

United States Environmental Protection Agency
Region 10, Air & Radiation Division
1200 Sixth Avenue, Suite 155, 15-H13
Seattle, Washington 98101

Permit Number: R10T5020200
Issued: July 1, 2021
Effective: August 1, 2021
Expiration: August 1, 2026
Replaces: R10T5020101
AFS Plant I.D. Number: 16-009-00018

Title V Air Quality Operating Permit Permit Renewal #2

In accordance with the provisions of Title V of the Clean Air Act (42 U.S.C. 7401 *et seq.*), 40 CFR Part 71 and other applicable rules and regulations,

Stimson Lumber Company

is authorized to operate air emission units and to conduct other air pollutant emitting activities in accordance with the conditions listed in this permit. This source is authorized to operate in the following location:

Location: Coeur d'Alene Reservation
733 10th Street
Plummer, Idaho 83851-0639
Latitude: 47.33°N
Longitude: 116.89°W

Responsible Official: Kevin Crider
Plant Manager
Stimson Lumber Company
Plummer, Idaho 83851-0639
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Company Contact: Steven Petrin
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The United States Environmental Protection Agency (EPA) has also developed a statement of basis that describes the bases for conditions contained in this permit.

Doug Hardesty, Acting Chief
Air Permits and Toxics Branch
Air and Radiation Division
U.S. EPA, Region 10

Date

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Abbreviations and Acronyms

AF	Adjustment factor
ASTM	American Society for Testing and Material
Bf	Board feet
Btu	British thermal units
CAA	Clean Air Act [42 U.S.C. section 7401 et seq.]
CFR	Code of Federal Regulations
CO	Carbon monoxide
dscf	Dry standard cubic feet
EF _x	Emission factor for pollutant X
EU ID	Emission unit identification
EPA	United States Environmental Protection Agency (also U.S. EPA)
FC	Fuel Content
F	Fahrenheit
F _d	Volume of combustion components per unit of heat content on a dry basis
FARR	Federal Air Rules for Reservations
FR	Federal Register
gr/dscf	Grains per dry standard cubic foot (7,000 grains = 1 pound)
GWR _{EQP}	Green wood residue equipment
HAP	Hazardous air pollutant
hr	Hour
lb	Pound (lbs = pounds)
mm	Million
mmBtu	Million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Parts 61 and 63)
NO _x	Nitrogen oxides
PM	Particulate matter
PM ₁₀	Particulate matter less than or equal to 10 microns in aerodynamic diameter
PSD	Prevention of significant deterioration
PTE	Potential to emit
S	Sulfur
SO ₂	Sulfur dioxide
Stimson	Stimson Lumber Company
tpy	Tons per year
VOC	Volatile organic compound

1. Source Information and Emission Units

The Stimson Lumber Company (Stimson or Permittee) facility is a lumber mill that produces dry dimensional lumber. The emission units are listed in Table 1.

Table 1: Emission Units (EU) and Control Devices

EU #	Emission Unit Description	Control Device ¹
EU-1	Hogged Fuel-Fired Boiler: Riley R-X-1, Serial No. 2771, (including ash handling fugitives); 70,000 lb/hr steam output capacity, 105 mmBtu/hr heat input capacity; manufactured 1951, installed 1983	Joy Manufacturing multiclone, Yanke Energy wet scrubber. Scrubber installed July 2009.
EU-2	Lumber Drying Kilns: Four, batch-type, indirect steam-heated, dual-track kilns; combined annual capacity 130 mmbf	None
EU-3	Sawmill: Includes log bucking and debarking, hog, bark conveying, log sawing, sawdust conveying, chipper, chip conveying and loading, unloading and storage of materials in sawdust and chip truck bins; annual capacity 109.2 mmbf of logs, or 393,000 dry tons of logs	None
EU-4	Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 130 mmbf.	None
EU-5	Used Oil-Fired Heater: Clean Burn 4000, 280,000 Btu/hr.	None
EU-6	Piles and handling; bark fuel pile, sawdust pile, shavings pile; drop onto pile, wind erosion of piles	None
EU-7	Tanks: diesel (15,000 gallon), gasoline (500 gallon) and used oil (2,120 gallon) fuel tanks, horizontal	None
EU-8	Plant Traffic: in log yard, on paved areas and in green lumber stacking area; involves front-end loaders and trucks	None
EU-9 ²	Miscellaneous activities that consist of the application of surface protection products that generate emissions.	None

¹ The multiclone and scrubber are required to be used by this permit.

² This source has been designated an ‘Insignificant Emission Unit’ as its potential to emit regulated air pollutants, excluding HAPs, does not exceed 2 tpy.

2. Standard Terms and Conditions

2.1. Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations. The language of the cited regulation takes precedence over paraphrasing except the text of terms specified pursuant to any of the following sections is directly enforceable: section 304(f)(4) of the Federal Clean Air Act (CAA), 40 CFR 71.6(a)(3)(i)(B and C), 71.6(a)(3)(ii), 71.6(b) and 71.6(c)(1), or any other term specifically identified as directly enforceable.

Compliance with the Permit

2.2. The Permittee must comply with all conditions of this Part 71 permit. All terms and conditions of this permit are enforceable by EPA and citizens under the Clean Air Act. Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[40 CFR 71.6(a)(6)(i), 71.6(b)]

- 2.3. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
[40 CFR 71.6(a)(6)(ii)]

Permit Shield

- 2.4. Compliance with the terms and conditions of this permit shall be deemed compliance with the applicable requirements specifically listed in this permit as of the date of permit issuance.
[40 CFR 71.6(f)(1)]
- 2.5. Nothing in this permit shall alter or affect the following:
- 2.5.1. The provisions of section 303 of the Clean Air Act (emergency orders), including the authority of EPA under that section;
 - 2.5.2. The liability of a Permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - 2.5.3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Clean Air Act; or
 - 2.5.4. The ability of EPA to obtain information under section 114 of the Clean Air Act.
[40 CFR 71.6(f)(3)]

Other Credible Evidence

- 2.6. For the purpose of submitting compliance certifications in accordance with Condition 3.49 of this permit, or establishing whether or not a person has violated or is in violation of any requirement of this permit, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.
[Section 113(a) and 113(e)(1) of the CAA, 40 CFR 49.123(d), 51.212, 52.12, 52.33, 60.11(g), and 61.12]

Permit Actions

- 2.7. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[40 CFR 71.6(a)(6)(iii)]
- 2.8. The permit may be reopened by EPA and the permit revised prior to expiration under any of the circumstances described in 40 CFR 71.7(f).
[40 CFR 71.7(f)]

Permit Expiration and Renewal

- 2.9. This permit shall expire on the expiration date on page one of this permit or on an earlier date if the source is issued a Part 70 or Part 71 permit by a permitting authority under an EPA approved or delegated permit program.
[40 CFR 71.6(a)(11)]
- 2.10. Expiration of this permit terminates the Permittee's right to operate unless a timely and complete permit renewal application has been submitted at least six months, but not more than 18 months, prior to the date of expiration of this permit.
[40 CFR 71.5(a)(1)(iii), 71.7(b) and 71.7(c)(1)(ii)]
- 2.11. If the Permittee submits a timely and complete permit application for renewal, consistent with 40 CFR 71.5(a)(2), but EPA has failed to issue or deny the renewal permit, then all the terms and conditions of the permit, including any permit shield granted pursuant to 40 CFR 71.6(f) shall remain in effect until the renewal permit has been issued or denied. This permit shield shall cease to apply if, subsequent to

the completeness determination, the Permittee fails to submit by the deadline specified in writing by EPA any additional information identified as being needed to process the application.

[40 CFR 71.7(c)(3) and 71.7(b)]

Off Permit Changes

- 2.12. The Permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met:
- 2.12.1. Each change is not addressed or prohibited by this permit;
 - 2.12.2. Each change meets all applicable requirements and does not violate any existing permit term or condition;
 - 2.12.3. The changes are not changes subject to any requirement of 40 CFR Parts 72 through 78 or modifications under any provision of Title I of the Clean Air Act;
 - 2.12.4. The Permittee provides contemporaneous written notice to EPA of each change, except for changes that qualify as insignificant activities under 40 CFR 71.5(c)(11), that describes each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change;
 - 2.12.5. The changes are not covered by a permit shield provided under 40 CFR 71.6(f) and Conditions 2.4 and 2.5 of this permit; and
 - 2.12.6. The Permittee keeps a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes.

[40 CFR 71.6(a)(12)]

Emissions Trading and Operational Flexibility

- 2.13. The Permittee is allowed to make a limited class of changes under section 502(b)(10) of the Clean Air Act within this permitted facility that contravene the specific terms of this permit without applying for a permit revision, provided:
- 2.13.1. The changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions);
 - 2.13.2. The changes are not modifications under any provision of Title 1 of the Clean Air Act;
 - 2.13.3. The changes do not violate applicable requirements;
 - 2.13.4. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;
 - 2.13.5. The Permittee sends a notice to EPA, at least seven days in advance of any change made under this provision, that describes the change, when it will occur and any change in emissions and identifies any permit terms or conditions made inapplicable as a result of the change and the Permittee attaches each notice to its copy this permit; and
 - 2.13.6. The changes are not covered by a permit shield provided under 40 CFR 71.6(f) and Conditions 2.4 and 2.5 of this permit.

[40 CFR 71.6(a)(13)(i) and 71.6(c)(1)]

- 2.14. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

[40 CFR 71.6(a)(8)]

Severability

- 2.15. The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force. [40 CFR 71.6(a)(5)]

Property Rights

- 2.16. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 71.6(a)(6)(iv)]

3. General Requirements

General Compliance Schedule

- 3.1. For applicable requirements with which the source is in compliance, the Permittee will continue to comply with such requirements. [40 CFR 71.6(c)(3) and 71.5(c)(8)(iii)(A)]
- 3.2. For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis. [40 CFR 71.6(c)(3) and 71.5(c)(8)(iii)(B)]

Inspection and Entry

- 3.3. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow EPA or an authorized representative to perform the following:
- 3.3.1. Enter upon the Permittee's premises where a Part 71 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
 - 3.3.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
 - 3.3.3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - 3.3.4. As authorized by the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [40 CFR 71.6(c)(2)]

Open Burning Restrictions

- 3.4. Except as exempted in 40 CFR 49.131(c), the Permittee shall not openly burn, or allow the open burning of, the following materials:
- 3.4.1. Garbage;
 - 3.4.2. Dead animals or parts of dead animals;
 - 3.4.3. Junked motor vehicles or any materials resulting from a salvage operation;
 - 3.4.4. Tires or rubber materials or products;
 - 3.4.5. Plastics, plastic products, or styrofoam;
 - 3.4.6. Asphalt or composition roofing, or any other asphaltic material or product;
 - 3.4.7. Tar, tarpaper, petroleum products, or paints;
 - 3.4.8. Paper, paper products, or cardboard other than what is necessary to start a fire or that is generated at single-family residences or residential buildings with four or fewer dwelling units and is burned at the residential site;
 - 3.4.9. Lumber or timbers treated with preservatives;
 - 3.4.10. Construction debris or demolition waste;

- 3.4.11. Pesticides, herbicides, fertilizers, or other chemicals;
- 3.4.12. Insulated wire;
- 3.4.13. Batteries;
- 3.4.14. Light bulbs;
- 3.4.15. Materials containing mercury (e.g., thermometers);
- 3.4.16. Asbestos or asbestos-containing materials;
- 3.4.17. Pathogenic wastes;
- 3.4.18. Hazardous wastes; or
- 3.4.19. Any material other than natural vegetation that normally emits dense smoke or noxious fumes when burned.

[40 CFR 49.131(c) and (d)(1)]

3.5. Open burning shall be conducted as follows:

- 3.5.1. All materials to be openly burned shall be kept as dry as possible through the use of a cover or dry storage;
- 3.5.2. Before igniting a burn, noncombustibles shall be separated from the materials to be openly burned to the greatest extent practicable;
- 3.5.3. Natural or artificially induced draft shall be present, including the use of blowers or air curtain incinerators where practicable;
- 3.5.4. To the greatest extent practicable, materials to be openly burned shall be separated from the grass or peat layer; and
- 3.5.5. A fire shall not be allowed to smolder.

[40 CFR 49.131(e)(1)]

3.6. Except for exempted fires set for cultural or traditional purposes, a person shall not initiate any open burning when:

- 3.6.1. The Regional Administrator has declared a burn ban; or
- 3.6.2. An air stagnation advisory has been issued or an air pollution alert, warning or emergency has been declared by the Regional Administrator.

[40 CFR 49.131(d)(2), (d)(3), and (e)(2), and 49.137(c)(4)(i)]

3.7. Except for exempted fires set for cultural or traditional purposes, any person conducting open burning when such an advisory is issued or declaration is made shall either immediately extinguish the fire, or immediately withhold additional material such that the fire burns down.

[40 CFR 49.131(e)(3) and 49.137(c)(4)(ii)]

3.8. Nothing in this section exempts or excuses any person from complying with applicable laws and ordinances of local fire departments and other governmental jurisdictions.

[40 CFR 49.131(d)(4)]

Visible Emissions Limits

3.9. Except as provided for in Conditions 3.10 and 3.11, the visible emissions from any air pollution source that emits, or could emit, particulate matter or other visible air pollutants shall not exceed 20% opacity, averaged over any consecutive six-minute period. Compliance with this emission limit is determined as follows:

- 3.9.1. Using EPA Reference Method 9 found in Appendix A of 40 CFR part 60; or

3.9.2. Alternatively, using a continuous opacity monitoring system that complies with Performance Specification 1 found in Appendix B of 40 CFR part 60. [40 CFR 49.124(d)(1) and (e)]

3.10. The requirements of Condition 3.9 do not apply to open burning, agricultural activities, forestry and silvicultural activities, non-commercial smoke houses, sweat houses or lodges, smudge pots, furnaces and boilers used exclusively to heat residential buildings with four or fewer dwelling units, or emissions from fuel combustion in mobile sources. [40 CFR 49.124(c)]

3.11. Exceptions to the visible emission limit in Condition 3.9 include:

3.11.1. The visible emissions from an air pollution source may exceed the 20% opacity limit if the owner or operator of the air pollution source demonstrates to the Regional Administrator's satisfaction that the presence of uncombined water, such as steam, is the only reason for the failure of an air pollution source to meet the 20% opacity limit.

3.11.2. The visible emissions from an oil-fired boiler or solid fuel-fired boiler that continuously measures opacity with a continuous opacity monitoring system (COMS) may exceed the 20% opacity limit during start-up, soot blowing, and grate cleaning for a single period of up to 15 consecutive minutes in any eight consecutive hours, but must not exceed 60% opacity at any time.

[40 CFR 49.124(d)(2) and (3)]

Fugitive Particulate Matter Requirements and Recordkeeping

3.12. Except as provided in Condition 3.17, the Permittee shall take all reasonable precautions to prevent fugitive particulate matter emissions and shall maintain and operate all pollutant-emitting activities to minimize fugitive particulate matter emissions. Reasonable precautions include, but are not limited to the following:

3.12.1. Use, where possible, of water or chemicals for control of dust in the demolition of buildings or structures, construction operations, grading of roads, or clearing of land;

3.12.2. Application of asphalt, oil (but not used oil), water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces that can create airborne dust;

3.12.3. Full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals is not sufficient or appropriate to prevent particulate matter from becoming airborne;

3.12.4. Implementation of good housekeeping practices to avoid or minimize the accumulation of dusty materials that have the potential to become airborne, and the prompt cleanup of spilled or accumulated materials;

3.12.5. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;

3.12.6. Adequate containment during sandblasting or other similar operations;

3.12.7. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; and

3.12.8. The prompt removal from paved streets of earth or other material that does or may become airborne.

[40 CFR 49.126(d)(1) and (2)]

3.13. Once each calendar year, during typical operating conditions and meteorological conditions conducive to producing fugitive dust, the Permittee shall survey the facility to determine the sources of fugitive

particulate matter emissions. For new sources or new operations, a survey shall be conducted within 30 days after commencing operation.

3.13.1. The Permittee shall record the results of the survey, including the date and time of the survey and identification of any sources of fugitive particulate matter emissions found; and

3.13.2. If sources of fugitive particulate matter emissions are present, the Permittee shall determine the reasonable precautions that will be taken to prevent fugitive particulate matter emissions.
[40 CFR 49.126(e)(1)(i) and (ii)]

3.14. The Permittee shall prepare, and update as necessary following each survey, a written plan that specifies the reasonable precautions that will be taken and the procedures to be followed to prevent fugitive particulate matter emissions, including appropriate monitoring and recordkeeping.

3.14.1. For construction or demolition activities, a written plan shall be prepared prior to commencing construction or demolition.
[40 CFR 49.126(e)(1)(iii) and (iv)]

3.15. The Permittee shall implement the written plan, and maintain and operate all sources to minimize fugitive particulate matter emissions.
[40 CFR 49.126(e)(1)(iii) and (iv)]

3.16. Efforts to comply with this section cannot be used as a reason for not complying with other applicable laws and ordinances.
[40 CFR 49.126(e)(3)]

3.17. The requirements of Conditions 3.12 through 3.16 do not apply to open burning, agricultural activities, forestry and silvicultural activities, sweat houses or lodges, non-commercial smoke houses, or activities associated with single-family residences or residential buildings with four or fewer dwelling units.
[40 CFR 49.126(c)]

Other Work Practice Requirements and Recordkeeping

3.18. The Permittee shall comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR Part 68 no later than the latest of the following dates:

3.18.1. Three years after the date on which a regulated substance, present above the threshold quantity in a process, is first listed under 40 CFR 68.130; or

3.18.2. The date on which a regulated substance is first present above a threshold quantity in a process.

[40 CFR 68.10 and 68.215(a)(1)]

3.19. Except as provided for motor vehicle air conditioners (MVACs) in 40 CFR Part 82, Subpart B, the Permittee shall comply with the stratospheric ozone and climate protection standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.

3.19.1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

3.19.2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

3.19.3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

3.19.4. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to 40 CFR 82.166. ("MVAC-like appliance" is defined at 40 CFR 82.152.)

3.19.5. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR 82.156.

- 3.19.6. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

[40 CFR Part 82, Subpart F]

- 3.20. If the Permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the MVAC, the Permittee must comply with all the applicable requirements for stratospheric ozone and climate protection as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. [40 CFR Part 82, Subpart B]
- 3.21. The Permittee shall comply with 40 CFR Part 61, Subpart M for asbestos removal and disposal when conducting any renovation or demolition at the facility. [40 CFR Part 61, Subpart M]

General Testing and Associated Recordkeeping and Reporting

- 3.22. In addition to the specific testing requirements contained in the emission unit sections of this permit, the Permittee shall comply with the generally applicable testing requirements in Conditions 3.23 through 3.30 whenever conducting a performance test required by this permit unless specifically stated otherwise in this permit. [40 CFR 71.6(a)(3) and 71.6(c)(1)]
- 3.23. Test Notification. The Permittee shall provide EPA at least 30 days prior notice of any performance test, except as otherwise specified in this permit, to afford EPA the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay in conducting the scheduled performance test, the Permittee shall notify EPA as soon as possible of any delay in the original test date, either by providing at least seven days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with EPA by mutual agreement. [40 CFR 71.6(a)(3) and 71.6(c)(1)]
- 3.24. Test Plan. Except as otherwise specified in this permit, the Permittee shall submit to EPA a source test plan 30 days prior to any required testing. The source test plan shall include and address the following elements:
- 3.24.1. Purpose and scope of testing;
 - 3.24.2. Source description, including a description of the operating scenarios and mode of operation during testing and including fuel sampling and analysis procedures;
 - 3.24.3. Schedule/dates of testing;
 - 3.24.4. Process data to be collected during the test and reported with the results, including source-specific data identified in the emission unit sections of this permit;
 - 3.24.5. Sampling and analysis procedures, specifically requesting approval for any proposed alternatives to the reference test methods, and addressing minimum test length (e.g., one hour, 8 hours, 24 hours, etc.) and minimum sample volume;
 - 3.24.6. Sampling location description and compliance with the reference test methods;
 - 3.24.7. Analysis procedures and laboratory identification;
 - 3.24.8. Quality assurance plan;
 - 3.24.9. Calibration procedures and frequency;
 - 3.24.10. Sample recovery and field documentation;
 - 3.24.11. Chain of custody procedures;
 - 3.24.12. Quality assurance/quality control project flow chart;
 - 3.24.13. Data processing and reporting;

3.24.14. Description of data handling and quality control procedures; and

3.24.15. Report content and timing.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.25. Facilities for performing and observing the emission testing shall be provided that meet the requirements of 40 CFR 60.8(e) and Reference Method 1 (40 CFR Part 60, Appendix A).

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.26. Unless EPA determines in writing that other operating conditions are representative of normal operations or unless specified in the emission unit sections of this permit, the source shall be operated at a capacity of at least 90% but no more than 100% of maximum during all tests.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.27. Only regular operating staff may adjust the processes or emission control devices during or within two hours prior to the start of a source test. Any operating adjustments made during a source test, that are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.28. Each source test shall follow the reference test methods specified by this permit and consist of at least three (3) valid test runs.

3.28.1. If the reference test method yields measured pollutant concentration values at an oxygen concentration other than specified in the emission standard, the Permittee shall correct the measured pollutant concentration to the oxygen concentration specified in the emission standard by using the following equation:

$$PC_X = PC_M \times \frac{(20.9 - X)}{(20.9 - Y)}$$

Where: PC_X = Pollutant concentration at X percent;

PC_M = Pollutant concentration as measured;

X = The oxygen concentration specified in the standard; and

Y = The measured average volumetric oxygen concentration.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.28.2. Source test emission data shall be reported as the arithmetic average of all valid test runs and in the terms of any applicable emission limit, unless otherwise specified in the emission unit sections of this permit.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.29. Test Records. For the duration of each test run (unless otherwise specified), the Permittee shall record the following information:

3.29.1. All data which is required to be monitored during the test in the emission unit sections of this permit; and

3.29.2. All continuous monitoring system data which is required to be routinely monitored in the emission unit sections of this permit for the emission unit being tested.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

3.30. Test Reports. Emission test reports shall be submitted to EPA within 60 days of completing any emission test required by this permit along with items required to be recorded in Condition 3.29 above.

[40 CFR 71.6(a)(3) and 71.6(c)(1)]

General Recordkeeping

3.31. Monitoring Records. The Permittee shall keep records of required monitoring information that include the following:

3.31.1. The date, place, and time of sampling or measurements;

- 3.31.2. The date(s) analyses were performed;
 - 3.31.3. The company or entity that performed the analyses;
 - 3.31.4. The analytical techniques or methods used;
 - 3.31.5. The results of such analyses; and,
 - 3.31.6. The operating conditions as existing at the time of sampling or measurement. [40 CFR 71.6(a)(3)(ii)(A)]
- 3.32. Off-Permit Change Records. The Permittee shall keep a record describing all off-permit changes allowed to be made under Condition 2.12 that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes. [40 CFR 71.6(a)(12)(iv)]
- 3.33. Open Burning Records. For any open burning allowed under Conditions 3.4 through 3.8, the Permittee shall document the following:
- 3.33.1. The date that burning was initiated;
 - 3.33.2. The duration of the burn;
 - 3.33.3. The measures taken to comply with each provision of Condition 3.5; and
 - 3.33.4. The measures taken to ensure that materials prohibited in Condition 3.4 were not burned. [40 CFR 71.6(a)(3)(i)(B) and 71.6(c)(1)]
- 3.34. Fee Records. The Permittee shall retain in accordance with the provisions of Condition 3.35 of this permit, all work sheets and other materials used to determine fee payments. Records shall be retained for five years following the year in which the emissions data is submitted. [40 CFR 71.9(i)]
- 3.35. Records Retention. The Permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 71.6(a)(3)(ii)(B), 49.126(e)(1)(v) and 49.130(f)(2)]

General Reporting

- 3.36. Additional Information. The Permittee shall furnish to EPA, within a reasonable time, any information that EPA may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to EPA copies of records that are required to be kept pursuant to the terms of the permit, including information claimed to be confidential. Information claimed to be confidential must be accompanied by a claim of confidentiality according to the provisions of 40 CFR Part 2, Subpart B. [40 CFR 71.6(a)(6)(v) and 71.5(a)(3)]
- 3.37. Corrections. The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. [40 CFR 71.5(b)]
- 3.38. Off-Permit Change Report. The Permittee shall provide contemporaneous written notice to EPA of each off-permit change allowed to be made under Condition 2.12, except for changes that qualify as insignificant activities under 40 CFR 71.5(c)(11). The written notice shall describe each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change. [40 CFR 71.6(a)(12)(ii)]
- 3.39. Section 502(b)(10) Change Report. The Permittee is required to send a notice to EPA at least seven days in advance of any section 502(b)(10) change allowed to be made under Condition 2.13. The notice must

describe the change, when it will occur and any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The Permittee shall attach each notice to its copy of this permit. [40 CFR 71.6(a)(13)(i)(A) and 71.6(c)(1)]

- 3.40. **Electronic Reporting.** Unless otherwise specified in this permit, any documents required to be submitted under this permit, including reports, test data, monitoring data, notifications, compliance certifications, fee calculation worksheets, and applications for renewals and permit modifications shall be submitted to the EPA electronically through EPA’s Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through EPA’s Central Data Exchange (CDX) at <https://cdx.epa.gov/>.

Confidential Business Information (CBI) may not be submitted through CDX and must be submitted by hardcopy to the EPA at one of the two addresses below as follows. For applications to revise this permit, source test reports and plans for determining GWR_{EQP}, submit the materials that contain CBI to EPA at the following address:

Part 71 Air Quality Permits
U.S. EPA – Region 10, 15-H13
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

For any other documents that contain CBI, submit the materials to EPA at the following address:

Clean Air Act Compliance Manager
U.S. EPA – Region 10, 20-C04
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

A copy of each document submitted to EPA that does not contain CBI shall be sent to the Tribal address below:

Air Quality Manager
Coeur d’Alene Tribe
P.O. Box 408
Plummer, ID 83851-0408

[40 CFR 71.5(d), 71.6(c)(1), 71.9(h)(2) and Permit No. R10NT501001]

Part 71 Emission and Fee Reporting

- 3.41. **Part 71 Annual Emission Report.** No later than the date specified in Condition 4.1 of each year, the Permittee shall submit to EPA an annual report of actual emissions for the preceding calendar year. [40 CFR 71.9(h)(1)]
- 3.41.1. “Actual emissions” means the actual rate of emissions in tons per year of any “regulated pollutant (for fee calculation),” as defined in 40 CFR 71.2, emitted from a Part 71 source over the preceding calendar year. Actual emissions shall be calculated using each emissions unit’s actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year. [40 CFR 71.9(c)(6)]
- 3.41.2. Actual emissions shall be computed using methods required by the permit for determining compliance. [40 CFR 71.9(h)(3)]
- 3.41.3. Actual emissions shall include fugitive emissions. [40 CFR 71.9(c)(1)]
- 3.42. **Part 71 Fee Calculation Worksheet.** Based on the annual emission report required in Condition 3.41 and no later than the date specified in Condition 4.1 of each year, the Permittee shall submit to EPA a fee calculation worksheet (blank forms provided by EPA) and a photocopy of each fee payment check (or other confirmation of actual fee paid). [40 CFR 71.9(c)(1), 71.9(e)(1) and 71.9(h)(1)]

- 3.42.1. The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of each “regulated pollutant (for fee calculation),” emitted from the source by the presumptive emission fee (in dollars/ton) in effect at the time of calculation. The presumptive emission fee is revised each calendar year and is available from EPA prior to the start of each calendar year. [40 CFR 71.9(c)(1)]
- 3.42.2. The Permittee shall exclude the following emissions from the calculation of fees:
- 3.42.2.1. The amount of actual emissions of each regulated pollutant (for fee calculation) that the source emits in excess of 4,000 tons per year;
- 3.42.2.2. Actual emissions of any regulated pollutant (for fee calculation) already included in the fee calculation; and
- 3.42.2.3. The insignificant quantities of actual emissions not required to be listed or calculated in a permit application pursuant to 40 CFR 71.5(c)(11). [40 CFR 71.9(c)(5)]
- 3.43. Part 71 Annual Fee Payment. No later than the date specified in Condition 4.1 of each year, the Permittee shall submit to EPA full payment of the annual permit fee based on the fee calculation worksheet required in Condition 3.42. [40 CFR 71.9(a), 71.9(c)(1) and 71.9(h)(1)]
- 3.43.1. The fee payment and a completed fee filing form shall be sent to:
- U.S.EPA
OCRO/OC/ACAD/FCB
Attn: Collections Team
1300 Pennsylvania Ave NW
Mail Code 2733R
Washington, DC 20004
- [40 CFR 71.9(k)(2)]
- 3.43.2. The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of the U.S. Environmental Protection Agency. [40 CFR 71.9(k)(1)]
- 3.43.3. The Permittee, when notified by EPA of additional amounts due, shall remit full payment within 30 days of receipt of an invoice from EPA. [40 CFR 71.9(j)(2)]
- 3.43.4. If the Permittee thinks an EPA assessed fee is in error and wishes to challenge such fee, the Permittee shall provide a written explanation of the alleged error to EPA along with full payment of the EPA assessed fee. [40 CFR 71.9(j)(3)]
- 3.43.5. Failure of the Permittee to pay fees in a timely manner shall subject the Permittee to assessment of penalties and interest in accordance with 40 CFR 71.9(l). [40 CFR 71.9(l)]
- 3.44. The annual emission report and fee calculation worksheet (and photocopy of each fee payment check), required in Conditions 3.41 and 3.42, shall be submitted to EPA pursuant to Condition 3.40.¹ [40 CFR 71.9(k)(1)]
- 3.45. The annual emission report and fee calculation worksheet (and photocopy of each fee payment check), required in Conditions 3.41 and 3.42, shall be certified by a responsible official in accordance with Condition 3.50 of this permit. [40 CFR 71.9(h)(2)]

Annual Registration

¹The Permittee should note that an annual emissions report, required at the same time as the fee calculation worksheet by 40 CFR 71.9(h), has been incorporated into the fee calculation worksheet.

3.46. The Permittee shall submit an annual registration report that consists of estimates of the total actual emissions from the air pollution source for the following air pollutants: PM, PM10, PM2.5, SO_x, NO_x, CO, VOC, lead and lead compounds, ammonia, fluorides (gaseous and particulate), sulfuric acid mist, hydrogen sulfide, total reduced sulfur (TRS), and reduced sulfur compounds, including all calculations for the estimates. Emissions shall be calculated using the actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year. [40 CFR 49.138(e)(3)(xii), (e)(4) and (f)]

3.46.1. The emission estimates required by Condition 3.46 shall be based upon actual test data or, in the absence of such data, upon procedures acceptable to the Regional Administrator. Any emission estimates submitted to the Regional Administrator shall be verifiable using currently accepted engineering criteria. The following procedures are generally acceptable for estimating emissions from air pollution sources:

3.46.1.1. Source-specific emission tests;

3.46.1.2. Mass balance calculations;

3.46.1.3. Published, verifiable emission factors that are applicable to the source;

3.46.1.4. Other engineering calculations; or

3.46.1.5. Other procedures to estimate emissions specifically approved by the Regional Administrator.

[40 CFR 49.138(e)(4) and (f)]

3.46.2. The annual registration report shall be submitted to the EPA electronically through EPA's FARR Online Reporting System (FORS). FORS can be accessed through EPA's CDX at <https://cdx.epa.gov/>. A copy of each document submitted to EPA that does not contain CBI shall be sent to the Tribal address specified in Condition 3.40. CBI may not be submitted through CDX and must be submitted on CD or flash drive and mailed to:

FARR Registration Coordinator
U.S. EPA – Region 10, 15-H13
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

[40 CFR 49.138(d) and (f) and 40 CFR 71.6(c)(1)]

Periodic and Deviation Reporting

3.47. Semi-Annual Monitoring Report. The Permittee shall submit to EPA reports of any required monitoring for each six month reporting period from July 1 to December 31 and from January 1 to June 30. All reports shall be submitted to EPA and shall be postmarked by the 60th day following the end of the reporting period. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with Condition 3.50.

[40 CFR 71.6(a)(3)(iii)(A) and Permit No. R10NT501001]

3.48. Deviation Report. The Permittee shall promptly report to EPA, by telephone, deviations from permit conditions, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. The report shall be made using the following number (206) 553-1331.

[40 CFR 71.6(a)(3)(iii)(B) and Permit No. R10NT501001]

3.48.1. For the purposes of Conditions 3.47 and 3.48, deviation means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or record keeping required by this permit. For a situation lasting more

than 24 hours, each 24-hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:

- 3.48.1.1. A situation where emissions exceed an emission limitation or standard;
 - 3.48.1.2. A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
 - 3.48.1.3. A situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit (including indicators of compliance revealed through parameter monitoring);
 - 3.48.1.4. A situation in which any testing, monitoring, recordkeeping or reporting required by this permit is not performed or not performed as required;
 - 3.48.1.5. A situation in which an exceedance or an excursion, as defined in 40 CFR Part 64, occurs; and
 - 3.48.1.6. Failure to comply with a permit term that requires submittal of a report.
[40 CFR 71.6(a)(3)(iii)(C), 71.6(c)(1) and Permit No. R10NT501001]
- 3.48.2. For the purpose of Condition 3.48 of the permit, prompt is defined as any definition of prompt or a specific time frame for reporting deviations provided in an underlying applicable requirement as identified in this permit. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
- 3.48.2.1. For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence;
 - 3.48.2.2. For deviations of Conditions 4.12, 4.13 and 5.4 that continue for more than one hour, the report must be made within 24 hours of the occurrence.
 - 3.48.2.3. For emissions of any regulated pollutant excluding those listed in Condition 3.48.2.1 above, that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours of the occurrence; or
 - 3.48.2.4. For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report required in Condition 3.47.
[40 CFR 71.6(a)(3)(iii)(B) and Permit No. R10NT501001]
- 3.48.3. Within 10 working days of the occurrence of a deviation as provided in Condition 3.48.2.1, 3.48.2.2 or 3.48.2.3 above, the Permittee shall also submit a written notice, which shall include a narrative description of the deviation and updated information as listed in Condition 3.48, to EPA, certified consistent with Condition 3.50 of this permit.
[40 CFR 71.6(a)(3)(i)(B) and (iii)(B), 71.6(c)(1) and Permit No. R10NT501001]

Annual Compliance Certification

- 3.49. The Permittee shall submit to EPA a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, postmarked by February 28 of each year and covering the permit or permits in effect during the previous calendar year. The compliance certification shall be certified as to truth, accuracy, and completeness by a responsible official consistent with Condition 3.50 of this permit. [40 CFR 71.6(c)(5)]
- 3.49.1. The annual compliance certification shall include the following:

- 3.49.1.1. The identification of each permit term or condition that is the basis of the certification;
- 3.49.1.2. The identification of the method(s) or other means used by the Permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the methods and means required in this permit. If necessary, the Permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Clean Air Act, which prohibits knowingly making a false certification or omitting material information; and
- 3.49.1.3. The status of compliance with each term and condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred.

[40 CFR 71.6(c)(5)(iii) and 71.6(c)(1)]

Document Certification

- 3.50. Any document required to be submitted under this permit shall be certified by a responsible official as to truth, accuracy, and completeness. Such certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [40 CFR 71.5(d), 71.6(c)(1) and 71.9(h)(2)]

Permit Renewal

- 3.51. The Permittee shall submit a timely and complete application for permit renewal at least six months, but not more than 18 months, prior to the date of expiration of this permit. [40 CFR 71.5(a)(1)(iii), 71.7(b) and 71.7(c)(1)(ii)]
- 3.52. The application for renewal shall include the current permit number, a description of permit revisions and off-permit changes that occurred during the permit term and were not incorporated into the permit during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application form. [40 CFR 71.5(a)(2) and 71.5(c)(5)]

4. Facility-Specific Requirements

Fees and Emission Reports Due Date

- 4.1. Unless otherwise specified, fees and emission reports required by this permit are due annually on April 1. [40 CFR 71.9(a) and 71.9(h)]

Fuel Sulfur Limits

- 4.2. The Permittee shall not sell, distribute, use, or make available for use any solid fuel that contains more than 2.0 percent sulfur by weight. [40 CFR 49.130(d)(7)]
 - 4.2.1. Compliance with the sulfur limit is determined using ASTM method E775-87(2004). [40 CFR 49.130(e)(3)]

Fuel Sulfur Monitoring and Recordkeeping

- 4.3. The Permittee shall keep records showing that only wood or agricultural-derived biomass is combusted in the boiler.

[40 CFR 49.130(f)(1)(iii)]

Visible and Fugitive Emission Monitoring and Recordkeeping

- 4.4. Except as provided for in Condition 4.11, once each quarter, the Permittee shall visually survey each emission unit and any other pollutant emitting activity for the presence of visible emissions or fugitive emissions of particulate matter.
- 4.4.1. The observer conducting the visual survey must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting and wind, and the presence of uncombined water on the visibility of emissions (see 40 CFR part 60, Appendix A, Method 22).
- 4.4.2. For the surveys, the observer shall select a position that enables a clear view of the emission point to be surveyed that is at least 15 feet from the emission point and where the sunlight is not shining directly in the observer's eyes.
- 4.4.3. The observer shall observe emissions from each potential emission point for at least 15 seconds.
- 4.4.4. Any visible emissions or fugitive emissions of particulate matter other than uncombined water shall be recorded as a positive reading associated with the emission unit or pollutant emitting activity.
- 4.4.5. Surveys shall be conducted while the facility is operating, and during daylight hours.
[40 CFR 71.6(a)(3)(i)(B)]
- 4.5. If the observation conducted under Condition 4.4 identifies any visible emissions or fugitive emissions of particulate matter, the Permittee shall:
- 4.5.1. Immediately upon conclusion of the visual observation in Condition 4.4, investigate the source and reason for the presence of visible emissions or fugitive emissions; and
- 4.5.2. As soon as practicable, take appropriate corrective action.
[40 CFR 71.6(a)(3)(i)(B)]
- 4.6. If the corrective actions undertaken pursuant to Condition 4.5.2 do not eliminate the visible or fugitive emissions, the Permittee shall within 24 hours of the initial survey conduct a visible emissions observation of the emission point in question, for thirty minutes, using the procedures specified in Condition 3.9.1.
[40 CFR 71.6(a)(3)(i)(B)]
- 4.7. If any of the visible emissions observations required in Condition 4.6 or 4.8 indicate visible emissions greater than 20% opacity, the Permittee shall conduct daily visible emissions observations, for thirty minutes, of the emission point in question until two consecutive daily observations indicate visible emissions of 20% opacity or less.
[40 CFR 71.6(a)(3)(i)(B)]
- 4.8. If the Method 9 visible emissions observation required in Condition 4.6, or if two consecutive daily observations required by Condition 4.7 indicate visible emissions of 20% opacity or less, the Permittee shall conduct weekly visible emissions observations of the emission point for three additional weeks.
[40 CFR 71.6(a)(3)(i)(B)]
- 4.9. The Permittee shall maintain records of the following:
- 4.9.1. Details of each visual survey or visible emissions observation, including date, time, observer and results for each emission unit and any other pollutant emitting activity;
- 4.9.2. Date, time and type of any investigation conducted pursuant to Condition 4.5.1;

- 4.9.3. Findings of the investigation, including the reasons for the presence of visible emissions or fugitive emissions of particulate matter;
- 4.9.4. Date, time and type of corrective actions taken pursuant to Condition 4.5.2;
- 4.9.5. Results of any Method 9 visible emissions observations conducted on the source of visible or fugitive emissions, and pursuant to Conditions 4.6 through 4.8.

[40 CFR 71.6(a)(3)(i)(B)]

- 4.10. Any observation of visible emissions in excess of Condition 3.9 is a deviation and subject to the provisions of Conditions 3.47 and 3.48. [40 CFR 71.6(a)(3)(i)(B)]

- 4.11. The requirements of Conditions 4.4 through 4.10 shall not apply to emissions from boiler EU-1. [40 CFR 71.6(a)(3)(i)(B)]

Facility-Wide HAP Emission Limits and Work Practice Requirements

- 4.12. HAP emissions from this facility shall not exceed 24 tons per year as determined on a rolling 12-month basis by calculating the emissions (tons) for each month and adding the emissions (tons) for the previous eleven months. Monthly HAP emissions (tons) shall be determined in accordance with Conditions 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 6.4, 6.5, 6.6, 7.2 and 8.2. With respect to boiler EU-1, the contribution of dibenzofurans, naphthalene and 2,3,7,8-tetrachlorodibenzo-p-dioxin shall not be double counted. [Permit No. R10NT501001]

- 4.13. Emissions of any single HAP from this facility shall not exceed 9 tons per year as determined on a rolling 12-month basis by calculating the emissions (tons) for each month and adding the emissions (tons) for the previous eleven months. Monthly HAP emissions (tons) shall be determined in accordance with Conditions 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 6.4, 6.5, 6.6, 7.2 and 8.2. [Permit No. R10NT501001]

- 4.14. Boiler EU-1, including the boiler, multiclone and scrubber, kilns EU-2, sawmill EU-3 and planer mill EU-4 shall be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions at all times. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, testing and monitoring results, opacity observations, review of operating and maintenance procedures, review of operating and maintenance records and inspection of the source. [40 CFR 49.124(d)(1), 49.125(d)(1) and (2), 71.6(a)(1) and Permit No. R10NT501001]

Facility-Wide HAP Monitoring and Recordkeeping Requirements

- 4.15. By the tenth of each month, the Permittee shall calculate and record facility-wide 12-month rolling emissions of HAP by using the emissions calculated for the previous 12 months pursuant to Conditions 4.12 and 4.13. [Permit No. R10NT501001]

- 4.16. The Permittee shall retain records of emission calculations and parameters used to calculate emissions for at least five years. In addition, the Permittee shall retain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original stripchart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [Permit No. R10NT501001]

- 4.17. Unless otherwise required in this permit, the Permittee shall ensure that the monitoring equipment required in Conditions 5.17, 5.18, 5.20, 5.26, 6.7, 6.9, 6.11, 7.3 and 8.3 meet the following performance, operational and maintenance criteria:

- 4.17.1. Measurement locations that provide for obtaining data that are representative of the emissions or parameters being monitored. [40 CFR 64.3(b)(1) and Permit No. R10NT501001]

- 4.17.2. Quality assurance and control practices, considering manufacturer recommendations, that are adequate to ensure the continuing validity of the data.

4.17.3. Maintaining necessary parts for routine repairs of the monitoring equipment.
[40 CFR 64.7(b) and Permit No. R10NT501001]

4.17.4. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), continuous operation of the monitoring equipment (or collecting data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
[40 CFR 64.7(c) and Permit No. R10NT501001]

4.18. The Permittee shall develop and implement a monitoring plan demonstrating that each monitoring system required in Conditions 5.17, 5.18, 5.20, 5.26, 6.7, 6.9, 6.11, 7.3 and 8.3 complies with Condition 4.17. Elements of the plan related to monitoring systems required in Conditions 5.20 and 5.26 shall be implemented no later than the beginning of the first source test required in Condition 5.13. All other elements of the plan shall be implemented no later than the sixth calendar month after the month in which the permit becomes effective. The monitoring plan shall be updated as necessary and shall address design, data collection and quality assurance and quality control elements of each monitoring system consistent with manufacturer's specifications and recommendations including, but not limited to the following:

4.18.1. Equipment make, model, date of manufacture, date of installation and description of technology used to perform measurement;

4.18.2. Description of the measurement location and data displays of the monitoring system including, as necessary, photographs and diagrams;

4.18.3. General explanation of how the monitoring system performs measurements/calculations and subsequently displays and records the results;

4.18.4. Performance and equipment specifications for the measurement device (e.g., expected accuracy and precision ranges) and the data collection and reduction systems;

4.18.5. Performance evaluation procedures, frequency and acceptance criteria (e.g., calibration techniques, accuracy audits, analytical drift); and

4.18.6. Ongoing operation and maintenance procedures, including inventory of spare parts.

[Permit No. R10NT501001]

Facility-Wide HAP Reporting Requirements

4.19. The boiler EU-1 O&M plan required pursuant to Condition 5.6, boiler EU-1 fuel monitoring plan required pursuant to Condition 5.17, kilns EU-2 O&M plan required pursuant to Condition 6.3, kilns EU-2 log scaling plan required pursuant to Condition 6.11, and elements of the monitoring plan related to monitoring systems required in Conditions 5.17, 5.18, 6.7, 6.9, 6.11, 7.3 and 8.3 shall be submitted to EPA no later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective. Elements of the plan related to monitoring systems required in Conditions 5.20 and 5.26 shall be submitted to EPA at the same time the first source test report required pursuant to Condition 5.29 is submitted to EPA.

- 4.19.1. The Permittee shall review each plan at least annually, update it as needed, and submit updates to EPA within 30 days of the update.
- 4.19.2. The Permittee shall revise any of these plans at any time if EPA determines that a plan does not achieve the goal of the plan. In such event, EPA will notify the Permittee of the specified deficiencies, and the Permittee shall submit a revised plan to EPA within 30 days.
[Permit No. R10NT501001]

- 4.20. Once each year, on or before April 1, the Permittee shall submit to EPA a report containing the 12 monthly rolling 12-month emissions calculations, calculated and recorded pursuant to Condition 4.15, for the previous calendar year. The report shall contain a description of all emissions estimating methods used, including EF and their sources, assumptions made and production data.
[Permit No. R10NT501001]

Monitoring for Modifications to the Facility not Undergoing PSD Review

- 4.21. Where there is a reasonable possibility (as defined in 40 CFR 52.21(r)(6)(vi)) that a project (other than projects at a source with a PAL) that is not a part of a major modification may result in a significant emissions increase of any regulated NSR pollutant and the Permittee elects to use the method specified in 40 CFR 52.21(b)(41)(ii)(a) through (c) for calculating projected actual emissions, the Permittee shall perform the following.
 - 4.21.1. Before beginning actual construction of the project, document and maintain a record of the following information.
 - 4.21.1.1. A description of the project.
 - 4.21.1.2. Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project.
 - 4.21.1.3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii)(c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.
 - 4.21.2. Monitor the emission of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in Condition 4.21.1.2; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the change, or for a period of ten years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.

[40 CFR 52.21(r)(6)]

Reporting for Modifications to the Facility not Undergoing PSD Review

- 4.22. If monitoring and recordkeeping is required in Condition 4.21.2, the Permittee shall report to EPA when the annual emissions, in tons per year, from the project identified in Condition 4.21.1.1 exceed the baseline actual emissions as documented and maintained pursuant to Condition 4.21.1.3 by a significant amount (as defined in 40 CFR 52.21(b)(23)) for that regulated NSR pollutant, and when such emissions differ from the preconstruction projection as documented and maintained pursuant to Condition 4.21.1.3. Such report shall be submitted to EPA within 60 days after the end of such year. The report shall contain the following:
 - 4.22.1. The name, address and telephone number of the major stationary source.
 - 4.22.2. The annual emissions as calculated pursuant to Condition 4.21.2.

- 4.22.3. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).
[40 CFR 52.21(r)(6)]

5. Unit-Specific Requirements – EU-1 (Hog Fuel-Fired Boiler)

Boiler EU-1 Emission Limits and Work Practice Requirements

- 5.1. FARR Particulate Matter Limits. Particulate matter emissions from the boiler stack shall not exceed either of the limits in Conditions 5.1.1 and 5.1.2. Compliance with the particulate matter limits is determined using EPA Reference Method 5 (see 40 CFR part 60, Appendix A): [40 CFR 49.125(e)]
- 5.1.1. An average of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot), corrected to seven percent oxygen, during any three-hour period when boiler EU-1 is combusting agricultural-derived biomass alone or in combination with wood; and
[40 CFR 49.125(d)(1)]
- 5.1.2. An average of 0.46 grams per dry standard cubic meter (0.2 grains per dry standard cubic foot), corrected to seven percent oxygen, during any three-hour period when boiler EU-1 is exclusively combusting wood. [40 CFR 49.125(d)(2)]
- 5.2. FARR Sulfur Dioxide Emission Limit. Sulfur dioxide emissions from the boiler stack shall not exceed an average of 500 parts per million by volume, on a dry basis and corrected to seven percent oxygen, during any three-hour period.
- 5.2.1. Compliance with the SO₂ limit is determined using EPA Reference Methods 6, 6A, 6B, and 6C as specified in the applicability section of each method (see 40 CFR part 60, Appendix A) or, alternatively, a continuous emission monitoring system that complies with Performance Specification 2 found in Appendix B of 40 CFR Part 60.
[40 CFR 49.129(d)(1) and (e)]
- 5.3. The Permittee is prohibited from combusting in boiler EU-1 any fuel other than resinated and non-resinated wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); logging residues (slash); and agricultural-derived biomass (i.e., crop residue) such as wheat chaff. [Permit No. R10NT501001]
- 5.4. The monthly mass of mass of agricultural-derived biomass combusted in boiler EU-1 shall not constitute more than 1% of the monthly total mass of fuel combusted in boiler EU-1. Compliance is determined by dividing the monthly mass of agricultural-derived biomass combusted in boiler EU-1 by the monthly total mass of fuel combusted in boiler EU-1 and multiplying the quotient by 100. The mass of fuel combusted shall be determined in accordance with Condition 5.17 [Permit No. R10NT501001]
- 5.5. At all times that the boiler operates, the boiler exhaust shall be directed to the multiclone and wet scrubber. [40 CFR 49.124(d)(1), 49.125(d)(1) and (2), 71.6(a)(1) and Permit No. R10NT501001]
- 5.6. No later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall develop and implement an O&M plan for the boiler, multiclone and wet scrubber that describes the methods and procedures that will be followed to assure good air pollution control practices and efficient operation in accordance with manufacturer specifications and recommendations. The O&M plan shall be updated as necessary and shall include the following, at a minimum:
- 5.6.1. Description of equipment;
- 5.6.2. Parameter indicator ranges as identified in Condition 5.20;
- 5.6.3. Normal operating conditions and procedures;
- 5.6.4. Startup, shutdown, and maintenance procedures;

- 5.6.5. Inspection procedures and inspection frequency; and
- 5.6.6. Upset conditions guidelines and corrective action procedures.

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Boiler EU-1 Emissions Calculations Requirements

- 5.7. Monthly boiler EU-1 HAP emissions (tons), excluding periods while not generating steam, shall be calculated using Equation 5-1 as follows:

Equation 5-1

$$E_X = steam \times FHISOR \times EF_X \times \left(\frac{ton}{2000 lb} \right); \text{ where}$$

- " E_X " is monthly emissions of HAP X in units of "ton/month";
- " $steam$ " is the mass of steam generated during the month in units of "mlb steam/month";
- " $FHISOR$ " is in units of "mmBtu/mlb steam";
- " EF_X " is EF for HAP X in units of "lb/mmBtu";
- " $\frac{ton}{2000 lb}$ " is a conversion factor.

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- 5.8. For the twelve months prior to and including the calendar month in which the permit becomes effective, monthly boiler EU-1 HAP emissions (tons) shall be calculated using Equation 5-1 as follows:

- " $FHISOR$ " equal to 1.768 mmBtu/mlb steam;
- " EF_X ", except for HCl EF, as specified in Appendix A to this permit; and
- HCl EF calculated using Equation 5-2 as follows:

Equation 5-2

$$EF = FC \times 0.15; \text{ where}$$

- " EF " is the quarterly HCl EF in units of "lb/mmBtu";
- " FC " is the chlorine fuel content in units of "lb/mmBtu" based upon fuel sampling and analysis performed during the previous quarter pursuant to Appendix D to this permit; and
- "0.15" is the default ratio of HCl EF (lb/mmBtu) to chlorine FC (lb/mmBtu)

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- 5.9. Unless otherwise required in this permit, monthly boiler EU-1 HAP emissions (tons) beginning the calendar month after the month in which the permit becomes effective shall be calculated using Equation 5-1 as follows:

- " $FHISOR$ " equal to 1.768 mmBtu/mlb steam;
- " EF_X ", except for HCl EF, as specified in Appendix B to this permit; and
- HCl EF calculated using Equation 5-2 except that chlorine fuel content is based upon fuel sampling and analysis performed during the previous eight quarters.

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- 5.10. Beginning the month after EPA approves FHISOR, EF and RF determined using the two tests conducted pursuant to Condition 5.13, monthly boiler EU-1 HAP emissions (tons) shall be calculated using Equation 5-1 as follows:

- 5.10.1. "FHISOR" equal to the average of the following five values: 2.005, 1.632, 1.667 and the two 3-run (or more) average FHISOR associated with the two source tests conducted pursuant to Condition 5.13;

5.10.2. "EF_X" is EF for HAP X in units of "lb/mmBtu" as determined pursuant to Conditions 5.10.2.1 through 5.10.2.4 as follows:

- 5.10.2.1. For HAP not identified in Table 5-1, EF_X is EF for HAP X in Appendix B to this permit;
- 5.10.2.2. For organic HAP compounds identified in Table 5-1, EF_X is the average of the two 3-run (or more) average values determined based upon the two source tests conducted pursuant to Condition 5.13;
- 5.10.2.3. For halogen and hydrogen halide HAP compounds identified in Table 5-1, quarterly EF_X shall be calculated using Equation 5-3 as follows:

Equation 5-3

$$EF_X = FC \times RF; \text{ where}$$

- "EF_X" is the quarterly halogen or hydrogen halide EF in units of "lb/mmBtu";
- "FC" is the halogen fuel content in units of "lb/mmBtu" based upon fuel sampling and analysis performed during the previous eight quarters (for fluorine, use all available quarters until sampling required in Condition 5.26 produces eight quarters of data); and
- "RF" is the halogen release factor (unitless) and is the average of the two 3-run (or more) average values determined based upon the two source tests conducted pursuant to Condition 5.13.

5.10.2.4. For trace metal HAP compounds identified in Table 5-1, quarterly EF_X shall be calculated using Equation 5-4 as follows:

Equation 5-4

$$EF_X = FC \times RF \times AF; \text{ where}$$

- "EF_X" is the quarterly trace metal compound EF in units of "lb/mmBtu";
- "FC" is the trace metal fuel content in units of "lb/mmBtu" based upon fuel sampling and analysis performed during the previous eight quarters (use all available quarters until sampling required in Condition 5.26 produces eight quarters of data);
- "RF" is the trace metal release factor (unitless) and is the average of the two 3-run (or more) averages values determined based upon the two source tests conducted pursuant to Condition 5.13; and
- "AF" is the trace metal adjustment factor (unitless) identified in Table 5-1 equal to the ratio of the lowest weight of an oxide per unit of metal as follows:

Table 5-1: Lowest Weight Oxide per Unit of Metal

Trace Metal Compound	Adjustment Factor (unitless)
1. Antimony compounds	1.19710
2. Arsenic compounds	1.32031
3. Beryllium compounds	2.77526
4. Cadmium compounds	1.14233
5. Chromium compounds	1.46154
6. Cobalt compounds	1.27148
7. Lead compounds	1.07722
8. Manganese compounds	1.29122
9. Mercury compounds	1.03988
10. Nickel compounds	1.27259

Trace Metal Compound	Adjustment Factor (unitless)
11. Phosphorus	1 (not applicable)
12. Selenium compounds	1.20262

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- 5.11. Beginning the month after EPA approves FHISOR specified in a source test report associated with a test required in Conditions 5.15 and 5.16, monthly boiler EU-1 emissions (tons) shall be calculated using Equation 5-1 consistent with Condition 5.10, except “FHISOR” equal to the average of the following six or more values: 2.005, 1.632, 1.667, two 3-run (or more) average FHISOR associated with the two source tests conducted pursuant to Condition 5.13, and all additional 3-run (or more) average FHISOR associated with a source test conducted pursuant to Conditions 5.15 and 5.16.

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- 5.12. Beginning the calendar month after the month in which Permit No. R10TN501001 becomes effective, the Permittee shall calculate monthly boiler EU-1 HAP emissions (tons) while not generating steam using Equation 5-5 as follows:

Equation 5-5

$$E_x = fuel \times \left(0.227 \frac{mmBtu}{ft^3}\right) \times EF_x \times \left(\frac{ton}{2000 lb}\right); where$$

- “ E_x ” is monthly emissions of HAP X in units of “ton/month”;
- “ $fuel$ ” is the volume of fuel fired in boiler EU-1 during the month while not generating steam in units of “ft³/month, wet basis”;
- “ $0.227 \frac{mmBtu}{ft^3}$ ” is the heat content of fuel on a wet, volume basis;
- “ EF_x ” is EF for HAP X in units of “lb/mmBtu” determined consistent with Conditions 5.9 or 5.10 (depending upon when emissions generated); and
- “ $\frac{ton}{2000 lb}$ ” is a conversion factor.

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Boiler EU-1 Testing Requirements

- 5.13. Between July 1 and September 30, 2021, and then again between December 1, 2021 and March 31, 2022, the Permittee shall simultaneously perform source testing of boiler EU-1 and conduct fuel sampling (and later analysis) to determine FHISOR, EF and RF (equal to EF/FC) in accordance with an EPA-approved test plan required in Condition 5.28 and as follows:

- 5.13.1. The hourly average steam generating rate for each run shall be at least 90% but no more than 110% of the historical hourly average rate for the month in which testing is conducted;
- 5.13.2. The sampling duration for each test run shall be at least 60 minutes, and the volume of sample gas collected for each run shall be at least 1.25 dry standard cubic meters;
- 5.13.3. FHISOR shall be determined pursuant to Appendix C to this permit;
- 5.13.4. EF for all HAP listed in Table 5-2 shall be determined by performing the following calculation in Equation 5-6 based upon measurements performed using the test methods specified in Table 5-3:

Equation 5-6

$$EF_x = C_x \times F_d ; where$$

- “ EF_x ” is EF for HAP X in units of “lb/mmBtu”;
- “ C_x ” is the exhaust gas concentration of HAP X in units of “lb/dscf”; and

- " F_d " is the dry F factor in units of "dscf/mmBtu" and is the dry volume of combustion components per unit of the fuel's heat content.

Table 5-2: Identification of HAP for Which EF Shall Be Determined through Source Testing

Organic Compounds	Halogen and Hydrogen Halide Compounds	Trace Metal Compounds
1. Acetaldehyde	1. Chlorine	1. Lead compounds
2. Acrolein	2. Hydrogen chloride	2. Manganese compounds
3. Benzene	3. Hydrogen flouride	3. Phosphorus
4. Formaldehyde		
5. Hexane	For halogen, hydrogen halide compounds and trace metals compounds listed in these two columns, RF shall also be determined through simultaneous fuel sampling and source testing	
6. Methanol		
7. Methyl isobutyl ketone		
8. Methylene chloride		
9. Propionaldehyde		
10. Styrene		
11. Toluene		

Table 5-3: Test Methods Used to Determine Boiler EU-1 EF

Exhaust Gas Sampling and Analysis Performed to Determine...	Test Method
Port location/traverse	EPA Method 1, 1A of Appendix A to 40 CFR part 60
Velocity/flow	EPA Method 2, 2A, 2C, 2D, 2F, 2G of Appendix A to 40 CFR part 60
Molecular weight	EPA Method 3, 3A, 3B of Appendix A to 40 CFR part 60
Moisture content	EPA Method 4 of Appendix A to 40 CFR part 60
Concentration of organic HAP compounds	EPA Method 18 of Appendix A to 40 CFR part 60, EPA Method 320 of Appendix A to 40 CFR part 63 or NCASI Method ISS/FP-A105.01
Concentration of halogen and hydrogen halide HAP compounds	EPA Method 26A of Appendix A to 40 CFR part 60
Concentration of trace metal HAP compounds	EPA Method 29 of Appendix A to 40 CFR part 60
Fuel Sampling and Analysis Performed to Determine...	Test Method
F_d (dry F factor)	Steps 1 – 7 of Procedure to Determine FHISOR in Appendix C to this permit, except that boiler steam and exhaust flow monitoring are not necessary to calculate F_d

- 5.13.5. RF for halogens, hydrogen halides and trace metal compounds listed in Table 5-2 shall be determined by performing the following calculation in Equation 5-7

Equation 5-7

$$RF_x = \frac{EF_x}{FC} ; \text{where}$$

- " RF_X " is RF (unitless) for HAP X;
- " EF_X " in units of "lb/mmBtu" for HAP X is determined pursuant to Condition 5.12.4; and;
- " FC " in units of "lb/mmBtu" for halogens and trace metals is determined based upon fuel sampling and analysis conducted pursuant to Appendix D to this permit.

- 5.13.6. Fuel samples from which to conduct analysis to determine (a) FHISOR, (b) F_d (to determine RF) and (c) FC shall be gathered simultaneously.
- 5.13.7. For each test run, a composite fuel sample shall be created from three individual samples taken from the open-top section of the mechanical conveyance system inside the Boiler Building at equally-spaced intervals with a frequency of no less than the beginning, middle and end of the test run.
- 5.13.8. If each fuel sample analysis or source test run (at least three) results in a measurement that is less than the method detection limit for a halogen or trace metal (fuel analysis) or HAP (test run), the concentration of the constituent will be assumed equal to one-half the method detection limit for each fuel analysis or test run. If at least one fuel analysis or test run results in a measure greater than the method detection limit, the concentration for non-detect fuel analysis or non-detect test runs will be assumed equal to the method detection limit for each fuel analysis or test run.
- 5.13.9. FHISOR, EF_X , and RF_X from each of the three (or more) fuel samples and source test runs shall be averaged to determine a single test result value.

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5.14. During each source test run, the Permittee shall perform the following:

- 5.14.1. Record the values (and time recorded) of the parameters specified in Condition 5.20. For monitoring devices that do not have continuous recording devices, the recorded values must consist of no fewer than one value recorded every 15 minutes; and
- 5.14.2. Estimate and record values for the following fuel parameters:
- 5.14.2.1. Percentage of material less than 1/8th inch;
- 5.14.2.2. Percentages of hogged bark and different wood residue types (e.g., kiln-dried planer shavings, green sawdust, green chips);
- 5.14.2.2.1. For each category, percentage produced on-site and percentage received from off-site;
- 5.14.2.2.2. For each category, percentages of different species; and
- 5.14.2.2.3. For each type of wood residue, percentages of green and kiln-dried material.

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5.15. Particulate Matter Test. Between December 1, 2021 and March 31, 2022, the Permittee shall measure particulate matter emissions from the boiler stack using the test method specified in Condition 5.1.

- 5.15.1. During each source test run, the Permittee shall measure the visible emissions from the boiler stack for the duration of each particulate matter test run using the procedures specified in Condition 3.9.1.
- 5.15.2. During each source test run, the Permittee shall record the values (and time recorded) of the parameters specified in Condition 5.20. For monitoring devices that do not have continuous recording devices, the recorded values must consist of no fewer than three values recorded per test run.

5.15.3. During each source test run, the Permittee shall collect composite fuel samples. The Permittee shall estimate and record the percentages of bark, species of wood and material less than 1/8 inch in each composite fuel sample. The Permittee shall determine and record the boiler FHISOR using the procedures specified in Appendix C to this permit.

[40 CFR 71.6(a)(3)(i)(B)]

5.16. Periodic Particulate Matter Test. The Permittee shall measure particulate matter emissions from the boiler stack using the procedures specified in Condition 5.15 and at the frequency specified in Table 5-4:

Table 5-4: Frequency of Boiler EU-1 Particulate Matter Testing

If testing required in Condition 5.15 results in measured particulate matter emissions ...	Additional particulate matter testing shall be conducted ...
≥ 90% of the emission limit in Condition 5.1	Once per calendar year, between December 1 and March 31
≥ 75% but < 90% of the emission limit in Condition 5.1	Once per two calendar years, between December 1 and March 31
< 75% of the emission limit in Condition 5.1	Once per four calendar years, between December 1 and March 31

[40 CFR 71.6(a)(3)(i)(B)]

Boiler EU-1 Monitoring and Recordkeeping Requirements

5.17. No later than the sixth calendar month after the month in which the permit becomes effective, the Permittee shall develop and implement a plan for determining monthly the mass of fuel combusted in boiler EU-1 for the following two categories: (1) wood residue, wood products and logging residues, and (2) agricultural-derived biomass. The plan shall be updated as necessary and shall include the following, at a minimum:

- 5.17.1. Methodology and associated assumptions for calculating monthly the mass of fuel combusted for each of the two categories;
- 5.17.2. Monitoring necessary to implement the methodology; and
- 5.17.3. Recordkeeping procedures.

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5.18. At the end of each month, for the fuel combusted in boiler EU-1 during that month, the Permittee shall estimate and record (a) beginning the month immediately following the month in which the plan required in Condition 5.17 is first implemented, the percentage of monthly total mass of fuel combusted in boiler EU-1 consisting of agricultural-derived biomass, (b) the volume of fuel fired (wet basis) while not generating steam (ft³/event, ft³/month), and (c) the basis for the estimations.

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5.19. Periodic Visible Emission Monitoring. The Permittee shall measure visible emissions from boiler EU-1 stack within three months after this permit is effective for one hour using the procedures specified in Condition 3.9.1 and subsequently as specified in Table 5-5.

Table 5-5: Frequency of Boiler EU-1 Visible Emissions Monitoring

If the most recent visible emission measurement results in measured opacity of ...	Additional visible emissions measurements shall be conducted ...
One or more 6-minute average > 20% opacity	Once per day, until two consecutive daily measurements are ≤ 20%

One or more 6-minute average \geq 10% opacity	Once per month, with consecutive tests at least 10 days apart, until three consecutive monthly measurements are $<$ 10%
All 6-minute averages $<$ 10% opacity	Once per calendar quarter, with consecutive tests at least 30 days apart

[40 CFR 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), 71.6(c)(1), 64.6(c), and 64.3(b)(4)]

- 5.20. For boiler EU-1, the Permittee shall install, calibrate, operate, and maintain, in accordance with manufacturer specifications, equipment and procedures necessary to measure, display, calculate, and record (including the date and time of measurements or records and, if applicable, the company or entity that performed the analyses and the analytical techniques or methods used) the following while the boiler is operating:
- 5.20.1. Steam production (lb/hr): Using a totalizer, measure and display continuously, and record hourly and monthly with a 90% minimum monthly data capture based upon availability of hourly recordings; [40 CFR 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), 71.6(c)(1), 64.6(c), 64.3(b)(4), and Permit No. R10NT501001]
- 5.20.1.1. For those hours in which no measurements have been recorded, the steam production rate for each hour in the missing data period shall be equal to the average of the steam production rates for the hour immediately preceding the period and the hour immediately following the period; [Permit No. R10NT501001]
- 5.20.2. One-hour average exhaust gas oxygen concentration (% by volume) downstream of the combustion chamber, including the two overfire air ports, but upstream of the multiclone: Measure oxygen concentration at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record the one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings; [40 CFR 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), 71.6(c)(1), 64.6(c), 64.3(b)(4), Permit No. R10NT501001]
- 5.20.3. Pressure drop across the multiclone (inches of water): Continuous measurement/display, recorded at least once per day; [40 CFR §§ 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), 71.6(c)(1), 64.6(c), 64.3(b)(4) and Permit No. R10NT501001]
- 5.20.4. One-hour average pressure drop across the scrubber (inches of water): Measure pressure drop at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record the one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings; [40 CFR 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), 71.6(c)(1), 64.6(c), 64.3(b)(4) and Permit No. R10NT501001]
- 5.20.5. One-hour average water flow to the scrubber (gallons per minute): Measure water flow at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record a one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings; [40 CFR 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), 71.6(c)(1), 64.6(c), 64.3(b)(4) and Permit No. R10NT501001]
- 5.20.6. No later than the beginning of the first boiler EU-1 source test required in Condition 5.13, one-hour average pressure in the water supply header (inches of water): Measure water

pressure at least every 15 minutes. Calculate and display rolling 60-minute average at least every 15 minutes based on all measurements performed within that 60-minute period. Record a one-hour block average each hour based on all measurements performed within that hour. 90% minimum monthly data capture based upon availability of hourly recordings.

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5.21. When not operating within the indicator ranges established below, the Permittee shall restore operation of boiler EU-1 (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of operating with an indicator out of range (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

5.21.1. Beginning the month after EPA approves the source test report associated with the second source test required in Condition 5.13, indicator ranges are defined as follows:

5.21.1.1. One-hour block average exhaust gas oxygen concentration equal to or greater than the lowest test-run average level established during the two source tests required in Condition 5.13;

5.21.1.2. One-hour block average pressure drop across the scrubber equal to or greater than the lowest test-run average level established during the two source tests required by Condition 5.13;

5.21.1.3. One-hour block average water flow to the scrubber equal to or greater than the lowest test-run average level established during the two source tests required by Condition 5.13; and

5.21.1.4. One-hour block average pressure in the pipe exclusively dedicated to supplying water to the scrubber's four nozzles equal to or greater than the lowest test-run average pressure or equal to or less than the highest test-run average pressure for that pipe established during the two source tests required in Condition 5.13.

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5.22. Upon detecting an excursion or exceedance, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

[40 CFR 64.7(d)(1)]

5.22.1. An excursion is defined as any one-hour average scrubber pressure drop less than 3.0 inches of water, any one-hour average scrubber water flow rate less than 30 gallons per minute or any scrubber stack opacity greater than 10%.

[40 CFR 64.1 and 64.6(c)(2)]

- 5.22.2. If the Permittee conducts EPA Reference Method 5 and 9 testing to determine PM emissions (gr/dscf at 7% O₂) and visible emissions (% opacity) during both tests required to be conducted in Condition 5.13, and if PM emissions do not exceed 0.2 gr/dscf at 7% O₂ for all runs, and if visible emissions do not exceed 20% opacity for all runs, then an excursion is defined as follows:
- 5.22.2.1. Any one-hour block average pressure drop across the scrubber less than the lowest threshold established in Condition 5.21.1.2;
 - 5.22.2.2. Any one-hour block average water flow to the scrubber less than the lowest threshold established in Condition 5.21.1.3; and
 - 5.22.2.3. Any scrubber stack opacity greater than 10% [40 CFR 64.1 and 64.6(c)(2)]
- 5.22.3. An exceedance is defined as any measured emission of PM which exceeds an emission limit specified in Condition 3.9 or 5.1. [40 CFR 64.1 and 64.6(c)(2)]
- 5.23. The Permittee shall develop and implement a quality improvement plan (QIP) in accordance with 40 CFR 64.8 if EPA Region 10 determines, pursuant to 40 CFR 64.7(d)(2), that the Permittee has not used acceptable procedures in response to an excursion or exceedance as defined in Condition 5.22. [40 CFR 64.7(d)(2) and 64.8(a)]
- 5.24. If the Permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance (as defined in Condition 5.22) while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7(e)]
- 5.25. The recordkeeping requirements of Condition 3.35 shall apply to monitoring conducted to satisfy Conditions 5.19 through 5.24, except Conditions 5.20.6 and 5.21.² The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b)]
- 5.26. The Permittee shall sample and analyze the boiler EU-1 fuel as follows:
- 5.26.1. Beginning the quarter in which the permit becomes effective, determine halogen (chlorine and fluorine) FC (lb/mmBtu) and trace metal (the three appearing in Table 5-2 of this permit) FC (lb/mmBtu) pursuant to Appendix D to this permit no less frequently than quarterly.
 - 5.26.2. A composite fuel sample shall be created from three individual samples taken from the open-top section of the mechanical conveyance system inside the Boiler Building. [Permit No. R10NT501001]
- 5.27. The Permittee shall maintain the following boiler EU-1 records:

² Condition 3.35 does apply to the monitoring required to satisfy Conditions 5.20.6 and 5.21, but not through the authority of 40 CFR 64.9(b) cited in Condition 5.25.

- 5.27.1. Records of the occurrence and duration of each malfunction of boiler EU-1, or of the associated air pollution control and monitoring equipment.
- 5.27.2. Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 4.14, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. [Permit No. R10NT501001]

Boiler EU-1 Reporting Requirements

- 5.28. For boiler EU-1, the Permittee shall submit to EPA for approval a source test plan 30 days prior to any required testing. The source test plan shall include and address the elements required in Condition 3.24 and provide an estimate of the average hourly steam generating rate for the month in which the test is to be conducted. [Permit No. R10NT501001]
- 5.29. Emission test reports shall be submitted to EPA within 60 days of completing any emission test required by Condition 5.13. The report shall include, but not be limited to, test-derived FHISOR, EF_X for each organic compound listed in Table 5-2, RF_X for each halogen, hydrogen halide and trace metal listed in Table 5-2 (and all supporting data and calculations) and items required to be recorded during the test. [Permit No. R10NT501001]
- 5.30. The reports required by Condition 3.47 and 3.48 shall include the following:
 - 5.30.1. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions and exceedances, as applicable, and the corrective actions taken;
 - 5.30.2. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
 - 5.30.3. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [40 CFR 64.9(a)(2)]
- 5.31. For each period (at least one hour in duration) during which an indicator is outside the range defined in Condition 5.20.1 for boiler EU-1 and scrubber, report pursuant to Condition 3.47 the following: (a) indicator and range, (b) date and time of the beginning and end of the period, (c) all one-hour average values recorded during the period, and (d) action(s) taken to return the indicator to the operating range. [Permit No. R10NT501001]

Boiler EU-1 NESHAP Subpart JJJJJ Work Practice and Emission Reduction Measures

- 5.32. NESHAP Subpart JJJJJ Boiler EU-1 Performance Tune-up. The Permittee shall conduct a performance tune-up of boiler EU-1 subject to the following: [40 CFR 63.11196(a)(1), 63.11201(b), 63.11210(c), 63.11223(a) through (c) and Table 2 to JJJJJ of Part 63]
 - 5.32.1. Each performance tune-up shall be conducted no more than 25 months after the previous tune-up. [40 CFR 63.11223(b)]
 - 5.32.2. If boiler EU-1 is not operating on the required date for a tune-up, the tune-up shall be conducted within 30 days of startup. [40 CFR 63.11223(b)(7)]
 - 5.32.3. Conduct the tune-up while combusting biomass. [40 CFR 63.11223(a)]
 - 5.32.4. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. The inspection may be delayed until the next scheduled boiler shutdown, not to exceed 36 months from the previous inspection. [40 CFR 63.11223(b)(3)]

5.32.5. Optimize total emissions of CO. This optimization shall be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which boiler EU-1 is subject. [40 CFR 63.11223(b)(4)]

5.33. NESHAP Subpart JJJJJ Boiler EU-1 General Duty Requirement. At all times, the Permittee must operate and maintain boiler EU-1, 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 the Permittee 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 EPA 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. [40 CFR 63.11205(a)]

Boiler EU-1 NESHAP Subpart JJJJJ Monitoring and Recordkeeping Requirements

5.34. NESHAP Subpart JJJJJ Boiler EU-1 Performance Tune-up Monitoring. The Permittee shall measure and record the concentration of CO in parts per million, by volume, and O₂ in volume percent, in boiler EU-1's effluent stream before and after the performance tune-up conducted to satisfy Condition 5.32. Measurements may be either on a dry or wet basis, as long as it is the same basis before and after the performance tune-up is performed. Measurements may be taken using a portable CO analyzer. [40 CFR 63.11223(b)(5)]

5.35. NESHAP Subpart JJJJJ Recordkeeping for Compliance – Boiler EU-1 and Its Energy Use Systems. The Permittee shall maintain the following records: [40 CFR 63.11225(c)]

5.35.1. A copy of each notification and report submitted to comply with NESHAP Subpart JJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status submitted to EPA. [40 CFR 63.10(b)(2)(xiv) and 63.11225(c)(1)]

5.35.2. Records identifying boiler EU-1, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which boiler EU-1 was tuned. [40 CFR 63.11225(c)(2)(i)]

5.35.3. A copy of the energy assessment report for boiler EU-1 and its energy use systems. [40 CFR 63.11225(c)(2)(iii)]

5.36. NESHAP Subpart JJJJJ Boiler EU-1 Recordkeeping for General Duty Requirement. The Permittee shall maintain the following records: [40 CFR 63.11225(c)]

5.36.1. Records of the occurrence and duration of each malfunction of boiler EU-1, or of the associated air pollution control and monitoring equipment. [40 CFR 63.11225(c)(4)]

5.36.2. Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 5.33, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. [40 CFR 63.11225(c)(5)]

5.37. NESHAP Subpart JJJJJ Boiler EU-1 Recordkeeping for Use of Non-Hazardous Secondary Materials as Fuels. The Permittee shall maintain the following records:

5.37.1. If boiler EU-1 combusts non-hazardous secondary materials that have been determined not to be a solid waste pursuant to 40 CFR 241.3(b)(1), the Permittee shall keep a record which documents how the secondary material meets each of the legitimacy criteria under 40 CFR 241.3(d)(1).

- 5.37.2. If boiler EU-1 combusts a fuel that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR 241.3(b)(4), the Permittee shall keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR 241.2 and each of the legitimacy criteria in 40 CFR 241.3(d)(1).
- 5.37.3. If boiler EU-1 combusts a fuel that received a non-waste determination pursuant to the petition process submitted under 40 CFR 241.3(c), the Permittee shall keep a record that documents how the fuel satisfies the requirements of the petition process.
- 5.37.4. If boiler EU-1 combusts non-hazardous secondary materials as fuel per 40 CFR 241.4, the Permittee shall keep records documenting that the material is a listed non-waste under 40 CFR 241.4(a).

[40 CFR 63.11225(c)(2)(ii)]

Boiler EU-1 NESHAP Subpart JJJJJJ Reporting Requirements

- 5.38. NESHAP Subpart JJJJJJ Boiler EU-1 Performance Tune-up Reporting. Maintain on-site and submit to EPA as part of the semiannual report satisfying Condition 3.47 the following information for each performance tune-up conducted to satisfy Condition 5.32:
[40 CFR 63.11223(b)(6) and 71.6(a)(3)(iii)(A)]
 - 5.38.1. The concentration of CO in boiler EU-1’s effluent stream in parts per million, by volume, and O₂ in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. [40 CFR 63.11223(b)(6)(i)]
 - 5.38.2. A description of any corrective action taken as a part of the tune-up of boiler EU-1. [40 CFR 63.11223(b)(6)(ii)]
- 5.39. NESHAP Subpart JJJJJJ Annual Compliance Certification Report. Each year, the Permittee shall prepare by March 1 and submit to EPA by March 15 an Annual Compliance Certification Report for the previous calendar year. The report shall be signed by the Permittee’s responsible official and provide the following information: [40 CFR 63.11225(b)]
 - 5.39.1. Company name and address. [40 CFR 63.11225(b)(1)]
 - 5.39.2. 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 NESHAP Subpart JJJJJJ. [40 CFR 63.11225(b)(2)]
 - 5.39.3. The statement, “This facility complies with the requirements in 40 CFR 63.11223 to conduct a biennial tune-up of boiler EU-1.” [40 CFR 63.11225(b)(2)(i)]
 - 5.39.4. The statement, “No secondary materials that are solid waste were combusted in boiler EU-1.” [40 CFR 63.11225(b)(2)(i)(ii)]
 - 5.39.5. A description of any deviations from the applicable requirements during the previous calendar year, the time periods during which the deviations occurred, and the corrective actions taken. [40 CFR 63.11225(b)(3)]
- 5.40. NESHAP Subpart JJJJJJ Boiler EU-1 Notification of Combustion of Solid Waste. The Permittee shall provide 30 days prior notice to EPA of the date upon which combusting of solid waste will commence or recommence in boiler EU-1. The notification shall identify the following: [40 CFR 63.11225(f)]
 - 5.40.1. The name of the owner or operator of boiler EU-1, the location of boiler EU-1, identification of boiler EU-1 as a boiler that will commence combusting solid waste, and the date of the notice. [40 CFR 63.11225(f)(1)]

- 5.40.2. The currently applicable subcategory listed at 40 CFR 63.11200. [40 CFR 63.11225(f)(2)]
- 5.40.3. The date on which the Permittee became subject to the currently applicable emission limits. [40 CFR 63.11225(f)(3)]
- 5.40.4. The date upon which the Permittee will commence combusting solid waste. [40 CFR 63.11225(f)(4)]

5.41. NESHAP Subpart JJJJJ Boiler EU-1 Notification of Fuel Switch, Physical Change or Permit Limit.
 The Permittee shall provide notice to EPA if the Permittee switched fuels or made a physical change to boiler EU-1 and the fuel switch or change resulted in (a) the applicability of a different subcategory of NESHAP JJJJJ listed at 40 CFR 63.11200, (b) boiler EU-1 becoming subject to NESHAP Subpart JJJJJ, or (c) boiler EU-1 switching out of NESHAP Subpart JJJJJ due to a change to 100 percent natural gas. Notice shall also be provided if EPA issues a permit limit to the Permittee that results in the Permittee being subject to NESHAP Subpart JJJJJ. Notice shall be provided within 30 days of the change, and the notification shall identify the following: [40 CFR 63.11225(g)]

- 5.41.1. The name of the owner or operator of boiler EU-1, the location of boiler EU-1, identification of boiler EU-1 as a boiler that has switched fuels, was physically changed, or took a permit limit, and the date of the notice. [40 CFR 63.11225(g)(1)]
- 5.41.2. The date upon which the fuel switch, physical change, or permit limit occurred. [40 CFR 63.11225(g)(2)]

6. Unit-Specific Requirements – EU-2 (Lumber Drying Kilns)

Kilns EU-2 Emission Limits and Work Practice Requirements

- 6.1. Particulate matter emissions from the stack(s) of this emission unit shall not exceed an average of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) during any three-hour period.
 - 6.1.1. Compliance with the particulate matter limit is determined using EPA Reference Method 5 (see 40 CFR part 60, Appendix A). [40 CFR 49.125(d)(3) and (e)]
- 6.2. The Permittee shall not dry any species of wood other than Pacific Northwest softwood lumber in kilns EU-2. [Permit No. R10NT501001]
- 6.3. No later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall develop and implement an O&M plan for the lumber drying kilns that describes the methods and procedures that will be followed to assure good air pollution control practices and efficient operation in accordance with manufacturer specifications and recommendations. The O&M plan shall be updated as necessary and shall include the following, at a minimum:
 - 6.3.1. Air temperature measurement systems used in the kiln;
 - 6.3.2. Lumber moisture measurement systems used in the kiln;
 - 6.3.3. Systems for ensuring only allowed species of wood are dried in the kiln;
 - 6.3.4. Sizing and placement of stickers, bolsters and boards;
 - 6.3.5. Door seals and kiln structure integrity;
 - 6.3.6. Kiln vent, baffle and fan systems (including, but not limited to, regular air velocity checks);
 - 6.3.7. Kiln steam system;
 - 6.3.8. Kiln control PC interface system;

- 6.3.9. Recordkeeping of inspections, maintenance and calibrations including dates and the personnel conducting the work; and
- 6.3.10. Availability of spare parts.

[Permit No. R10NT501001]

Kilns EU-2 Emissions Calculations Requirements

- 6.4. Monthly kilns EU-2 HAP emissions (tons) shall be calculated using Equation 6-1 as follows:

Equation 6-1

$$E_X = \sum_{i=1}^n \text{lumber}_{\text{species } i} \times EF_{X,\text{species } i} \times \left(\frac{\text{ton}}{2000 \text{ lb}}\right); \text{ where}$$

- " E_X " is monthly emissions of HAP X in units of "ton/month";
- " $\text{lumber}_{\text{species } i}$ " is the volume of lumber for wood species i dried during the month in units of "mbf/month";
- " $EF_{X,\text{species } i}$ " is EF for HAP X for wood species i in units of "lb/mbf"; and
- " $\frac{\text{ton}}{2000 \text{ lb}}$ " is a conversion factor.

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- 6.5. For the twelve months prior to and including the calendar month in which Permit No. R10NT501001 becomes effective, monthly kilns EU-2 HAP emissions (tons) shall be calculated using Equation 6-1 as follows:

- " $\text{lumber}_{\text{species } i}$ " is determined pursuant to Appendix E to this permit; and
- " $EF_{X,\text{species } i}$ " is determined pursuant to Appendix F to this permit. Use the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, in whole or in part, to determine methanol and formaldehyde EF.

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- 6.6. Monthly kilns EU-2 HAP emissions (tons) beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective shall be calculated using Equation 6-1 as follows:

- " $\text{lumber}_{\text{species } i}$ " is determined pursuant to Condition 6.10; and
- " $EF_{X,\text{species } i}$ " is determined pursuant to Appendix G to this permit. Add 4°F to the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species, in whole or in part, to determine methanol and formaldehyde EF.

[Permit No. R10NT501001]

Kilns EU-2 Monitoring and Recordkeeping Requirements

- 6.7. For kilns EU-2, beginning the calendar month in which Permit No. R10NT501001 becomes effective, the Permittee shall install, calibrate, operate, and maintain, in accordance with manufacturer specifications, equipment and procedures necessary to measure, display, calculate and record (including the date and time of measurements or records and, if applicable, the company or entity that performed the analyses and the analytical techniques or methods used) the following for each charge of lumber dried:

- 6.7.1. The lumber products (e.g., ESLPAF, FL, IHFIR, WW) and associated wood species present;
- 6.7.2. The volume of each lumber product dried per charge (mbf/charge);
- 6.7.3. The maximum set point temperature (°F) specified in the drying schedule for the heated air entering a load of lumber;

- 6.7.4. The dry bulb temperature of the heated air that enters each load of lumber in each zone of the kiln (°F), continuously measured;
- 6.7.4.1. Calculate and record a kiln-wide average “entering air” temperature at least every 15 minutes consistent with the O&M plan required in Condition 6.3 and monitoring plan required in Condition 4.18; and
- 6.7.5. Beginning the quarter of an hour in which the charge’s maximum “entering air” set point temperature is reached, continuously measure the moisture content of the lumber (% dry basis) using a capacitance-based in-kiln moisture measurement system consistent with the O&M plan required in Condition 6.3 and monitoring plan required in Condition 4.18. Calculate and record the average of valid instantaneous measurements from all available monitoring locations every 15 minutes.

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- 6.8. For kilns EU-2, beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall conduct the following monthly monitoring, calculations and recordkeeping:
- 6.8.1. For each wood species, record the maximum “entering air” set point temperature (°F) specified in drying schedules for charges initiated that month (containing that species); and
- 6.8.2. For each product grouping (e.g., ESLPAF, FL, IHFIR, WW), calculate and record the volume of lumber dried (mbf) counting charges initiated that month.

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- 6.9. For kilns EU-2, beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall conduct monitoring and perform calculations according to the plan required in Condition 6.11 and as follows:
- 6.9.1. Daily, the Permittee shall identify the species of each log received on five selected truckloads. If less than five truckloads are received in a day, the Permittee shall identify the species of each log received that day;
- 6.9.2. Daily, the Permittee shall count and record the number of logs received by species on a per truckload basis for the truckloads scaled under Condition 6.9.1; and
- 6.9.3. Monthly, the Permittee shall calculate and record the number of logs received by species and the total number of logs received overall for the month and the most recent six-month period (including the new month) for the truckloads scaled under Condition 6.9.1.

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- 6.10. For kilns EU-2, beginning the calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall determine the total lumber volume dried per month per wood species using as follows:

Equation 6-3

$$lumber = \sum_{i=1}^n product_i \times species\ fraction; \text{ where}$$

- "lumber" is total lumber volume dried per month for the wood species (mbf);
- "product_i" is total lumber volume dried per month for a product *i* (mbf) pursuant to Condition 6.8.2;
- "species fraction" is the fraction of product *i* estimated to be the wood species;

○ $species\ fraction = \frac{6\text{-month total \# logs received for the species}}{6\text{-month total \# logs received for all species in product}_i}$

- Use five months of existing on-site scaling data and one month of scaling data required to be collected pursuant to Condition 6.9 to perform this calculation for the month after the month Permit No. R10NT501001 becomes effective; and
- For each month thereafter, continue to replace an existing month’s data with a new month’s data until exclusively using scaling data required to be collected pursuant to Condition 6.9.

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6.11. No later than the month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall develop and implement a plan to estimate (in a manner that produces a representative result) the six-month rolling relative fraction of logs received at the facility, by species. The plan shall be updated as necessary and shall include the following, at a minimum:

- 6.11.1. Number of trucks to be scaled per day;
- 6.11.2. Description of how the truckloads will be selected for scaling;
- 6.11.3. The form that the employees fill out to document the make-up of the load, by species;
- 6.11.4. Calculations to be performed; and
- 6.11.5. Recordkeeping procedures for the completed forms and calculations.

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6.12. For each kilns EU-2 charge in which the lowest kiln-wide average moisture content was less than 13%, dry basis, report pursuant to Condition 3.47 the following: (a) identity of the kiln, (b) lumber product and volume, and (c) lowest kiln-wide average moisture content and date of measure.

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7. Unit-Specific Requirements – EU-3 (Sawmill)

Sawmill EU-3 Emission Limits and Work Practice Requirements

7.1. Particulate matter emissions from the stack(s) of this emission unit shall not exceed an average of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) during any three-hour period.

- 7.1.1. Compliance with the particulate matter limit is determined using EPA Reference Method 5 (see 40 CFR part 60, Appendix A).

[40 CFR 49.125(d)(3) and (e)]

Sawmill EU-3 Emissions Calculations Requirements

7.2. Beginning the month in which the Permittee submits the plan required by Condition 7.3, but no later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective, monthly sawmill EU-3 HAP emissions (tons) shall be calculated using Equation 7-1 as follows:

Equation 7-1

$$E_{methanol} = \sum_{i=1}^n GWR_{EQPi} \times \left(\frac{0.00122 \text{ lb}}{\text{odt}} \right) \times \left(\frac{\text{ton}}{2000 \text{ lb}} \right); \text{ where}$$

- " $E_{methanol}$ " is the sum of the emissions across all pieces of equipment (e.g., bin, target box) receiving green wood residue pneumatically conveyed to it during the month in units of “ton/month”;
- " n " is the total number of pieces of equipment receiving green wood residue pneumatically conveyed to them;

- " GWR_{EQPi} " stands for green wood residue and is the mass of the residue conveyed to a piece of equipment during the month in units of "odt/month" determined pursuant to Condition 7.3. The term does not include hogged bark;
- " $\frac{0.00122 \text{ lb}}{\text{odt}}$ " is the EF for single piece of equipment receiving green wood residue pneumatically conveyed to it. The EF is expressed in units of pounds of methanol emitted per oven dry tons of green wood residue received; and
- " $\frac{\text{ton}}{2000 \text{ lb}}$ " is a conversion factor.

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Sawmill EU-3 Monitoring and Recordkeeping Requirements

- 7.3. For sawmill EU-3, no later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall develop and implement a plan for determining monthly the mass of green wood residue pneumatically conveyed to a piece of equipment that either exhausts to atmosphere or is open to atmosphere. The plan shall be updated as necessary and shall include the following, at a minimum:
- 7.3.1. Description of each piece of equipment receiving green wood residue pneumatically;
 - 7.3.2. Process flow diagrams of all pneumatic conveyance systems conveying green wood residue;
 - 7.3.3. Methodology and associated assumptions for calculating monthly the mass of green wood residue pneumatically conveyed to each piece of equipment that either exhausts to atmosphere or is open to atmosphere;
 - 7.3.4. Monitoring necessary to implement the methodology; and
 - 7.3.5. Recordkeeping procedures.

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Sawmill EU-4 Reporting Requirements

- 7.4. The plan for determining monthly GWR_{EQP} associated with sawmill EU-3 required pursuant to Conditions 7.3 shall be submitted to EPA for approval by the end of the sixth calendar month after the month in which permit R10NT501001 becomes effective.

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8. Unit-Specific Requirements – EU-4 (Planer Mill)

Planer Mill EU-4 Emission Limits and Work Practice Requirements

- 8.1. Particulate matter emissions from the stack(s) of this emission unit shall not exceed an average of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) during any three-hour period.
- 8.1.1. Compliance with the particulate matter limit is determined using EPA Reference Method 5 (see 40 CFR part 60, Appendix A).

[40 CFR 49.125(d)(3) and (e)]

Planer Mill EU-4 Emissions Calculations Requirements

- 8.2. Beginning the month in which the Permittee submits the plan required by Condition 8.3, but no later than the sixth calendar month after the month in which permit R10NT501001 becomes effective, monthly planer mill EU-4 HAP emissions (tons) shall be calculated using Equation 8-1 as follows:

Equation 8-1

$$E_{\text{methanol}} = \sum_{i=1}^n GWR_{EQPi} \times \left(\frac{0.00122 \text{ lb}}{\text{odt}} \right) \times \left(\frac{\text{ton}}{2000 \text{ lb}} \right); \text{ where}$$

- " $E_{methanol}$ " is the sum of the emissions across all pieces of equipment (e.g., bin, target box) receiving green wood residue pneumatically conveyed to it during the month in units of "ton/month";
- " n " is the total number of pieces of equipment receiving green wood residue pneumatically conveyed to them;
- " GWR_{EQPi} " stands for green wood residue that has not been dried in a kiln and is the mass of the residue conveyed to a piece of equipment during the month in units of "odt/month" determined pursuant to Condition 8.3. The term does not include hogged bark;
- " $\frac{0.00122 \text{ lb}}{\text{odt}}$ " is the EF for single piece of equipment receiving green wood residue pneumatically conveyed to it. The EF is expressed in units of pounds of methanol emitted per oven dry tons of green wood residue received; and
- " $\frac{\text{ton}}{2000 \text{ lb}}$ " is a conversion factor.

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Planer Mill EU-4 Monitoring and Recordkeeping Requirements

- 8.3. For planer mill EU-4, no later than the sixth calendar month after the month in which Permit No. R10NT501001 becomes effective, the Permittee shall develop and implement a plan for determining monthly the mass of green wood residue pneumatically conveyed to a piece of equipment that either exhausts to atmosphere or is open to atmosphere. The plan shall be updated as necessary and shall include the following, at a minimum:
- 8.3.1. Description of each piece of equipment receiving green wood residue pneumatically;
 - 8.3.2. Process flow diagrams of all pneumatic conveyance systems conveying green wood residue;
 - 8.3.3. Methodology and associated assumptions for calculating monthly the mass of green wood residue pneumatically conveyed to each piece of equipment that either exhausts to atmosphere or is open to atmosphere;
 - 8.3.4. Monitoring necessary to implement the methodology; and
 - 8.3.5. Recordkeeping procedures.

[Permit No. R10NT501001]

Planer Mill EU-4 Reporting Requirements

- 8.4. The plan for determining monthly GWR_{EQP} associated with planer mill EU-4 required pursuant to Condition 8.3 shall be submitted to EPA for approval by the end of the sixth calendar month after the month in which permit R10NT501001 becomes effective. [Permit No. R10NT501001]

9. Unit-Specific Requirements – EU-5 (Used Oil-Fired Heater)

- 9.1. The Permittee is prohibited from operating heater EU-5. [Permit No. R10NT501001]
- 9.2. The Permittee shall remove heater EU-5 from the facility by end of the month following the month Permit No. R10NT501001 becomes effective. [Permit No. R10NT501001]

Appendix A: Boiler EU-1 HAP EF for the 12 Calendar Months Prior to and Including the Month the Permit Becomes Effective

Hazardous Air Pollutants	EF (lb/MMBtu)
Trace Metal Compounds	
Antimony Compounds	7.90E-06
Arsenic Compounds (including arsine)	2.20E-05
Beryllium Compounds	1.10E-06
Cadmium Compounds	4.10E-06
Chromium Compounds (including hexavalent)	2.10E-05
Cobalt Compounds	6.50E-06
Lead Compounds (not elemental lead)	4.80E-05
Manganese Compounds	1.60E-03
Mercury Compounds	3.50E-06
Nickel Compounds	3.30E-05
Phosphorus	2.70E-05
Selenium Compounds	2.80E-06
Halogen and Hydrogen Halide Compounds	
Chlorine	7.90E-04
Hydrochloric acid (hydrogen chloride)	not specific here
Hydrogen Fluoride	none specified
Organic Compounds	
Acetaldehyde	8.30E-04
Acetophenone	3.20E-09
Acrolein	4.00E-03
Benzene	4.20E-03
Bis(2-ethylhexyl)phthalate (DEHP)	4.70E-08
Carbon disulfide	none specified
Carbon tetrachloride	4.50E-05
Chlorobenzene	3.30E-05
Chloroform	2.80E-05
Cumene	none specified
Di-n-Butyl Phthalate	none specified
Dibenzofurans*	1.87E-09
2,4-Dinitrophenol	1.80E-07
Ethyl benzene	3.10E-05
Ethylene dichloride (1,2-Dichloroethane)	2.90E-05
Formaldehyde	4.40E-03
Hexane	none specified
Methanol	none specified
Methyl bromide (Bromomethane)	1.50E-05
Methyl chloride (Chloromethane)	2.30E-05
Methyl chloroform (1,1,1-trichloroethane)	3.10E-05
Methyl isobutyl ketone (Hexone)	none specified
Methylene chloride (Dichloromethane)	2.90E-04

Appendix A: Boiler EU-1 HAP EF for the 12 Calendar Months Prior to and Including the Month the Permit Becomes Effective

Hazardous Air Pollutants	EF (lb/MMBtu)
Naphthalene*	9.70E-05
4-Nitrophenol	1.10E-07
Pentachlorophenol	5.10E-08
Phenol	5.10E-05
Polychlorinated biphenyls (PCB)	8.15E-09
Polycyclic Organic Matter (POM)	1.27E-04
Propionaldehyde	6.10E-05
Propylene dichloride (1,2-Dichloropropane)	3.30E-05
Styrene	1.90E-03
2,3,7,8-Tetrachlorodibenzo-p-dioxin*	8.60E-12
Tetrachloroethylene (tetrachloroethene)	3.80E-05
Toluene	9.20E-04
Trichloroethylene (Trichloroethene)	3.00E-05
2,4,6-Trichlorophenol	2.20E-08
Vinyl chloride	1.80E-05
Xylenes (inlc isomers and mixtures)	2.50E-05

* designates a HAP that is subject individually to the 10 tpy major source threshold but is also one of several POM compounds that, in aggregate, are subject to the same 10 tpy major source threshold.

[Permit No. R10NT501001]

Appendix B: Boiler EU-1 HAP EF Beginning the Calendar Month after the Month the Permit Becomes Effective

Hazardous Air Pollutants	EF (lb/MMBtu)
Trace Metal Compounds	
Antimony Compounds	1.13E-06
Arsenic Compounds (including arsine)	5.91E-05
Beryllium Compounds	1.77E-05
Cadmium Compounds	2.51E-05
Chromium Compounds (including hexavalent)	1.14E-04
Cobalt Compounds	7.17E-07
Lead Compounds (not elemental lead)	6.38E-04
Manganese Compounds	2.47E-03
Mercury Compounds	1.38E-06
Nickel Compounds	8.19E-05
Phosphorus	4.05E-04
Selenium Compounds	3.28E-05
Halogen and Hydrogen Halide Compounds	
Chlorine	3.69E-04
Hydrochloric acid (hydrogen chloride)	not specified here
Hydrogen Fluoride	1.27E-04
Organic Compounds	
Acetaldehyde	1.89E-03
Acetophenone	3.23E-09
Acrolein	5.66E-04
Benzene	5.85E-03
Bis(2-ethylhexyl)phthalate (DEHP)	4.65E-08
Carbon disulfide	1.25E-04
Carbon tetrachloride	4.54E-05
Chlorobenzene	3.32E-05
Chloroform	2.75E-05
Cumene	1.77E-05
Di-n-Butyl Phthalate	3.33E-05
Dibenzofurans*	4.02E-09
2,4-Dinitrophenol	1.80E-07
Ethyl benzene	3.13E-05
Ethylene dichloride (1,2-Dichloroethane)	2.92E-05
Formaldehyde	2.33E-03
Hexane	2.88E-04
Methanol	7.32E-04
Methyl bromide (Bromomethane)	2.80E-05
Methyl chloride (Chloromethane)	4.35E-05
Methyl chloroform (1,1,1-trichloroethane)	3.07E-05
Methyl isobutyl ketone (Hexone)	4.45E-04
Methylene chloride (Dichloromethane)	2.87E-04

Appendix B: Boiler EU-1 HAP EF Beginning the Calendar Month after the Month the Permit Becomes Effective

Hazardous Air Pollutants	EF (lb/MMBtu)
Naphthalene*	1.39E-04
4-Nitrophenol	1.14E-07
Pentachlorophenol	2.28E-08
Phenol	6.14E-05
Polychlorinated biphenyls (PCB)	9.08E-09
Polycyclic Organic Matter (POM)	1.57E-04
Propionaldehyde	3.11E-04
Propylene dichloride (1,2-Dichloropropane)	3.33E-05
Styrene	1.86E-03
2,3,7,8-Tetrachlorodibenzo-p-dioxin*	1.43E-11
Tetrachloroethylene (tetrachloroethene)	3.82E-05
Toluene	1.22E-03
Trichloroethylene (Trichloroethene)	3.03E-05
2,4,6-Trichlorophenol	1.14E-08
Vinyl chloride	1.84E-05
Xylenes (inlc isomers and mixtures)	2.45E-05

* designates a HAP that is subject individually to the 10 tpy major source threshold but is also one of several POM compounds that, in aggregate, are subject to the same 10 tpy major source threshold.

[Permit No. R10NT501001]

Appendix C: Procedure to Determine FHSOR for Boiler EU-1

Conduct at least three valid stack test runs; each at least 60 minutes in duration. Follow Steps 1 through 8 for each run. Calculate the arithmetic average value for fuel-heat-input-to-steam-output ratio considering the results of all valid runs.

1. Simultaneously Measure Stack Gas Volumetric Flow and Steam Generating Rate.
 - Measure average stack gas volumetric flow (dscfm) using EPA Reference Method 2
 - Measure average steam flow (mlbsteam/hr) using boiler monitoring equipment
2. Sample Fuel
 - Create composite sample (composed of three approximately 2-pound individual samples) using 63.7521(c); all individual samples shall be collected at a location that most accurately represents the fuel being burned; individual belt or screw feeder samples, described in 63.7521(c)(1)(ii), shall be collected such that one sample is representative of fuel combusted at the beginning of the run, one is representative of fuel combusted at the mid-point of the run, and one is representative of fuel combusted at the end of the run.
3. Homogenize Fuel Sample
 - Subdivide and homogenize composite sample using 63.7521(d) until sample passes 0.5 mm screen
4. Determine Fuel Moisture
 - Determine moisture content (% , wet basis) of composite sample using ASTM E871; time analysis such that sample used for moisture analysis represents moisture content of sample introduced to oxygen bomb;
 - For converting heat content or ultimate analysis % to dry basis, use the following:
 - $(\text{value, wet basis}) / (1 - \% \text{moisture}) = (\text{value, dry basis})$
5. Determine Fuel Heat Content (aka Gross Calorific Value or High Heat Value)
 - Determine gross calorific value (Btu/lb, wet basis) for composite sample using ASTM E711; convert GCV results to be on dry basis
6. Perform Ultimate Analysis (for composite sample)
 - Determine ash content (% , dry basis) using ASTM D1102
 - Determine C (% , wet basis) using ASTM E777; convert to dry basis
 - Determine H (% , wet basis) using ASTM E777; convert to dry basis
 - Determine N (% , wet basis) using ASTM E778; convert to dry basis
 - Determine S (% , wet basis) using ASTM E775; convert to dry basis
 - Calculate O (% , dry basis) using ash, C, H, N and S results (% , dry basis) and ASTM E870
7. Calculate Hogged Fuel F-Factor (for composite sample)
 - Calculate F-factor (dscf/mmBtu) using results from ultimate analysis (dry basis) and GCV (dry basis) using equation 19-13 in 40 CFR 60 App A, RM19
8. Calculate Conversion Factor
 - Determine fuel heat input rate (mmBtu/hr) using average stack flow rate and percent oxygen (dry) for the run and F-factor for composite sample:
 $(\text{dscf/min}) \times ((20.9 - \% \text{O}_2) / 20.9) \times (60 \text{ min/hr}) / (\text{dscf/mmBtu}) = (\text{mmBtu/hr})$
 - Determine input/output ratio (mmBtu/mlbsteam) by dividing the fuel heat input rate (mmBtu/hr) for composite by the steam flow rate (mlbsteam/hr) for the run

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Appendix D: Procedure to Determine Halogen and Trace Metal FC for Boiler EU-1

1. Sample Fuel
 - Take 3 composite samples (composed of three approximately 2-pound individual samples) using 40 CFR 63.7521(c); all samples shall be collected at a location that most accurately represents the fuel being burned; if not sampling during a stack test, individual belt or screw feeder samples, described in 40 CFR 63.7521(c)(1)(ii), shall be separated by a 30 minute period.
2. Homogenize Sample
 - Subdivide and homogenize each composite sample using 40 CFR 63.7521(d) until sample passes 0.5 mm screen; approximately 50 grams of sample are needed for each moisture analysis, 1 gram of sample is needed for each oxygen bomb, and 2 grams of sample are needed for ash analysis
3. Determine Moisture Content
 - Determine moisture content (% wet basis) of three composite samples using ASTM E871; time analysis such that samples used for moisture analysis represents moisture content of samples introduced to oxygen bomb; do not average the three sample results
4. Prepare Sample for Heat Content, Halogen Content and Trace Metal Content Analysis
 - Prepare three composite samples using SW-846-5050; this sample preparation can be performed simultaneously with heat content analysis (ASTM E711); alternatively, ASTM E776 can be used in place of both SW-846-5050 and SW-846-9056/9056A; do not combine composite samples before or after sample preparation
5. Determine Heat Content (aka Gross Calorific Value or High Heat Value)
 - Determine gross calorific value (Btu/lb, wet basis) of three composite samples using ASTM E711; do not average the three sample results
 - Convert GCV results to be on a dry basis:
$$(\text{GCV, wet basis}) / (1 - \% \text{moisture}) = (\text{GCV, dry basis})$$
- 6a. Determine Halogen Content
 - Analyze bomb combustate for each composite sample for halogen (mg/L, wet basis) using SW-846-9056 or SW-846-9056A (alternatively, use ASTM E776 in place of SW-846-5050 and SW-846-9056/9056A)
 - Convert halogen mg/L (wet basis) to halogen ug/g (wet basis) using SW-846-5050 (eq. 1)
- 6b. Determine Trace Metal Content
 - For trace metals except for mercury, analyze bomb combustate for each composite sample for trace metal (mg/L, wet basis) using ASTM D3683, or ASTM D4606, or ASTM D6357 or EPA 200.8 or EPA SW-846-6020, or EPA SW-846-6020A, or EPA SW-846-6010C, EPA 7060 or EPA 7060A (for arsenic only), or EPA SW-846-7740 (for selenium only).
 - For mercury, analyze bomb combustate for each composite sample for trace metal (mg/L, wet basis) using EPA SW-846-7471B or EPA 1631 or EPA 1631E or EPA 821-R-01-013.
 - Convert trace metal mg/L (wet basis) to trace metal ug/g (wet basis) using SW-846-5050 (eq. 1)
- 7a. Determine Average Halogen FC
 - Convert halogen (ug/g, wet basis) to halogen (lb/mmBtu, dry basis) for each composite sample:
$$(\text{Halogen ug/g, wet basis}) \times (1 / (1 - \% \text{moisture})) \times (g / 1 \times 10^6 \text{ ug}) \times (1 / (\text{GCV Btu/lb, dry basis})) \times (1 \times 10^6 \text{ Btu/mmBtu}) = (\text{halogen lb/mmBtu})$$
 - Determine FC (lb/mmBtu) by averaging the halogen results from the three composite samples.
- 7b. Determine Average Trace Metal FC
 - Convert trace metal (ug/g, wet basis) to trace metal (lb/mmBtu, dry basis) for each composite sample:
$$(\text{trace metal ug/g, wet basis}) / (1 - \% \text{moisture}) / (1 \times 10^6 \text{ ug/g}) / (\text{GCV Btu/lb, dry basis}) \times (1 \times 10^6 \text{ Btu/mmBtu}) = (\text{trace metal lb/mmBtu})$$
 - Determine FC (lb/mmBtu) by averaging the trace metal results from the three composite samples.

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Appendix E: Calculations to Determine Monthly Total Volume of Lumber Dried for a Wood Species for the 12 Calendar Months Prior to and Including the Month the Permit Becomes Effective

For the twelve months prior to and including the calendar month in which the permit becomes effective, the monthly total volume of lumber dried for a wood species (mbf) shall be calculated as follows:

- Alpine Fir: $ESLPAF \times 0.138$
- Douglas Fir: $(FL \times 0.811) + (WW \times 0.296)$
- Engelmann Spruce: $(ESLPAF \times 0.091) + (WW \times 0.018)$
- Lodgepole Pine: $(ESLPAF \times 0.670) + (WW \times 0.037)$
- Ponderosa Pine: $WW \times 0.088$
- Western Hemlock: $(IHFIR \times 0.125) + (WW \times 0.053)$
- Western Larch: $(FL \times 0.189) + (WW \times 0.069)$
- Western Red Cedar: $WW \times 0.058$
- Western True Firs (except Alpine Fir): $(IHFIR \times 0.875) + (WW \times 0.371)$
- Western White Pine: $(ESLPAF \times 0.101) + (WW \times 0.008)$

where FL (Douglas Fir-Larch), ESLPAF (Engelmann Spruce-Lodgepole Pine-Alpine Fir-Western White Pine), IHFIR (Western Hemlock-Western True Firs except Alpine Fir) and WW (Western Woods, all species listed above except Alpine Fir) reflect the monthly volume of lumber dried in kilns EU-2 (mbf) for the respective four product groups. Each product's monthly volume is the sum of measured volumes for all charges (of that product) initiated that month.

Appendix F: Kilns EU-2 HAP EF for the 12 Calendar Months Prior to and Including the Month the Permit Becomes Effective

Species	Monthly Max Set Point Temp ¹ (°F)	Total HAP (lb/mbf)	Methanol ² (lb/mbf)	Formaldehyde ² (lb/mbf)	Acetaldehyde (lb/mbf)	Propionaldehyde (lb/mbf)	Acrolein (lb/mbf)
Non-Resinous Softwood Species							
Western True Firs ³	≤200	0.2107	0.1480	0.0034	0.0550	0.0018	0.0026
	>200	0.4956	0.4200	0.0163			
Western Hemlock	≤200	0.2921	0.1484	0.0016	0.1378	0.0018	0.0026
	>200	0.3661	0.2196	0.0044			
Western Red Cedar	≤200	0.2939	0.1484	0.0034	0.1378	0.0018	0.0026
	>200	0.5784	0.4200	0.0163			
Resinous Softwood Species (Non-Pine Family)							
Douglas Fir	≤200	0.1409	0.0690	0.0019	0.0682	0.0007	0.0011
	>200	0.1913	0.1170	0.0043			
Engelmann Spruce	≤200	0.0640	0.0250	0.0013	0.0360	0.0007	0.0010
	>200	0.1201	0.0780	0.0044			
Western Larch	≤200	0.1409	0.0690	0.0019	0.0682	0.0007	0.0011
	>200	0.1914	0.1170	0.0044			
Resinous Softwood Species (Pine Family)							
Lodgepole Pine	≤200	0.1166	0.0628	0.0041	0.0420	0.0032	0.0045
	>200	0.1166	0.0628	0.0041			
Ponderosa Pine	≤200	0.1271	0.0740	0.0034	0.0420	0.0032	0.0045
	>200	0.2029	0.1440	0.0092			
Western White Pine	≤200	0.1271	0.0740	0.0034	0.0420	0.0032	0.0045
	>200	0.2029	0.1440	0.0092			

¹ Use the monthly maximum set point temperature (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the wood species to determine methanol and formaldehyde EF.

² Because methanol and formaldehyde emissions appear to be dependent upon drying temperature, separate values are calculated for low and high-temperature drying.

³ Western True Firs consist of the following seven species classified in the same Abies genus: Bristlecone Fir, California Red Fir, Grand Fir, Noble Fir, Pacific Silver Fir, Subalpine Fir and White Fir.

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Appendix G: Kilns EU-2 HAP EF Beginning the Calendar Month after the Month the Permit Becomes Effective

The species-specific lumber drying EF for acetaldehyde, propionaldehyde and acrolein are self-explanatory. For methanol and formaldehyde, the variable “x” in the mathematical expression represents the monthly maximum set point temperature (°F) (specified in the drying schedule for the heated air entering a load of lumber) from among all charges consisting of the same wood species, plus 4°F. The EF is calculated by substituting the max set point temperature + 4 for “x” and performing the math. For instance, the monthly Western True Firs methanol EF for a month in which the maximum set point temperature from among all relevant charges was 195°F is calculated as follows: $(0.00465 \times 199) - 0.73360 = 0.1918$ lb/mbf.

Species	Methanol ¹ (lb/mbf)	Formaldehyde ¹ (lb/mbf)	Acetaldehyde (lb/mbf)	Propionaldehyde (lb/mbf)	Acrolein (lb/mbf)
Non-Resinous Softwood Species					
Western True Firs ²	0.00465x - 0.73360	0.00016x - 0.02764	0.0550	0.0003	0.0009
Western Hemlock	0.00249x - 0.39750	0.000046x - 0.007622	0.0677	0.0004	0.0012
Species not otherwise listed	0.00465x - 0.73360	0.00016x - 0.02764	0.0677	0.0004	0.0012
Resinous Softwood Species (Non-Pine Family)					
Douglas Fir	0.00114x - 0.16090	0.000028x - 0.003800	0.0275	0.0003	0.0005
Engelmann Spruce	0.00088x - 0.13526	0.000042x - 0.006529	0.0201	0.0002	0.0005
Larch	0.00114x - 0.16090	0.000028x - 0.003800	0.0275	0.0003	0.0005
Species not otherwise listed	0.00114x - 0.16090	0.000028x - 0.003800	0.0275	0.0003	0.0005
Resinous Softwood Species (Pine Family)					
Lodgepole Pine	0.0550	0.0030	0.0104	0.0003	0.0008
Ponderosa Pine	0.00137x - 0.18979	0.000074x - 0.010457	0.0340	0.0010	0.0026
Species not otherwise listed	0.00137x - 0.18979	0.000074x - 0.010457	0.0340	0.0010	0.0026

¹ Because methanol and formaldehyde emissions are dependent upon maximum drying temperature, a best-fit linear equation with dependent variable maximum temperature of heated air entering the lumber has been generated to model emissions, with one exception. For Lodgepole Pine, a single methanol and formaldehyde (based upon high-temperature drying) has been generated due to lack of sufficient test data to build a best-fit linear equation.

² Western True Firs consist of the following seven species classified in the same Abies genus: Bristlecone Fir, California Red Fir, Grand Fir, Noble Fir, Pacific Silver Fir, Subalpine Fir and White Fir.

[Permit No. R10NT501001]