

**NEW SOURCE CONSTRUCTION PERMIT and
SOURCE SPECIFIC OPERATING AGREEMENT (SSOA)
OFFICE OF AIR MANAGEMENT**

**Indiana Hardwoods
State Highway 62 West
Chandler, Indiana 47610**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.:CP/SSOA 173-11641-00005	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary
- A.3 SSOA Applicability [326 IAC 2-9-1]

B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC 13-15-5-3]
- B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Source Specific Operating Agreement Program [326 IAC 2-9]

C SOURCE OPERATION CONDITIONS

- C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]
- C.2 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.4 Source Modification [326 IAC 2-7-10.5]
- C.5 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]
- C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.7 Permit Revocation [326 IAC 2-1-9]
- C.8 Opacity [326 IAC 5-1]
- C.9 Fugitive Dust Emissions [326 IAC 6-4]
- C.10 Performance Testing [326 IAC 3-6]

Compliance Monitoring Requirements

- C.11 Compliance Monitoring [326 IAC 2-1.1-11]
- C.12 Monitoring Methods [326 IAC 3]
- C.13 Actions Related to Noncompliance Demonstrated by a Stack Test

Record Keeping and Reporting Requirements

- C.14 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-3]
- C.15 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.16 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

D.1 Emissions Unit OPERATION CONDITIONS - Stationary Wood/Bark Fired Boilers

Emission Limitations and Standards

- D.1.1 Opacity [326 IAC 2-9-13]
- D.1.2 SSOA Fuel Usage [326 IAC 2-9-13]
- D.1.3 Particulate Matter (PM) [326 IAC 6-2-4(a)]
- D.1.4 NSPS and NESHAPs [326 IAC 2-9-13]

Compliance Determination Requirements

- D.1.5 Particulate Matter [326 IAC 2-9-13]

Record Keeping and Reporting Requirements

- D.1.6 Record Keeping Requirements [326 IAC 2-9-13]
- D.1.7 Annual Notice [326 IAC 2-9-13]
- D.1.8 Reporting Requirements [326 IAC 2-9-13]

Annual Notification & Certification Form

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee 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 Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary woodworking operation.

Authorized individual: Rick Hampton
Source Address: State Highway 62 West, Chandler, Indiana 47610
Mailing Address: State Highway 62 West, Box 39, Chandler, Indiana 47610
Phone Number: (812) 925-3343
SIC Code: 2421
Location: Warrick County
County Status: Attainment for all criteria pollutants
Source Status: Source Specific Operating Agreement (SSOA)
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions unit and pollution control device:

- (a) One (1) stationary wood/bark fired boiler, which is currently not constructed, identified as Boiler #3, with a maximum capacity of 20 MMBtu/hr, utilizing a dry mechanical multiple cyclone flyash arrestor as a control device.
- (b) One (1) stationary wood/bark fired boiler, constructed in 1977, identified as Boiler #2, with a maximum capacity of 13.38 MMBtu/hr.

A.3 SSOA Applicability [326 IAC 2-9-1]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Source Specific Operating Agreement (SSOA).

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 WITH CONDITIONS LISTED BELOW. CONDITIONS B.1 and B.4 IN THIS SECTION ARE APPLICABLE ONLY TO BOILER #3.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

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

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

All requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Source Specific Operating Agreement Program [326 IAC 2-9]

This document shall also become a source specific operating agreement pursuant to 326 IAC 2-9-1 when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emissions units were constructed as proposed in the application. The emissions units covered in the New Source Construction Permit may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (d) The operating agreement will be subject to annual operating permit fees pursuant to 326 IAC 2-9-13 (External Combustion Sources).

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 Source Status [326 IAC 2-2] [40 CFR 52.21] [326 IAC 2-9]

- (a) The total source potential to emit particulate matter after control is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this permit, including the following information on each emissions unit:
- (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;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Source Modification [326 IAC 2-9-1(e)]

- (a) Pursuant to 326 IAC 2-9-1(e), before a source subject to this section modifies its operations in such a way that it will no longer comply with the applicable restrictions and conditions of its source specific operating agreement, it shall obtain the appropriate approval from the commissioner under 326 IAC 2-1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, and 326 IAC 2-8.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

C.5 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.
 - (1) The Permittee may assert a claim that, in the opinion of the Permittee, information removed or about to be removed from the source by IDEM, OAM, or an authorized representative, contains information that is confidential under IC 5-14-3-4(a). The claim shall be made in writing before or at the time the information is removed from the source. In the event that a claim of confidentiality is so asserted, neither IDEM, OAM, nor an authorized representative, may disclose the information unless and until IDEM, OAM, makes a determination under 326 IAC 17-1-7 through 326 IAC 17-1-9 that the information is not entitled to confidential treatment and that determination becomes final. [IC 5-14-3-4; IC 13-14-11-3; 326 IAC 17-1-7 through 326 IAC 17-1-9]
 - (2) The Permittee, and IDEM, OAM, acknowledge that the federal law applies to claims of confidentiality made by the Permittee with regard to information removed or about to be removed from the source by U.S. EPA. [40 CFR Part 2, Subpart B]

C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.7 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (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 permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.8 Opacity [326 IAC 5-1]

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 permit:

- (a) Opacity shall not exceed an average of 40% in any one (1) six (6) minute averaging period.
- (b) Opacity shall not exceed 60% for more than a cumulative total of 15 minutes (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 6-hour period.

C.9 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee 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). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the applicable requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.14 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.15 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;

- (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.16 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Any reports required by conditions in Section D of this permit shall be submitted to:
- Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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, OAM, on or before the date it is due.
 - (c) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
 - (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-7-5(15)]:

- (a) One (1) stationary wood/bark fired boiler, which is currently not constructed, identified as Boiler #3, with a maximum capacity of 20 MMBtu/hr, utilizing a dry mechanical multiple cyclone flyash arrestor as a control device.
- (b) One (1) stationary wood/bark fired boiler, constructed in 1977, identified as Boiler #2, with a maximum capacity of 13.38 MMBtu/hr.

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

Emission Limitations and Standards

D.1.1 Opacity [326 IAC 2-9-13]

Pursuant to 326 IAC 2-9-13 (External Combustion Sources), the visible emissions from the external combustion units shall not exceed twenty percent (20%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.

D.1.2 SSOA Fuel Usage [326 IAC 2-9-13]

Pursuant to 326 IAC 2-9-13(g), the stationary wood/bark fired boilers covered under this permit requirements shall be limited to less than eleven thousand seven hundred sixty-four (11764) tons of wood/bark combustion per year combined, based on a straight twelve (12) month total.

D.1.3 Particulate Matter (PM) [326 IAC 6-2-4(a)]

Pursuant to 326 IAC 6-2-4(a) (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the stationary wood/bark fired boilers combined shall be limited by the following equation with Q equal to 33.38 MMBtu/hr and Pt then equal to 0.44 lbs/MMBtu of particulate matter before SSOA limitations:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where:

Pt = Pounds of particulate matter emitted per million Btu.

Q = Total source maximum operating capacity rating in million Btu per hour heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility's operated or the nameplate capacity, whichever is specified in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

D.1.4 NSPS and NESHAPS [326 IAC 2-9-13]

Pursuant to 326 IAC 2-9-1(i), the owner or operator is hereby notified that this operating agreement does not relieve the permittee of the responsibility to comply with the provisions of any applicable federal, state, or local rules, or any New Source Performance Standards (NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61.

Compliance Determination Requirements

D.1.5 Particulate Matter [326 IAC 2-9-13]

Pursuant to 326 IAC 2-9-13 (External Combustion Sources), all equipment that generate particulate matter (PM) emissions and any emission control devices shall be operated and maintained at all times in such a manner as to meet all of the requirements of this permit.

Record Keeping and Reporting Requirements

D.1.6 Record Keeping Requirements [326 IAC 2-9-13]

Pursuant to 326 IAC 2-9-13 (External Combustion Sources), the owner or operator shall prepare and maintain records of the following:

- (c) The hours operated for each external combustion unit approved under this New Source Construction and SSOA approval.
- (d) Records of the annual fuel usage for each external combustion unit approved under this New Source Construction and SSOA approval.
- (e) Records of all routine maintenance conducted on the external combustion units approved under this New Source Construction and SSOA approval.

D.1.7 Annual Notice [326 IAC 2-9-13]

- (a) The source shall provide an annual notice to the commissioner stating that the source is in operation and certifying that its operations are in compliance with this Source Specific Operating Agreement. This report shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than January 30 of each year, in the format attached.

- (b) Any change or modification which will alter operations in such a way that it will no longer comply with the applicable restrictions and conditions of this operating agreement, must obtain the appropriate approval from the Office of Air Management (OAM) under 326 IAC 2-5.1, 326 IAC 2-5.5, 326 IAC 2-6.1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, and 326 IAC 2-8, before such changes may occur.

D.1.8 Reporting Requirements [326 IAC 2-9-7]

Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence. Said report shall include such information on the actions taken to correct the exceedance, including measures to reduce emissions, in order to comply with the established limits. If an exceedance is the result of a malfunction, then the provisions of 326 IAC 1-6 apply.

Annual Notification & Certification Form Source Specific Operating Agreement Program

This form should be used to comply with the notification and certification requirements under 326 IAC 2-9.

Company Name:	Indiana Hardwoods
Source Address:	State Highway 62 West, Chandler, Indiana 47610
Contact Person:	Gayle Pahmeier
Phone #:	(812) 634-3702
Agreement #:	S 173-11641-00005

I hereby certify that the source identified above is still in operation and is in compliance with the requirements of the above mentioned Source Specific Operating Agreement.

Name of Responsible Official (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for a Construction and Source Specific Operating Agreement Permit

Source Name: Indiana Hardwoods
Source Location: State Highway 62 West, Chandler, Indiana 47610
County: Warrick
SIC Code: 2421
Operation Permit No.: 173-11641-00005
Permit Reviewer: Lynn Riddle

The Office of Air Management (OAM) had a public notice published for a Construction and Source Specific Operating Permit for Indiana Hardwoods to construct one (1) stationary wood fired boiler (Boiler #3) utilizing a dry mechanical multiple cyclone flyash arrestor as air pollution control, and to operate two (2) stationary wood fired boilers (Boilers #2 and #3) under a Source Specific Operating Agreement (SSOA). The notice was published in the Evansville Courier on January 4, 2000, and the Boonville Standard on January 6, 2000. The source is already operating an existing wood fired boiler (Boiler #2). OAM proposes to issue a permit for this operation. There is a period of thirty (30) days from January 4, 2000 to February 3, 2000, to provide comments on whether or not this permit should be issued as proposed.

On January 7, 1999, Kimball submitted the following comments via email on the proposed Construction and Source Specific Operating Permit on behalf of Indiana Hardwoods. The following is a summary of the comments. In the responses, additions to the permit are bolded for emphasis; the language with a line through it has been deleted. The Table Of Contents has been modified to reflect these changes.

Responses to Comments

Comment 1:

The public notice implies that Indiana Hardwoods is constructing two (2) boilers not one. The other boiler (# 2) was constructed in 1977 (Registration number 87-07-0067).

Response 1:

The Notice of 30-Day Period for Public Comment was published in the Evansville Courier on January 4, 2000, and in the Boonville Standard on January 6, 2000. In that notice it was stated that Indiana Hardwoods "...has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a permit to construct and operate two (2) stationary wood fired boilers (Boiler #2, and Boiler #3) with Boiler #3 utilizing a dry mechanical multiple cyclone flyash arrestor as air pollution control."

The Notice should have stated that Indiana Hardwoods "...has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a permit to construct one (1) stationary wood fired boiler (Boiler #3) utilizing a dry mechanical multiple cyclone flyash arrestor as air pollution control, and to operate two (2) stationary wood fired boilers (Boilers #2 and #3) under a Source Specific Operating Agreement (SSOA)". Supporting documents and draft permits clearly indicate the intention of constructing only one boiler and that this new boiler and existing permitted one will operate under SSOA limitations. The Construction and Source Specific Operating Agreement Permit will not be re-public noticed and the public notice document will remain unchanged. This TSD Addendum serves as the clarification for the Notice of 30-Day Period for Public Comment.

Comment 2:

Second, the draft permit lists this existing boiler as 1 Million BTU capacity. This is incorrect. As our application and cover letter stated, this existing boiler has a 400 Horse Power (approximately 13.5 Million BTU) capacity. This error affects the following conditions (at a minimum): A.2(b); D.1.3. The error appears throughout the technical support document.

Response 2:

Upon further review, Boiler #2 with a maximum capacity of 400 Horsepower was determined to have a maximum capacity of 13.38 MMBtu/hr instead of 1 MMBTU/hr as previously stated in the CP/SSOA. The incorrect conversion factor was used from AP-42, therefore the calculations have been re-evaluated and the maximum capacity of Boiler #2 has been determined to be 13.38 MMBtu/hr. The OAM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. The following conditions will be affected by this change: A.2(b), D.1 (Facility Description), D.1.3, and Appendix A (Boiler #2 calculations). Upon further review, the OAM determined that the units for the PM emission limitation was incorrect in Condition D.1.3, and the reference "before SSOA limitations" in Condition D.1.3 also needed to be removed. It was removed because the PM limit is dependent of the MMBtu/hr capacity of the boilers. The following changes will be made:

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions unit and pollution control device:

- (b) One (1) stationary wood/bark fired boiler, constructed in 1977, identified as Boiler #2, with a maximum capacity of ~~1~~ **13.38** MMBtu/hr.

D.1 (Facility Description)

- (b) One (1) stationary wood/bark fired boiler, constructed in 1977, identified as Boiler #2, with a maximum capacity of ~~1~~ **13.38**MMBtu/hr.

D.1.3 Particulate Matter (PM) [326 IAC 6-2-4(a)]

Pursuant to 326 IAC 6-2-4(a) (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the stationary wood/bark fired boilers combined shall be limited by the following equation with Q equal to ~~21~~ **33.38** MMBtu/hr and Pt then equal to ~~0.49~~ **0.44** lbs/MMBtu/hr of particulate matter ~~before SSOA limitations~~:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where:

Pt = Pounds of particulate matter emitted per million Btu.

Q = Total source maximum operating capacity rating in million Btu per hour heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility's operated or the nameplate capacity, whichever is specified in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

In addition, the calculations have been revised as shown on the attached spreadsheet.

Responses to Comments

On January 26, 1999, Kimball submitted the following comments via phone conversation on the proposed Construction and Source Specific Operating Permit on behalf of Indiana Hardwoods. The following is a summary of the comments. In the responses, additions to the permit are bolded for emphasis; the language with a line through it has been deleted. The Table Of Contents has been modified to reflect these changes.

Comment 1:

Condition C.8 (Opacity) references the opacity as 40% which contradicts the opacity limitation in Condition D.1.1 (External Combustion Sources) in the permit. Which is the correct one, and should the C.8 limitation either be removed or changed to match the D.1.1 limitation.

Response 1:

The C.8 opacity limitation is for the entire source and since the entire source consists of emission units other than the two (2) boilers, it is necessary for the condition to remain in the permit. However, the opacity limitation in D.1.1 is a specific SSOA opacity limitation specifically for the boilers to be followed. Therefore both conditions must be in the permit and no change will be made as a result of this comment.

Comment 2:

Particulate Matter Calculations from Condition D.1.3 produce a very small Particulate Matter Limitation. Is this limit commonly being used and, in this case is it applied correctly?

Response 2:

Yes, the limit in Condition D.1.3 comes from 326 IAC 6-2-4(a). The limit is applicable to the indirect heating facilities, which will be constructed after September 21, 1983. The limit produces the correct Pt (Pounds of particulate matter) for the current Q (total source maximum operating capacity). Therefore, no change will be made as a result of this comment.

Comment 3:

Stack testing is not required in this CP/SSOA, should it be?

Response 3:

Stack testing is not required in this CP/SSOA and the draft permit did not indicate any stack testing requirements. Therefore, no change will be made as a result of this comment.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a New Source Construction and Source Specific Operating Agreement (SSOA)

Source Background and Description

Source Name: Indiana Hardwoods
Source Location: State Highway 62 West, Chandler, Indiana 47610
County: Warrick
SIC Code: 2421
Operation Permit No.: CP 173-11641-00005
Permit Reviewer: Lynn Riddle

The Office of Air Management (OAM) has reviewed a New Source Construction/SSOA application from Indiana Hardwoods relating to the construction and operation of the stationary wood/bark fired boilers.

History

Indiana Hardwoods was issued SSOA 173-10203-00005 on October 28, 1998 for woodworking operations. On October 28, 1999 Indiana Hardwoods was issued a second SSOA 173-11463-00005 for wood/bark fired boilers. It was then determined that due to the potential emissions for this wood/bark fired boiler exceeding 25 tons per year after the SSOA limitations a Construction Permit is to be issued. Therefore, SSOA 173-11463-00005 will be superceded by this approval. This new source construction and Source Specific Operating Agreement will serve as both construction and operation approval for this wood/bark fired boiler #3. The wood/bark fired boiler #2 was constructed in 1977 under 87-07-0067 and will be covered under the SSOA permit only. In addition, Indiana Hardwoods currently has an application for another SSOA 173-11284-00005 for a glue booth which will be given separate approval.

New Emission Units and Pollution Control Equipment

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-8-4(11):

- (a) One (1) stationary wood/bark fired boiler, which is currently not constructed, identified as Boiler #3, with a maximum capacity of 20 MMBtu/hr, utilizing a dry mechanical multiple cyclone flyash arrestor as a control device.
- (b) One (1) stationary wood/bark fired boiler, constructed in 1977, identified as Boiler #2, with a maximum capacity of 1 MMBtu/hr.

Existing Approvals

- (a) SSOA 173-10203-00005
- (b) 87-07-0067

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (inches)	Flow Rate (acfm)	Temperature (EF)
Boiler #3	Wood/Bark Fired	40.0	30.0	14,000	420

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

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 October 15, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations.

Potential To Emit of the Wood/Bark Fired Boilers

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Potential to Emit of the Boilers at their maximum capacity:

Pollutant	Potential To Emit (Before SSOA Limitations) (tons/year)	Potential To Emit (After SSOA Limitations) (tons/year)
PM	90	56
PM ₁₀	90	56
SO ₂	0.7	0.4
VOC	1.9	1.2
CO	67.4	42.0
NO _x	3.9	2.4

HAPs	Potential To Emit (Before SSOA Limitations) (tons/year)	Potential To Emit (After SSOA Limitations) (tons/year)
TOTAL	Negligible	Negligible

The potential to emit (as defined in 326 IAC 2-7-1(29)) of particulate matter and nitrogen oxides (NO_x) are equal to or greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.

Total Potential To Emit of the entire source including the boilers and woodworking:

Pollutant	Potential To Emit (Before SSOA Limitations) (tons/year)	Potential To Emit (After SSOA Limitations) (tons/year)
PM	1592.34	71.02
PM ₁₀	1592.34	71.02
SO ₂	0.7	0.4
VOC	1.9	1.2
CO	67.4	42.0
NO _x	3.9	2.4

HAPs	Potential To Emit (Before SSOA Limitations) (tons/year)	Potential To Emit (After SSOA Limitations) (tons/year)
TOTAL	Negligible	Negligible

County Attainment Status

The source is located in Warrick County.

Pollutant	Status
PM-10	attainment
SO ₂	unclassifiable
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Warrick County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD Definition (emissions of their woodworking operation after SSOA Limitation, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	15.02
PM ₁₀	15.02
SO ₂	--
VOC	--
CO	--
NO _x	--
Single HAP	negligible
Combination HAPS	negligible

- (a) This new source is not a major stationary source because no attainment pollutant is emitted at a rate of 100 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements and 326 IAC 2-3, the Emission Offset requirements do not apply.

326 IAC 2-7 (Part 70 Permit Program)

This new source has concurrently applied on October 15, 1999 for a Source Specific Operating Agreement (SSOA) under 326 IAC 2-9-13(g).

This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source will be issued a SSOA pursuant to 326 IAC 2-9-13.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPSs) (326 IAC 12 and 40 CFR Part 60) applicable to these boilers. Subpart Db (Standards of Performance for Industrial- Commercial- Institutional Steam Generating Units) is not applicable since the boilers are not capable of combusting more than 250 MMBtu heat input of fossil fuel.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to these boilers.

State Rule Applicability - Boilers

326 IAC 2-9-13 (External Combustion Sources)

The facilities and processes of this stationary source shall be granted the Source Specific Operating Agreement provided that:

- (a) Pursuant to 326 IAC 2-9-13(g), the stationary wood/bark fired boilers covered under the SSOA requirements shall be limited to less than eleven thousand seven hundred sixty-four (11764) tons of wood/bark combustion per year, based on a straight twelve (12) month total.
- (b) Pursuant to 326 IAC 2-9-13 (External Combustion Sources), all equipment that generate particulate matter (PM) emissions and any emission control devices shall be operated and maintained at all times in such a manner as to meet all of the requirements of this Source Specific Operating Agreement.
- (c) Pursuant to 326 IAC 2-9-13 (External Combustion Sources), the visible emissions from the external combustion unit shall not exceed twenty percent (20%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.
- (d) Pursuant to 326 IAC 2-9-13 (External Combustion Sources), the owner or operator shall prepare and maintain records of the following:
 - (1) The hours operated for each external combustion unit approved under this New Source Construction and SSOA approval.
 - (2) Records of the annual fuel usage for each external combustion unit approved under this New Source Construction and SSOA approval.
 - (3) Records of all routine maintenance conducted on the external combustion units approved under this New Source Construction and SSOA approval.
- (e) The source shall provide an annual notice to the commissioner stating that the source is in operation and certifying that its operations are in compliance with this Source Specific Operating Agreement. This report shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than January 30 of each year, in the format attached.
- (f) Any change or modification which will alter operations in such a way that it will no longer comply with the applicable restrictions and conditions of this operating agreement, must obtain the appropriate approval from the Office of Air Management (OAM) under 326 IAC 2-5.1, 326 IAC 2-5.5, 326 IAC 2-6.1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, and 326 IAC 2-8, before such changes may occur.
- (g) Pursuant to 326 IAC 2-9-1(i), the owner or operator is hereby notified that this operating agreement does not relieve the permittee of the responsibility to comply with the provisions of any applicable federal, state, or local rules, or any New Source Performance Standards (NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61.

- (h) Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence. Said report shall include such information on the actions taken to correct the exceedance, including measures to reduce emissions, in order to comply with the established limits. If an exceedance is the result of a malfunction, then the provisions of 326 IAC 1-6 apply.

326 IAC 6-2-4(a) (Particulate Matter (PM))

Pursuant to 326 IAC 6-2-4(a) (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the stationary wood/bark fired boilers shall be limited by the following equation with Q equal to 21 MMBtu/hr and Pt then equal to 0.49 lbs/MMBtu of particulate matter before SSOA limitations:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where:

Pt = Pounds of particulate matter emitted per million Btu.

Q = Total source maximum operating capacity rating in million Btu per hour heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility's operated or the nameplate capacity, whichever is specified in the facility's operation permit; in which case, the capacity specified in the operation permit shall be

326 IAC 6-4 (Fugitive Dust Emissions)

Fugitive dust shall not 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).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

Conclusion

The construction and operation of this wood/bark fired boiler shall be subject to the conditions of the attached proposed New Source Construction and Source Specific Operating Agreement CP 173-11641-00005.

**Appendix A: Emissions Calculations
External Combustion Boiler - Commercial/Institutional
Wood Waste Combustion (wood-fired boiler, uncontrolled)**

Company Name: Indiana Hardwoods
Address City IN Zip: State Highway 62
CP: 173-11641-00005
Reviewer: Lynn Riddle
Date: 11-18-99

**Boiler # 3
Before SSOA Limitations**

Capacity MMBtu/hr	Capacity tons/hr
20.00	2.22

Emission Factor in lb/ton	Pollutant					
	PM 8.8	PM10* 8.8	SO2 0.075	NOx 0.38	VOC 0.18	CO 6.6
Potential Emission in tons/yr	85.7	85.7	0.7	3.7	1.8	64.2

* AP-42 does not contain a PM10 emission factor, therefore the PM10 emission factor is assumed to be equal to the PM emission factor.

Methodology

The factors are based on wet, as-fired wood waste with an average moisture content of 50% and an average heating value of 4,500 Btu/lb.

Heating value of wood = 4500 Btu/lb

Capacity (tons/hr) = Heat Input Capacity (MMBtu/hr) x Heating Value of wood (1lb/4500 Btu) x (10⁶ Btu/MMBtu) x 1 ton/2000 lbs

Emission Factors are from AP-42 Chapter 1.6 (Supplement E, 2/99), SCC #1-01-009-03, 1-02-009-03, 1-02-009-06, 1-03-009-03

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

Additional emission factors for HAPs and other types of wood waste combustion are available in AP-42, Chapter 1.6.

**Appendix A: Emissions Calculations
 External Combustion Boiler - Commercial/Institutional
 Wood Waste Combustion (wood-fired boiler, after SSOA limitations)**

Company Name: Indiana Hardwoods
Address City IN Zip: State Highway 62
CP: 173-11641-00005
Reviewer: Lynn Riddle
Date: 11-18-99

Boiler # 3

After SSOA Limitations

Capacity MMBtu/hr	Capacity tons/hr
12.07	1.34

Page 1 of 2 TSD App A

Emission Factor in lb/ton	Pollutant					
	PM	PM10*	SO2	NOx	VOC	CO
	8.8	8.8	0.075	0.38	0.18	6.6
Potential Emission in tons/yr	51.7	51.7	0.4	2.2	1.1	38.8

* AP-42 does not contain a PM10 emission factor, therefore the PM10 emission factor is assumed to be equal to the PM emission factor.

Methodology

The factors are based on wet, as-fired wood waste with an average moisture content of 50% and an average heating value of 4,500 Btu/lb.

Heating value of wood = 4500 Btu/lb

Capacity (tons/hr) = Heat Input Capacity (MMBtu/hr) x Heating Value of wood (1lb/4500 Btu) x (10⁶ Btu/MMBtu) x 1 ton/2000 lbs

Emission Factors are from AP-42 Chapter 1.6 (Supplement E, 2/99), SCC #1-01-009-03, 1-02-009-03, 1-02-009-06, 1-03-009-03

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

Additional emission factors for HAPs and other types of wood waste combustion are available in AP-42, Chapter 1.6.

**Appendix A: Emissions Calculations
External Combustion Boiler - Commercial/Institutional
Wood Waste Combustion (wood-fired boiler, after SSOA limitations)**

Company Name: Indiana Hardwoods
Address City IN Zip: State Highway 62
CP: 173-11641-00005
Reviewer: Lynn Riddle
Date: 11-18-99

Boiler # 2

Before SSOA Limitations

Capacity MMBtu/hr	Capacity tons/hr
4 13.38	0.14 1.49

Page 1 of 2 TSD App A

Emission Factor in lb/ton	Pollutant					
	PM 8.8	PM10* 8.8	SO2 0.075	NOx 0.38	VOC 0.18	CO 6.6
Potential Emission in tons/yr	4.3 57.3	4.3 57.3	0.0 0.5	0.2 2.5	0.1 1.2	3.2 43.0

* AP-42 does not contain a PM10 emission factor, therefore the PM10 emission factor is assumed to be equal to the PM emission factor.

Methodology

The factors are based on wet, as-fired wood waste with an average moisture content of 50% and an average heating value of 4,500 Btu/lb.

Heating value of wood = 4500 Btu/lb

Capacity (tons/hr) = Heat Input Capacity (MMBtu/hr) x Heating Value of wood (1lb/4500 Btu) x (10⁶ Btu/MMBtu) x 1 ton/2000 lbs

Emission Factors are from AP-42 Chapter 1.6 (Supplement E, 2/99), SCC #1-01-009-03, 1-02-009-03, 1-02-009-06, 1-03-009-03

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

Additional emission factors for HAPs and other types of wood waste combustion are available in AP-42, Chapter 1.6.