Allows use of SSM plan	No.
§ 63.10(d)(1) and (2)	General reporting requirements	Yes.
§ 63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§ 63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§ 63.10(d)(5)	SSM reports	No. See § 63.11225 for malfunction reporting requirements.
§ 63.10(e)	Additional reporting requirements for sources with CMS	Yes.
§ 63.10(f)	Waiver of recordkeeping or reporting requirements	Yes.
§ 63.11	Control Device Requirements	No.
§ 63.12	State Authority and Delegation	Yes.
§ 63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
§ 63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9)	Reserved	No.

[76 FR 15591, Mar. 21, 2011, as amended at 78 FR 7521, Feb. 1, 2013]

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for Registration

Source Description and Location
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Source Name:	Miller's Wood Specialties, Inc.
Source Location:	850 East Church St., Cambridge City, IN 47327
County:	Wayne
SIC Code:	2448 (Wood Pallets and Skids)
Registration No.:	R177-37144-00124
Permit Reviewer:	Allen Reimer

On May 2, 2016, the Office of Air Quality (OAQ) received an application from Miller's Wood Specialties, Inc. related to the construction and operation of a new stationary pallet manufacturing/remanufacturing and mulch production operation.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Wayne County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Wayne County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
Wayne County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (c) **Other Criteria Pollutants**
Wayne County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Background and Description of Unregistered Emission Units

The Office of Air Quality (OAQ) has reviewed an application, submitted by Miller's Wood Specialties, Inc. on May 2, 2016, relating to the operation of an existing stationary pallet manufacturing/remufacturing and mulch production operation .

The source consists of the following unregistered emission units:

- (a) Sawing operations, consisting of:
 - (1) Three (3) trim saws and one (1) package saw, constructed between 2006 and 2013, with a combined maximum capacity of 1479 pounds of wood processed per hour, uncontrolled, with the trim saws exhausting indoors and the package saw exhausting outdoors;
 - (2) Two (2) bandsaws and two (2) chop saws, constructed between 2001 and 2006, with a combined maximum capacity of 12,378 pounds of wood processed per hour, controlled by a cyclone (C-1), exhausting outdoors; and
 - (3) One (1) chop saw, constructed in 2006, with a maximum capacity of 56 pounds of wood processed per hour, controlled by a dust collector (DC-1), exhausting indoors.
- (b) One (1) wood grinder, identified as WG-1, constructed in 2004, with a maximum capacity of 11,690 pounds of wood per hour, powered by a portable non-road diesel engine (E1) with a 630 horsepower capacity.
- (c) One (1) mulch dyeing operation, identified as MD-1, utilizing dyes that do not contain VOC or HAPs, using non-atomized flow coating method of application.
- (d) One (1) pallet stenciling operation, identified as PS-1, using 171.55 gallons of coatings per year, using roller and aerosol can methods of application, uncontrolled, and exhausting outdoors.
- (e) One (1) wood-fired outdoor hydronic heater, identified as HH-1, constructed in 2009, with a maximum heat rate of 0.30 MMBtu/hr, and exhausting outdoors.

The Registrant will only combust clean wood in the wood-fired outdoor hydronic heater. Clean wood consists of uncoated, unpainted, and untreated wood scrap, sawdust, chips, millings or shavings, and natural growth wood materials. Clean wood does not include wood products that have been painted, pigment-stained, or pressure treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote, or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board).

This unit is considered an affected sources under 40 CFR 63, Subpart JJJJJJ.

- (f) One (1) natural gas-fired office furnace, identified as OF-1, constructed in 2007, with a heat input rate of 0.25 MMBtu/hr.
- (g) One (1) natural gas-fired pallet oven, identified as PO-1, constructed in 2002, with a heat input rate of 1.5 MMBtu/hr. The wood dried in the pallet oven is not green wood. All wood dried in the pallet oven has been previously kiln-dried.

- (h) Sawdust, mulch, and animal bedding loading, with a combined maximum throughput capacity of 27,653 tons per year.
- (i) One (1) material storage pile, with a maximum throughput of 4.18 cubic yards of ground wood per hour on 0.20 acres.
- (j) Paved roads.
- (k) Unpaved roads.

“Integral Part of the Process” Determination

In October 1993 a Final Order Granting Summary Judgment was signed by Administrative Law Judge (“ALJ”) Garrettson resolving an appeal filed by Kimball Hospitality Furniture Inc. (Cause Nos. 92-A-J-730 and 92-A-J-833) related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls are necessary for the facility to produce its normal product and are integral to the normal operation of the facility, and therefore, potential emissions should be calculated after controls. Based on this ruling, potential emissions for particulate matter were calculated after consideration of the controls for determining operating permit level purposes and for determining the applicability of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and Prevention of Significant Deterioration (PSD).

Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to obtaining a registration. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the registration rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination –Registration

The following table reflects the unlimited potential to emit (PTE) of the entire source after integral woodworking controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10*	PM2.5*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP (Toluene)
Sawing Operations**	2.39	1.36	1.36	-	-	-	-	-	-
Portable Grinder, Excluding Engine Emissions	8.96	5.12	5.12	-	-	-	-	-	-
Pallet Stenciling Operation	0.01	0.01	0.01	-	-	0.23	-	0.08	0.08
Wood-fired Outdoor Hydronic Heater	0.59	2.32	2.32	0.03	0.21	4.03	17.53	3.1E-5	6.33E-6
Natural Gas Combustion	0.01	0.06	0.06	0.005	0.75	0.04	0.63	0.01	2.6E-5
Sawdust and Mulch Handling	5.03	2.81	2.81	-	-	-	-	-	-
Storage Piles	0.06	0.02	0.02	-	-	-	-	-	-
Paved Roads	1.23	0.25	0.06	-	-	-	-	-	-
Unpaved Roads	1.0E-3	2.6E-4	2.6E-5	-	-	-	-	-	-
Total PTE of Entire Source	18.28	11.96	11.77	0.03	0.96	4.30	18.16	0.10	0.08
Exemptions Levels**	< 5	< 5	< 5	< 10	< 10	< 10	< 25	< 25	< 10
Registration Levels**	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 25	< 10
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant".									
**PTE of Sawing Operations is after integral woodworking controls.									

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of PM, PM10, and PM2.5 are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc (326 IAC 12), are not included in the registration for the wood-fired outdoor hydronic heater (HH-1), since, although this unit is considered a steam generating unit as defined in §60.41c, it does not have a heat input capacity from fuels combusted in the steam generating unit of greater than 2.9 MW (10 MMBtu/hr).

Steam generating unit, as defined in §60.41c, means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

- (b) The requirements of the New Source Performance Standard (NSPS) for Incinerators, 40 CFR 60, Subpart E (326 IAC 12), are not included in the registration, because the wood-fired outdoor hydronic heater (HH-1) is not considered an incinerator as defined in §60.51.

- (c) The requirements of the following New Source Performance Standards (NSPS) are not included in the registration, because wood-fired outdoor hydronic heater (HH-1) is not considered a municipal waste combustor or hospital/medical/infectious waste incinerator:
- (1) 40 CFR 60, Subpart Ea (60.50a through 60.59a), Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced after December 20, 1989 and on or before September 20, 1994 (326 IAC 12)
 - (2) 40 CFR 60, Subpart Eb (60.50b through 60.59b), Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced after September 20, 1994, or for Which Modification or Reconstruction is commenced after June 19, 1996 (326 IAC 12)
 - (3) 40 CFR 60, Subpart Ec (60.50c through 60.58c), Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced after January 20, 1996 (326 IAC 12)
 - (4) 40 CFR 60, Subpart AAAA (60.1000 through 60.1465), Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001 (326 IAC 12)
- (d) The requirements of the New Source Performance Standard (NSPS) for New Residential Wood Heaters, 40 CFR 60, Subpart AAA (326 IAC 12), are not included in the registration, since the wood-fired outdoor hydronic heater (HH-1) is not considered a residential wood heater as defined by §60.531.
- (e) The requirements of New Source Performance Standard (NSPS) for Commercial and Industrial Solid Waste Incineration Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstruction is Commenced on or After June 1, 2001, 40 CFR 60, Subpart CCCC (60.2000 through 60.2265) (326 IAC 12), are not included in the registration, since the wood-fired outdoor hydronic heater (HH-1) does not burn "commercial or industrial waste" as defined in §60.2265. Under §60.2265, "commercial or industrial waste" is defined as solid waste combusted in an enclosed device using controlled flame combustion (or an air curtain incinerator) without energy recovery that is a distinct operating unit of any commercial or industrial facility. Under §60.2265, "energy recovery" is defined as the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating. The heat energy generated by wood combustion in the wood-fired outdoor hydronic heater (HH-1) provides comfort heat inside the main building. Therefore, since the wood-fired outdoor hydronic heater utilizes energy recovery, it does not burn commercial or industrial waste as defined in §60.2265.
- (f) The requirements of the New Source Performance Standard for Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units, 40 CFR 60, Subpart DDDD (326 IAC 12), are not included in the registration for the wood-fired outdoor hydronic heater (HH-1), since it is not considered a commercial and industrial solid waste incineration unit as defined in §60.2875.
- (g) The requirements of the New Source Performance Standards for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004 or for Which Modification or Reconstruction is commenced on or After June 16, 2006, 40 CFR 60, Subpart EEEE (326 IAC 12), are not included in the registration, since the wood-fired outdoor hydronic heater (HH-1) does not burn municipal solid waste or institutional waste as defined in §60.2977. The wood-fired outdoor hydronic heater only burns clean scrap wood.
- (h) The requirements of the New Source Performance Standard for Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units That Commenced Construction On or

Before December 9, 2004, 40 CFR 60, Subpart FFFF (326 IAC 12), are not included in the permit for the wood-fired outdoor hydronic heater (HH-1), since, it is not considered a municipal waste combustion unit or other solid waste incineration unit as defined in §60.3078, and pursuant to 60.2992(a), the owner or operator of this unit did not commence construction on or before December 9, 2004. This unit was constructed in 2009 and it only burns clean wood scrap.

- (i) The requirements of the New Source Performance Standards for New Residential Hydronic Heaters and Forced-Air Furnaces, 40 CFR 60, Subpart QQQQ (326 IAC 12), are not included in the registration for the wood-fired outdoor hydronic heater (HH-1), since, although this unit is considered a residential hydronic heater as defined in §60.5472, it was manufactured before May 15, 2015. The wood-fired outdoor hydronic heater (HH-1) was constructed in 2009.
- (j) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the registration.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wood Furniture Manufacturing Operations, 40 CFR 63, Subpart JJ (326 IAC 20-14), are not included in the registration, since the source is not engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components as defined in §63.801, and the source is not a major source of HAPs as defined in 40 CFR part 63, subpart A, §63.2.
- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) from Hazardous Waste Combustors, 40 CFR 63, Subpart EEE (326 IAC 20-28), are not included in the registration for the wood-fired outdoor hydronic heater, since it is not considered a hazardous waste combustor as defined in §63.1201.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Plywood and Composite Wood Products, 40 CFR 63, Subpart DDDD, are not included in the registration, since this source does not perform plywood or composite wood products manufacturing as defined in §63.2292, and this source is not a major source of HAPs as defined in 40 CFR part 63, subpart A, §63.2.

A plywood and composite wood products (PCWP) manufacturing facility, as defined in §63.2292, is a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (326 IAC 20-95), are not included in the registration, since, although the wood-fired outdoor hydronic heater (HH-1) is considered a boiler as defined in §63.7575, this source is not a major source of HAPs as defined in 40 CFR part 63, subpart A, §63.2.

A boiler, as defined in §63.7575, means 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. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers are excluded from this definition.

- (e) The wood-fired outdoor hydronic heater (HH-1) is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ, because it is considered a boiler as defined in §63.11237, and this source is an area source of HAPs as defined in 40 CFR 63, Subpart A, §63.2.

A boiler, as defined in §63.11237, means an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/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. A device combusting solid waste, as defined in §241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of Boiler. Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

The unit subject to this rule include the following:

One (1) wood-fired outdoor hydronic heater, identified as HH-1, constructed in 2009, with a maximum heat rate of 0.30 MMBtu/hr, and exhausting outdoors.

Applicable portions of the NESHAP are the following:

- (1) 40 CFR 63.11193
- (2) 40 CFR 63.11194(a), (b), and (f)
- (3) 40 CFR 63.11196(a)
- (4) 40 CFR 63.11200
- (5) 40 CFR 63.11201(b) and (d)
- (6) 40 CFR 63.11205(a)
- (7) 40 CFR 63.11210(c)
- (8) 40 CFR 63.11214(b)
- (9) 40 CFR 63.11223(a) and (d)
- (10) 40 CFR 63.11225(a), (b), (c), (d), (f), and (g)
- (11) 40 CFR 63.11235
- (12) 40 CFR 63.236
- (13) 40 CFR 63.237
- (14) Table 2 (Item 8)
- (15) Table 8

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the wood-fired outdoor hydronic heater (HH-1) except as otherwise specified in 40 CFR 63, Subpart JJJJJJ.

- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wood Preserving Area Sources, 40 CFR Part 63, Subpart QQQQQQ, are not included in the registration because the source is not a wood preserving operation as defined by 40 CFR 63.11433. Under 40 CFR 63.11433, "wood preserving" means the pressure or thermal impregnation of chemicals into wood to provide effective long-term resistance to attack by fungi, bacteria, insects, and marine borers.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Coal- and Oil-Fired Electric Utility Steam Generating Units, 40 CFR 63, Subpart UUUUUU, are not included in the registration, since the wood-fired outdoor hydronic heater (HH-1) is not considered an electric utility steam generating unit as defined in §63.10042.
- (h) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the registration.

Compliance Assurance Monitoring (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the registration, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-5.1-2 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 6.5 PM Limitations Except Lake County
This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.
- (h) 326 IAC 6.8 PM Limitations for Lake County
This source is not subject to 326 IAC 6.8 because it is not located in Lake County.

- (i) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
 Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.
- (j) 326 IAC 12 (New Source Performance Standards)
 See Federal Rule Applicability Section of this TSD.
- (k) 326 IAC 20 (Hazardous Air Pollutants)
 See Federal Rule Applicability Section of this TSD.

Sawing Operations

- (l) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
 - (1) Pursuant to 326 IAC 6-3-1(b), the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) are not applicable to the three (3) trim saws and one (1) package saw, since the total uncontrolled potential to emit particulate emissions from these emission units is less than five hundred fifty-one thousandths (0.551) pound per hour.
 - (2) Pursuant to 326 IAC 6-3-1(b), the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) are not applicable to the two (2) bandsaws and three (3) chop saws, since the total potential to emit particulate matter after integral woodworking controls is less than five hundred fifty-one thousandths (0.551) pound per hour each.

In order to assure that these units are exempt from the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the cyclone shall be in operation and control emissions from the two (2) bandsaws and two (2) chop saws at all times that any one or more of these units are in operation, and the dust collector shall be in operation and control emissions from the one (1) chop saw at all times that this unit is in operation.

Wood Grinder

- (m) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
 Pursuant to 326 IAC 6-3-1(b), the requirements of 326 IAC 6-3-2 are applicable to the wood grinder (WG-1), since the potential to emit particulate emissions before controls is greater than five hundred fifty-one thousandths (0.551) pound per hour.

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate matter (PM) emissions from the wood grinder (WG-1) shall not exceed the pounds per hour limitation as follows:

Emission Unit Description	Maximum Process Weight Rate (tons/hour)	326 IAC 6-2-3 Allowable Particulate Emissions (lbs/hour)	Uncontrolled PTE of PM (lbs/hour)
WG-1	5.85	13.39	8.96

These pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
 P = process weight rate in tons per hour

Since the uncontrolled PM emissions are less than the 326 IAC 6-2-3 allowable particulate emission rate, the wood grinder is able to comply with the 326 IAC 6-2-3 allowable particulate emission rate without the use of a control device.

Pallet Stenciling Operation

- (n) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b), the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) are not applicable to the pallet stenciling operation, since the application of coatings uses less than five (5) gallons per day.

Wood-fired Outdoor Hydronic Heater

- (o) 326 IAC 1-7 (Stack Height)
The uncontrolled potential to emit (PTE) of PM, PM10, PM2.5 and SO2 from the wood-fired outdoor hydronic heater (HH-1) is less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 1-7 do not apply to the wood-fired outdoor hydronic heater (HH-1).
- (p) 326 IAC 4-2-2 (Incinerators)
The wood-fired outdoor hydronic heater (HH-1) is not an incinerator, as defined by 326 IAC 1-2-34, because it does not burn any waste substances, but will instead only combust clean wood scrap. Therefore, the requirements of 326 IAC 4-2-2 do not apply to the wood-fired outdoor hydronic heater (HH-1).
- (q) 326 IAC 4-3 (Outdoor Hydronic Heaters)
Pursuant to 326 IAC 4-3-1(a)(4), the requirements of 326 IAC 4-3 apply to the wood-fired outdoor hydronic heater (HH-1), because the source operates an outdoor hydronic heater in Indiana.
- (1) Pursuant to 326 IAC 4-3-1(b)(2), the requirements of 326 IAC 4-3-3 and 326 IAC 4-3-6 do not apply to the wood-fired outdoor hydronic heater (HH-1), because it was constructed before April 18, 2011. This unit was constructed in 2009.
- (2) Pursuant to 326 IAC 4-3-4:
- (A) The wood-fired outdoor hydronic heater (HH-1) must have permanent stacks extending five (5) feet higher than the peak of the roof of any occupied building:
- (i) located within one hundred fifty (150) feet of the unit; and
- (ii) not located on the same property on which the heater is installed.
- (B) The maximum stack height required under this rule is twenty-two (22) feet above the ground.
- (3) Pursuant to 326 IAC 4-3-5:
- (A) The source shall not operate the wood-fired outdoor hydronic heater (HH-1) from May 1 through September 30 if the units are located less than three hundred (300) feet way from an occupied building not located on the same property on which the heaters are installed.
- (B) The source shall burn only clean wood or other approved renewable solid fuel.
- (C) Home heating oil, natural gas, or other fuels recommended by the manufacturer may be used as a starter or supplemental fuel for dual-fired outdoor hydronic heaters.

- (D) The source shall not cause or allow the emission of a smoke plume from the wood-fired outdoor hydronic heater (HH-1) to exceed an average of twenty percent (20%) opacity, a measure of the amount of light obscured by particulate pollution, for six (6) consecutive minutes in any one (1) hour period. Upon initial firing of the unit where no wood coal bed exists, visible emissions may not exceed forty percent (40%) opacity for twenty (20) consecutive minutes during the start-up period. Measurements of opacity shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 by a representative of the commissioner.
- (r) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), the wood-fired outdoor hydronic heater (HH-1) is subject to the requirements of 326 IAC 6-2-4, since it is a source of indirect heating that was constructed after September 21, 1983. Pursuant to 326 IAC 6-2-4(a), for a total source maximum operating capacity of less than ten (10) MMBtu per hour, the pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input shall not exceed 0.6 lb/MMBtu heat input. The total source maximum operating capacity for this source is less than ten (10) MMBtu per hour. Therefore, particulate matter emissions from the wood-fired outdoor hydronic heater (HH-1), with a maximum heat input capacity of 0.30 MMBtu per hour, shall not exceed 0.6 lb/MMbtu heat input.
- Based on the AP-42 PM emission factor (0.446 lb/MMbtu), the potential particulate emissions from the wood-fired outdoor hydronic heater (HH-1) are less than 0.6 lb/MMBtu.
- (s) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The wood-fired outdoor hydronic heater (HH-1) is not subject to the requirements of 326 IAC 6-3, because the heater is subject to the requirements of 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units).
- (t) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the wood-fired outdoor hydronic heater (HH-1) is not subject to the requirements of 326 IAC 7-1.1, since it has unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.
- (u) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 are not included in the registration for the wood-fired outdoor hydronic heater (HH-1) because this source does not operate any catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment. Additionally, the wood-fired outdoor hydronic heater (HH-1) does not qualify as a refuse incinerator or refuse burning equipment, since the unit will only burn clean wood scrap.
- (v) 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The wood-fired outdoor hydronic heater (HH-1) is not subject to the requirements of 326 IAC 10-3, because it is not a blast furnace gas-fired boiler, a Portland cement kiln, or any facility specifically listed under 326 IAC 10-3-1(a)(2).

Natural Gas Combustion

- (w) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(a), the requirements of 326 IAC 6-2 are not applicable to the natural gas-fired office furnace and the natural gas-fired pallet oven, since each unit is not a source of indirect heat.
- (x) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
(1) Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3 are not applicable to the natural gas-fired office furnace, since it is not a "manufacturing process" as defined in 326 IAC 6-3-1.5.

- (2) Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3 are not applicable to the natural gas-fired pallet oven, since it is a "manufacturing process", as defined in 326 IAC 6-3-1.5, that has potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.
- (y) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)
 Pursuant to 326 IAC 7-1.1-1, the natural gas-fired office furnace and natural gas-fired pallet oven are not subject to the requirements of 326 IAC 7-1.1, since they have unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively, each.

Sawdust and Mulch Handling, Storage Piles, and Paved and Unpaved Roads

- (z) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
 - (1) Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3 are not applicable to the paved and unpaved roads, since each is not a "manufacturing process" as defined in 326 IAC 6-3-1.5.
 - (2) Pursuant to 326 IAC 6-3-1(b)(14), the requirements of 326 IAC 6-3 are not applicable to the roll-off box loading of sawdust and the material storage piles, since they each have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.
 - (3) Pursuant to 326 IAC 6-3-1(b), the requirements of 326 IAC 6-3-2 are applicable to the truck loading and handling of mulch and animal bedding operation, since it has potential particulate emissions greater than five hundred fifty-one thousandths (0.551) pound per hour. Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from the following operation shall not exceed the pounds per hour limitations as follows:

Emission Unit Description	Maximum Process Weight Rate (tons/hour)	326 IAC 6-2-3 Allowable Particulate Emissions (lbs/hour)	Uncontrolled PTE of PM (lbs/ hour)
Truck Loading of Mulch and Animal Bedding	3.15	8.73	1.08

The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\
P = \text{process weight rate in tons per hour}$$

Since the uncontrolled PM emissions are less than the 326 IAC 6-3-2 allowable particulate emission rate, the truck loading and handling of mulch and animal bedding operation is able to comply with the 326 IAC 6-3-2 allowable particulate emission rate without the use of a control device.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on May 2, 2016. Additional information was received on May 13, 2016,

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. R177-37144-00124. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed registration can be directed to Allen Reimer at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-0863 or toll free at 1-800-451-6027 extension 3-0863.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**TSD Appendix A: Emission Calculations
Emission Summary**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Unlimited Emissions Before Integral Woodworking Controls (tons/year)									
Emission Units	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Single Highest HAP (Toluene)
Sawing Operations	9.97	5.69	5.69	-	-	-	-	-	-
Portable Grinder, Excluding Engine Emissions	8.96	5.12	5.12	-	-	-	-	-	-
Pallet Stenciling Operation	0.01	0.01	0.01	-	-	0.23	-	0.08	0.08
Wood-fired Outdoor Hydronic Heater	0.59	2.32	2.32	0.03	0.21	4.03	17.53	3.1E-05	6.33E-06
Natural Gas Combustion	0.01	0.06	0.06	0.005	0.75	0.04	0.63	0.01	2.6E-05
Sawdust and Mulch Handling	5.03	2.81	2.81	-	-	-	-	-	-
Storage Piles	0.06	0.02	0.02	-	-	-	-	-	-
Paved Roads	1.23	0.25	0.06	-	-	-	-	-	-
Unpaved Roads	1.0E-03	2.6E-04	2.6E-05	-	-	-	-	-	-
Total	25.86	16.29	16.10	0.03	0.96	4.30	18.16	0.10	0.08

Unlimited Emissions After Integral Woodworking Controls (tons/year)									
Emission Units	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Single Highest HAP (Toluene)
Sawing Operations	2.39	1.36	1.36	-	-	-	-	-	-
Portable Grinder, Excluding Engine Emissions	8.96	5.12	5.12	-	-	-	-	-	-
Pallet Stenciling Operation	0.01	0.01	0.01	-	-	0.23	-	0.08	0.08
Wood-fired Outdoor Hydronic Heater	0.59	2.32	2.32	0.03	0.21	4.03	17.53	3.1E-05	6.33E-06
Natural Gas Combustion	0.01	0.06	0.06	0.005	0.75	0.04	0.63	0.01	2.6E-05
Sawdust and Mulch Handling	5.03	2.81	2.81	-	-	-	-	-	-
Storage Piles	0.06	0.02	0.02	-	-	-	-	-	-
Paved Roads	1.23	0.25	0.06	-	-	-	-	-	-
Unpaved Roads	1.0E-03	2.6E-04	2.6E-05	-	-	-	-	-	-
Total	18.28	11.96	11.77	0.03	0.96	4.30	18.16	0.10	0.08

TSD Appendix A: Emission Calculations
Sawing Operations

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Unrestricted and Unlimited Potential to Emit (PTE) based on capacity of equipment to cut wood

Process	Maximum 8-hour Production				Maximum Throughput (BDFT/hr)	Maximum Throughput (ft ³ /hr)	Density of Wood (Oak) (lbs/ft ³)	Maximum Throughput (lbs/hr)	Uncontrolled Emission Factor (lb/ton)		Uncontrolled Potential Emissions (lbs/hr)		Uncontrolled Potential Emissions (tons/yr)		Control Device	Control Efficiency	After Integral Woodworking Controls			
	Rate (pieces/8-hr)	Length (in/piece)	Width (ft/piece)	Height (in/piece)					PM	PM10/PM2.5*	PM	PM10/PM2.5*	PM	PM10/PM2.5*			Control Device	Control Efficiency	PM	PM10/PM2.5*
Trim Saw (1 Head)	10,000	3.50	0.13	0.75	34.18	2.85	56	160	0.35	0.200	0.03	0.02	0.12	0.07	Indoor	0%	0.03	0.02	0.12	0.07
Trim Saw (1 Head)	10,000	3.50	0.13	0.75	34.18	2.85	56	160	0.35	0.200	0.03	0.02	0.12	0.07	Indoor	0%	0.03	0.02	0.12	0.07
Trim Saw (2 Head)	10,000	3.50	0.13	1.50	68.36	5.70	56	319	0.35	0.200	0.06	0.03	0.24	0.14	Indoor	0%	0.06	0.03	0.24	0.14
Bandsaw (4 Head)	76,800	12.00	3.50	0.06	2116.80	176.40	56	9878	0.35	0.200	1.73	0.99	7.57	4.33	Cyclone	80%	0.35	0.20	1.51	0.87
Bandsaw (1 Head)	19,200	12.00	3.50	0.06	529.20	44.10	56	2470	0.35	0.200	0.43	0.25	1.89	1.08	Cyclone	80%	0.09	0.05	0.38	0.22
Chop Saw (1 Head)	480	3.50	0.13	1.50	3.28	0.27	56	15	0.35	0.200	0.003	0.002	0.012	0.007	Cyclone	80%	5.4E-04	3.1E-04	0.002	0.001
Chop Saw (1 Head)	480	3.50	0.13	1.50	3.28	0.27	56	15	0.35	0.200	0.003	0.002	0.012	0.007	Cyclone	80%	5.4E-04	3.1E-04	0.002	0.001
Chop Saw (1 Head)	480	5.50	0.13	3.50	12.03	1.00	56	56	0.35	0.200	0.010	0.006	0.043	0.025	Dust Collector	90%	0.001	5.6E-04	0.004	0.002
Package Saw (1 Head)	80	36.00	0.25	24.00	180.00	15.00	56	840	0.35	0.200	0.15	0.08	0.64	0.37	N/A Outside	0%	0.15	0.08	0.64	0.37
									Totals	2.28	1.30	9.97	5.69			0.54	0.31	2.39	1.36	

	Maximum Throughput (BDFT/hr)	Maximum Throughput (cubic feet/hr)	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	326 IAC 6-3-2 Allowable Emissions (lbs/hr)
Wood Working Operations	2981.31	248.44	13912.79	6.96	15.04

326 IAC 6-3-2 Allowable Emissions (lbs/hr), E = 4.10 P^{0.67}, where P = Process Weight Rate (tons/hr)

METHODOLOGY

*PM2.5 emissions assumed equal to PM10 emissions
Emission Factors are from AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants
EPA March 1990 for Sawmill Operations (Log Sawing: General) (SCC 3-07-008-01, SCC 3-07-008-02, SCC 3-07-008-03)
12 board foot (BDFT) = 1 ft³
Maximum Throughput (BDFT/hr) = [Rate (pieces*8-hr period)] * [Length (in/piece)] * [Width (ft/piece)] * [Height (in/piece)] * [ft²/144 in²] * [12 BDFT/ft³] * ["8-hr period"/ 8 hours]
Maximum Throughput (ft³/hr) = Maximum Throughput (BDFT/hr) * (ft³/12 BDFT)
Density of Wood: Assume worst case wood -- oak with a density of 56 lb/ ft³
Maximum Throughput (lbs/hr) = [Maximum Throughput (ft³/hr)] * [Density of Wood (lbs/ft³)]
Uncontrolled Potential Emissions (lbs/hr) = [Maximum Throughput (lbs/hr)] * [ton/2,000 lbs] * [Uncontrolled Emission Factor (lbs/ton)]
Uncontrolled Potential Emissions (tons/yr) = [Uncontrolled Potential Emissions (lbs/hr)] * [8,760 hrs/yr] * [ton/2,000 lbs]
Controlled Potential Emissions (lbs/hr) = [Uncontrolled Potential Emissions (lbs/hr)] * [1 - Control Efficiency]
Controlled Potential Emissions (tons/yr) = [Controlled Potential Emissions (lbs/hr)] * [8760 hrs/yr] * [ton/2,000 lbs]
Limited Potential Emissions (lbs/hr) = [Uncontrolled Potential Emissions (lbs/hr)] * [1 - Equivalent Control Efficiency Limit]
Limited Potential Emissions (tons/yr) = [Limited Potential Emissions (lbs/hr)] * [8760 hrs/yr] * [ton/2,000 lbs]

**TSD Appendix A: Emission Calculations
Portable Mulch Grinder Operation**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Unlimited Potential to Emit (PTE)

Process	Control Device	Maximum Annual Output (yd3/yr)	Maximum Throughput (yd3/hr)	Bulk Density of Hardwood Mulch (lbs/yd3)	Maximum Throughput (lbs/hr)	Maximum Annual Hours of Operation (hours/year)	Uncontrolled Emission Factor (lb/ton)		Uncontrolled Potential Emissions (lbs/hr)		Uncontrolled Potential Emissions (tons/yr)	
							PM	PM10/PM2.5*	PM	PM10/PM2.5*	PM	PM10/PM2.5*
Portable Wood Grinder**	N/A Outside	146292	16.70	700	11690	8760	0.35	0.200	2.05	1.17	8.96	5.12
Totals									2.05	1.17	8.96	5.12

METHODOLOGY

**Maximum Hourly Production Capacity of Mulch Grinder/Chopper (yd3/hr) of 2-pass mulch based on estimate of maximum process capacity provided by source

Bulk Density of Dry Hardwood Mulch = 700 lb/yd3

*PM2.5 emissions assumed equal to PM10 emissions

Emission Factors are from AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants

EPA March 1990 for Sawmill Operations (Log Sawing: General) (SCC 3-07-008-01, SCC 3-07-008-02, SCC 3-07-008-03)

12 board foot (BDFT) = 1 cubic foot

Density of Wood: Assume worst case wood -- oak with a density of 56 lb/ ft3

Maximum Throughput (lbs/hr) = Maximum Throughput (cubic feet/hr) x Density of Wood (lbs/cubic foot)

Uncontrolled Potential Emissions (lbs/hr) = [Maximum Throughput (lbs/hr)] * [ton/2,000 lbs] * [Uncontrolled Emission Factor (lbs/ton)]

Uncontrolled Potential Emissions (tons/yr) = [Uncontrolled Potential Emissions (lbs/hr)] * [8,760 hrs/yr] * [ton/2,000 lbs]

Controlled Potential Emissions (lbs/hr) = [Uncontrolled Potential Emissions (lbs/hr)] * [1 - Control Efficiency]

Controlled Potential Emissions (tons/yr) = [Controlled Potential Emissions (lbs/hr)] * [8760 hrs/yr] * [ton/2,000 lbs]

Limited Potential Emissions (lbs/hr) = [Uncontrolled Potential Emissions (lbs/hr)] * [1 - Equivalent Control Efficiency Limit]

Limited Potential Emissions (tons/yr) = [Limited Potential Emissions (lbs/hr)] * [8760 hrs/yr] * [ton/2,000 lbs]

**TSD Appendix A: Emission Calculations
Pallet Stenciling Operation
Volatile Organic Compounds (VOC) and Particulate Matter (PM)**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Maximum Material Usage (gal/hr)	Maximum Material Usage (gal/day)	Maximum Material Usage (lb/hr)	Pounds VOC per gallon of coating	Pounds VOC per gallon of coating less water	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Lbs VOC/gal solids	Transfer Efficiency	Hazardous Air Pollutants		
																		% Toluene (by weight)	PTE of Toluene (ton/yr)	
F-1 Ink	8.67	96.00%	82.39%	13.6%	82.39%	4.00%	0.004	0.09	0.033	1.180	6.703	0.005	0.11	0.02	0.001	29.51	75%	0%	0.00	
Krylon	6.77	91.00%	46.40%	44.60%	46.40%	9.00%	0.02	0.38	0.107	3.019	5.633	0.05	1.14	0.21	0.01	33.55	75%	18%	0.08	
Total:							0.02	0.47				0.05	1.25	0.23	0.01					0.08

METHODOLOGY

F-1 Ink Usage based on actual usage of 8 gallons in 2015 and 2,080 hours per year. 8 gallons/year x 1 year/2,080 hours = Maximum Material Usage (gal/hr)
 Krylon usage based on actual usage of 420 cans (10 fl oz) in 2015 and 2,080 hours per year. 420 cans x 10 fl oz x 1 gal/128 fl oz x 1 year/ 2,080 hours = Maximum Material Usage (gal/hr)
 PM10 and PM2.5 emissions assumed equal to PM emissions
 Maximum Material Usage (lb/hr) = Density (lb/gal) * Maximum Material Usage (gal/hr)
 Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
 Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/hr)
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/hr) * (24 hr/day)
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
 Particulate Potential (tons per year) = (gal/hr) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
 PTE of Toluene (ton/yr) = [Maximum Material Usage (lb/hr)] * [% Toluene (by weight)] * (8760 hr/yr) * (1 ton/2000 lbs)

**Appendix A: Emissions Calculations
Residential Wood Combustion
Outdoor Hydronic Heater (HH-1)**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

	HH-1
Maximum Wood Throughput (lbs/hr)	42.857
Heat Input Capacity (MMBtu/hr)*	0.30
Heat Content Wood (MMBtu/ton)	17.3

	Pollutant						
	PM**	PM10**	PM2.5**	SO2	NOx	VOC	CO
Emission Factor (lb/ton)	7.71	30.6	30.6	0.4	2.8	53	230.8
Emission Factor (lb/MMBtu)	0.446	1.769	1.769	0.023	0.162	3.064	13.341
Potential Emissions (tons/yr)	0.59	2.32	2.32	0.03	0.21	4.03	17.53
Totals	0.59	2.32	2.32	0.03	0.21	4.03	17.53

	Selected Hazardous Air Pollutants								Total HAPs
	Benzene	Toluene	o-Xylene	Total PAH***	Cadmium	Chromium	Manganese	Nickel	
Emission Factor (lb/ton)	1.938	0.730	0.202	0.730	2.2E-05	1.0E-06	1.7E-04	1.4E-05	3.12E-05
Emission Factor (lb/MMBtu)	0.112	0.042	0.012	0.042	1.3E-06	5.8E-08	9.8E-06	8.1E-07	
Potential Emissions (tons/yr)	1.68E-05	6.33E-06	1.75E-06	6.33E-06	1.91E-10	8.67E-12	1.47E-09	1.21E-10	
Totals	1.68E-05	6.33E-06	1.75E-06	6.33E-06	1.9E-10	8.7E-12	1.5E-09	1.2E-10	3.12E-05

Methodology

*Heat Input Capacity (MMBtu/hr) = Capacity (lbs/hr) x Higher Heating Value of wood fuel (7000 Btu/lb) x (1 MMBtu/10⁶ Btu/)

**Based on information provided in AP42 Chapter 1.10 (from 9/1996), particulate emissions are the total catch measured by EPA Method 5H. The vast majority of particulate emissions are condensed organic products of incomplete combustion equal to or less than 10 micrometers in aerodynamic diameter (PM-10). Although reported particle size data are scarce, one reference states that 95 percent of the particles emitted from a wood stove were less than 0.4 micrometers in size. Therefore, PM assumed to be 5% of total particulate emitted. The PM emission factor is filterable PM.

***Total PAH = Total Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Emission Factors are from AP-42 Chapter 1.10 (from 9/1996), SCC #21-04-008-051

AP-42 Chapter 1.10 Emission Factors reported in lb/ton, converted to lb/MMBtu by dividing by a heat content of 17.3 MMBtu/ton (as specified in AP42).

Emission Factor (lb/MMBtu) = Emission Factor (lb/ton) / Heat Content of Wood (MMBtu/ton)

Potential Emissions (tons/yr) = Heat Input Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x 8760hrs/yr x 1ton/2000lbs

**TSD Appendix A: Emission Calculations
Air Make-Up Units and Process Heaters
Natural Gas Combustion Only
MM BTU/HR <100**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Heat Input Capacity MMBtu/hr	Emission Units	HHV* mmBtu	Potential Throughput MMCF/yr
0.25	Office Furnace	mmscf	
1.5	Gas-Fired Pallet Oven		
1.8	Total	1020	15.0

	Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
Potential Emission in tons/yr	0.014	0.057	0.057	0.005	**see below	0.041	0.63

Notes

* HHV = default high heat value of the fuel.

**PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

PM2.5 emission factor is filterable and condensable PM2.5 combined.

***Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Hazardous Air Pollutants (HAPs)	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.6E-05	9.0E-06	5.6E-04	0.014	2.6E-05

Hazardous Air Pollutants (HAPs)	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.8E-06	8.3E-06	1.1E-05	2.9E-06	1.6E-05

Notes

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Total HAPs	0.014	tons/yr
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Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**TSD Appendix A: Emission Calculations
Sawdust and Mulch Handling Emissions**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Potential to Emit (PTE) PM, PM10, and PM2.5

Emission Unit ID	Process Description	Maximum Throughput (yd3/year)*	Material Bulk Density (lb/yd3)	Maximum Throughput (tons/year)*	Emission Factor (lbs/ton)**	Pollutant	PTE (lbs/yr)	PTE (lbs/hr)	PTE (tons/yr)
Roll-off Box Loading of Sawdust	Sawdust is taken from the cyclone collector and placed in a sawdust hopper located outside	2565	459	589	1.0	PM	588.7	0.07	0.29
		2565	459	589	0.36	PM10	211.9	0.02	0.11
		2565	459	589	0.36	PM2.5	211.9	0.02	0.11
Truck Loading of Mulch/Animal Bedding***	Mulch/animal bedding is taken from the stockpiles and placed in dump trailers to be shipped offsite	146292	370	27064	0.35	PM	9472.4	1.08	4.74
		146292	370	27064	0.20	PM10	5412.8	0.62	2.71
		146292	370	27064	0.20	PM2.5	5412.8	0.62	2.71

Total Maximum Throughput (tons/year) 27653

Totals	
Pollutant	PTE (tons/yr)
PM	5.03
PM10	2.81
PM2.5	2.81

* Maximum Sawdust Throughput based upon actual 2015 production of 855 yd3 sawdust (based on an 8-hour work day) x 3 (to scale up to 24 hours per day)

* Maximum Mulch/Animal Bedding Throughput based upon Maximum Throughput of the grinder (16.7 yd3 x 8760 hours/year)

Bulk Density of Hardwood Sawdust (dry) = 17 lb/ft3 = 459 lb/yd3, Bulk Density of Hardwood Chips (dry) = 13.8 lb/ft3 = 370 lb/yd3

** Sawdust handling emission factor is available only for PM10. Therefore, PM2.5 emissions were assumed equal to PM10.

***The wood grinder produces ground wood similar in size to mulch (not sawdust).

METHODOLOGY

Emission Factors for loading of sawdust are from AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants EPA Sept 1985 for Sawmill Operations (sawdust pile handling) (SCC 3-07-008-03)

Emission Factors for loading and handling of mulch/animal bedding are from AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants EPA March 1990 for Sawmill Operations (Log Sawing: General) (SCC 3-07-008-01, SCC 3-07-008-02, SCC 3-07-008-03)

Maximum Throughput (tons/year) = [Maximum Throughput (yd3/year)] * [Material Bulk Density (lb/yd3)] * [ton/2000 lbs]

Potential to Emit (lbs/yr) = [Maximum Throughput (tons/year)] * [Emission Factor (lbs/ton)]

Potential to Emit (tons/yr) = [Potential to Emit (lbs/yr)] * [ton/2000 lbs]

**Appendix A: Emission Calculations
Wood Storage Piles**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Wind Erosion on Wood Chip Storage Piles (Fugitive)

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$$
 where E_f = total suspended particulate emission factor (lb/acre/day)
 s = silt content of material (wt %)
 p = 125 days of rain greater than or equal to 0.01 inches per year
 f = 15 % of wind greater than or equal to 12 mph at the mean pile height

Material	Silt Content (wt %) ^a	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)	Uncontrolled PTE of PM (tons/yr)	Uncontrolled PTE of PM10/PM2.5 (tons/yr) ^b
Wood	1.41	1.63	0.20	0.06	0.02

Methodology

PTE of PM (tons/yr) = [Emission Factor (lb/acre/day)] * [Maximum Pile Size (acres)] * (ton/2000 lbs) * (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = [Potential PM Emissions (tons/yr)] * 35%

^a Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

^b PM2.5 emissions assumed equal to PM10 emissions

**TSD Appendix A: Emission Calculations
Paved Roads
Fugitive Emissions**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Registration No: R177-37144-00124
Reviewer: Allen Reimer

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Semi (entering plant) (one-way trip)	3.0	1.0	3.0	30.0	90.0	450	0.085	0.3	93.3
Semi (leaving plant) (one-way trip)	3.0	1.0	3.0	30.0	90.0	450	0.085	0.3	93.3
Forklift (empty) (one-way trip)	6.0	50.0	300.0	1.0	300.0	500	0.095	28.4	10369.3
Forklift (full) (one-way trip)	6.0	50.0	300.0	2.0	600.0	500	0.095	28.4	10369.3
Excavator (empty) (one-way trip)	1.0	5.0	5.0	2.0	10.0	1000	0.189	0.9	345.6
Excavator (full) (one-way trip)	1.0	5.0	5.0	5.0	25.0	1000	0.189	0.9	345.6
Totals			616.0		1115.0			59.2	21616.6

Average Vehicle Weight Per Trip =

1.8

 tons/trip
Average Miles Per Trip =

0.10

 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^{0.91} * (W)^{1.02}] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	1.8	1.8	1.8	tons = average vehicle weight (provided by source)
sL =	7.4	7.4	7.4	g/m ² = silt loading value for paved roads at municipal solid waste landfill - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p =

125

 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =

365

 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.125	0.025	0.0061	lb/mile
Mitigated Emission Factor, Eext =	0.114	0.023	0.0056	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Semi (entering plant) (one-way trip)	0.01	0.001	2.9E-04	0.01	0.001	2.6E-04
Semi (leaving plant) (one-way trip)	0.01	0.001	2.9E-04	0.01	0.001	2.6E-04
Forklift (empty) (one-way trip)	0.65	0.13	0.03	0.59	0.12	0.03
Forklift (full) (one-way trip)	0.65	0.13	0.03	0.59	0.12	0.03
Excavator (empty) (one-way trip)	0.02	0.004	0.001	0.02	0.004	0.001
Excavator (full) (one-way trip)	0.02	0.004	0.001	0.02	0.004	0.001
Totals	1.35	0.27	0.07	1.23	0.25	0.06

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

**TSD Appendix A: Emission Calculations
Unpaved Roads
Fugitive Emissions**

Company Name: Miller's Wood Specialties, Inc.
Source Address: 850 East Church Street, Cambridge City, IN 47327
Permit No: R177-37144-00124
Reviewer: Allen Reimer

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Process	Vehicle Type	Maximum Number of Vehicles Per Day	Number of one way trips per day per vehicle	Maximum Trip Per Day	Maximum Weight Loaded (tons)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Loader Full	Loader	1.0	50.0	50.0	3.00	150.00	300.000	0.057	0.2
Loader Empty	Loader	1.0	50.0	50.0	3.00	150.00	300.000	0.057	0.2
Total					6.00	300.00			0.34

Average Vehicle Weight Per Trip = 50.00 tons/trip
 Average Miles Per Trip = 0.057 miles/trip

Unmitigated Emission Factor, $E_f = k \left[\frac{s}{12} \right]^a \left[\frac{W}{3} \right]^b$ (Equation 1a from AP-42 13.2.2)

where k =	PM	PM10	PM2.5	
s =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
a =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
W =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
b =	50.0	50.0	50.0	tons = average vehicle weight (provided by source)
	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f \left[\frac{365 - P}{365} \right]$
 Mitigated Emission Factor, $E_{ext} = E_f \left[\frac{365 - P}{365} \right]$
 where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	9.15	2.33	0.23	lb/mile
Mitigated Emission Factor, $E_{ext} =$	6.02	1.53	0.15	lb/mile

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Loader Full	Loader	7.8E-04	2.0E-04	2.0E-05	5.1E-04	1.3E-04	1.3E-05
Loader Empty	Loader	7.8E-04	2.0E-04	2.0E-05	5.1E-04	1.3E-04	1.3E-05
Totals		1.6E-03	4.0E-04	4.0E-05	1.0E-03	2.6E-04	2.6E-05

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PM2.5 = PM10
 PTE = Potential to Emit



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Robert Miller
Millers Wood Specialties Incorporated
PO Box 31
Cambridge City, IN 47327

DATE: August 16, 2016

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Registration
177-37144-00124

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 2/17/2016

Mail Code 61-53

IDEM Staff	CDENNY 08/16/2016 Millers Wood Specialties Incorporated 177-37144-00124 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Robert Miller Millers Wood Specialties Incorporated PO Box 31 Cambridge City IN 47327 (Source CAATS)										
2		Cambridge City - Town Council 127 N. Foote St. Cambridge City IN 47327 (Local Official)										
3		Mr. Thomas Lee Clevenger 4005 South Franks Lane Selma IN 47383 (Affected Party)										
4		Fayette County Commissioners 401 Central Ave Connersville IN 47331 (Local Official)										
5		Wayne County Commissioners & Council 401 East Main Street Richmond IN 47374 (Local Official)										
6		Mr. Randall Shrock 2764 Abington Pike Richmond IN 47374 (Affected Party)										
7		Wayne County Health Department 401 E. Main Street Richmond IN 47374-4388 (Health Department)										
8		John Wellspring Keramida Environmental, Inc. 401 N College Ave. Indianapolis IN 46202 (Consultant)										
9		Cheryl Wise KERAMIDA, Inc. 401 North College Avenue Indianapolis IN 46202 (Consultant)										
10		Ron E & Kathleen J Sheehy 610 E Church Street Cambridge City IN 47327 (Affected Party)										
11		Shawn A Gambill 16 S College Street Cambridge City IN 47327 (Affected Party)										
12		Charlene A & Royce A Worley 820 E Main Street Cambridge City IN 47327 (Affected Party)										
13		Victoria L Brand 900 E. Main Street Cambridge City IN 47327 (Affected Party)										
14		Bert & Pauline K Gambill 916 E Main Street Cambridge City IN 47327 (Affected Party)										
15		Brian K Spurgin 4862 W CR 800 N Connersville IN 47331 (Affected Party)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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											Remarks
1		Dale A. 4933 W CR 800 N Connersville IN 47331 (Affected Party)									
2		Redelman Farms, Inc.. 504 Hanson Drive Connersville IN 47331 (Affected Party)									
3		Mosey Real Estate, Inc. 2657 SW M Street Richmond IN 47374 (Affected Party)									
4		Haber Land Co., LTD 3724 ST RT 122 W Eaton OH 45320 (Affected Party)									
5		Jerry L & Karen S Jennings 2641 Williamsburg Pike Richmond IN 47374 (Affected Party)									
6		John Anthony & Nancy Brown 4619 National Road W Richmond IN 47374 (Affected Party)									
7		Storage Express Holdings, LLC PO Box 70 Bloomington IN 47402 (Affected Party)									
8		Central Christian 4511 National Road W Richmond IN 47374 (Affected Party)									
9		Gary Howard 4501 US Highway 40 Richmond IN 47374 (Affected Party)									
10		Angela K Wehrley 4421 US Highway 40 Richmond IN 47374 (Affected Party)									
11		James B & Carol J Ray 4419 US Highway 40 Richmond IN 47374 (Affected Party)									
12		Teresa & Brian Jennings 4411 US Highway 40 Richmond IN 47374 (Affected Party)									
13		James B & Carol Ray 4409 US Highway 40 Richmond IN 47374 (Affected Party)									
14		Tim A McGinnis 4401 US Highway 40 Richmond IN 47374 (Affected Party)									
15		Joyce J McCarty 300 N Gay Street Cambridge City IN 47327 (Affected Party)									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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											Remarks
1		Lyndon Board Member 234 State Street Dublin IN 47335 (Affected Party)									
2		Wayne Robbin Board Member 222 W Front Street Cambridge City IN 47327 (Affected Party)									
3		Marilyn Sowers 550 South 23rd Street Richmond IN 47374 (Affected Party)									
4		Martha Dwyer 822 Southwest 15th Street Richmond IN 47374 (Affected Party)									
5		Terri Smith 1901 Northwest C Street Richmond IN 47374 (Affected Party)									
6		Dennis Summan 5642 West County Road 700 North Connersville IN 47331 (Affected Party)									
7		Ryan Mundt 6955 N County Road 550 W Connersville IN 47331 (Affected Party)									
8		Philip A Stanley 5534 West County Road 650 North Connersville IN 47331 (Affected Party)									
9											
10											
11											
12											
13											
14											
15											

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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