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Region 10, Office of Air, Waste and Toxics  
AWT-107  
1200 Sixth Avenue  
Seattle, Washington 98101

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# **Technical Support Document**

## **Non-Title V Air Quality Operating Permit**

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**Stimson Lumber Company**  
Coeur d'Alene Reservation  
Plummer, Idaho

### ***Purpose of Owner-Requested Non-Title V Operating Permit and Technical Support Document***

Title 40 Code of Federal Regulations Section 49.139 establishes a permitting program to provide for the establishment of Federally-enforceable requirements for air pollution sources located within Indian reservations in Idaho, Oregon and Washington. The owner or operator of an air pollution source who wishes to obtain a Federally-enforceable limitation on the source's actual emissions or potential to emit must submit an application to the Regional Administrator requesting such limitation.

The United States Environmental Protection Agency (EPA) then develops the permit via a public process. The permit remains in effect until it is modified, revoked or terminated by EPA in writing.

This document, the Technical Support Document, fulfils the requirement of 40 CFR § 49.139(c)(3) by describing the proposed limitation and its effect on the actual emissions and/or potential to emit of the air pollution source. Unlike the air quality operating permit, this document is not legally enforceable. The permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the permittee from the requirements of the permit.

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## **1. EPA Authority to Issue Non-Title V Permits**

On April 8, 2005 EPA adopted regulations (70 FR 18074) codified at 40 CFR Parts 9 and 49, establishing Federal Implementation Plans (FIPs) under the Clean Air Act for Indian reservations in Idaho, Oregon and Washington. The FIPs, commonly referred to as the Federal Air Rules for Reservations (FARR), put in place basic air quality regulations to protect health and welfare on Indian reservations located in the Pacific Northwest. 40 CFR § 49.139 creates a permitting program for establishing Federally-enforceable requirements for air pollution sources on Indian reservations. This permit has been developed pursuant to 40 CFR § 49.139.

## **2. Facility Information**

The Stimson Lumber Company facility is located in Plummer, Idaho. The facility is within the outer boundaries of the Coeur d'Alene Reservation.

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## **3. Project Description**

### **3.1 Background**

In the second quarter of 2007, EPA Region 10 permit staff learned of new information on hazardous air pollutants (HAP) emissions from lumber drying kilns. Permit staff attended a technical meeting in Corvallis, OR, where the principal investigator, Dr. Mike Milota of Oregon State University, shared the results of his testing of various wood species. The results of these tests indicated that emissions of HAPs from lumber drying are significantly higher than previously thought. As a result, Region 10 believed that a number of sawmill facilities previously thought to be minor might in fact be major sources of HAP. Major sources of HAP are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR Part 63. These standards are also referred to as Maximum Achievable Control Technology (MACT). Major HAP source sawmills with lumber kilns are potentially subject to the requirements of two MACTs:

1. 40 CFR, Part 63, Subpart DDDD — National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; and
2. 40 CFR, Part 63, Subpart DDDDD — National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

On July 30, 2007 the United States Court of Appeals for District of Columbia Circuit vacated Subpart DDDDD in its entirety. As a result, sources that would have been subject to this MACT must comply with the case-by-case MACT requirements of section 112(j) of the Clean Air Act. The details of exactly how this will be implemented have not yet been finalized, and EPA headquarters is expected to issue

guidance that can be implemented consistently across the country. Major HAP source sawmills with lumber kilns would have to comply with the requirements of 112(j).

This situation is even more complex in the case of Subpart DDDD. The United States Court of Appeals for District of Columbia Circuit issued their opinion for a partial vacatur and remand of this MACT. The partial vacatur involved changing the effective date of the regulation from October 1, 2008 to October 1, 2007. This ties in with EPA's once-in-always-in policy whereby a source that is major at the effective date of a MACT cannot subsequently assume enforceable limits to not be subject to that MACT.

Region 10 recognized that (partially as a result of the latest kiln emissions data) many sawmills would be considered a major HAP source based on their potential to emit (PTE) HAPs, but their actual emissions would be much lower because their actual throughputs and/or species dried were less than worst case. These types of facilities were good candidates to assume a synthetic minor limit to ensure that their PTE remained below major source thresholds and which could use monitoring, recordkeeping and reporting to assure that their actual emissions remain below the new emission limits.

Rather than select facilities based on preliminary calculations of HAP emissions PTE, EPA elected to notify all of the sawmills known to be in Region 10 Indian Country. On August 8, 2007, EPA sent letters to all 10 sawmills to apprise them these recent events and of a streamlined process to obtain permits with the necessary HAP emission limits. If a facility wanted to take advantage of this streamlined permit opportunity, utilizing the FARR non-Title V operating permit program, EPA requested completed applications no later than August 15, 2007.

### **3.2 HAP Limit Request**

On August 17, 2007, EPA received a partial application from the applicant in response to the letter described in Section 3.1. EPA advised the applicant of the missing materials, and on August 21, the applicant provided a complete permit application. In the application, the applicant requested emission limits of 9 tons per year of any single hazardous pollutant (HAP) and 24 tons per year of all HAPs. The emission limits would apply to all HAP-emitting activities at the facility.

The applicant requested the HAP limits in order to avoid being considered a major source of HAP emissions.

## **4. *Regulatory Analysis and Permit Content***

### **4.1 Evaluation of HAP Limit Request**

A source is considered a major source of HAPs if the facility's potential to emit is 10 tons per year (tpy) or more of a single HAP, or 25 tpy or more of all HAPs in aggregate. The applicant has requested emission limits that will ensure that the facility would be considered a minor source of HAPs. Because of rounding, this translates to emission limits of 9 tpy (single HAP) and 24 tpy (total HAPs).

MACT-avoidance limits require compliance assurance on a rolling 12-month basis. The monitoring, recordkeeping and reporting for this permit will require the estimation of emissions from all HAP-emitting activities at least once a month. Details on the compliance assurance requirements are discussed in Section 4.3.

## **4.2 Other Federal Regulations**

Endangered Species Act (ESA) Impacts - EPA is obligated to consider the impact that a federal project may have on listed species or critical habitats. Based on the fact that the permit contains a voluntarily-requested emission limit, it is EPA's conclusion that the issuance of this permit will not affect a listed specie or critical habitat. Therefore, no additional requirements will be added to this permit for ESA reasons. EPA's no effect determination concludes EPA's obligations under Section 7 of the ESA. (See Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act, FWS and NMFS, March 1998, at Figure 1).

National Environmental Policy Act (NEPA) Review - Under Section 793(c) of the Energy Supply and Environmental Coordination Act of 1974, no action taken under the Clean Air Act shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. This permit is an action taken under regulations implementing the Clean Air Act and is therefore exempt from NEPA.

National Historic Preservation Act (NHPA) – This project involves establishing a limit on emissions. No part of the facility will be physically altered directly as a result of this permit. Consequently, no adverse effects are expected, and further review under NHPA is not indicated.

## **4.3 Permit Content**

The permit includes the requested emission limits as well as monitoring, recordkeeping and reporting requirements necessary to assure compliance with each limit. Each section of the permit is discussed below. The permit is organized into four sections as follow:

### **4.3.1 Permit Section 1: General Conditions**

This section of the permit contains conditions of a general nature that apply to the facility. Permit Condition 1.1 requires the permittee to comply with the conditions in the permit.

This permit establishes owner-requested limits and related compliance assurance provisions to restrict the facility's potential to emit HAPs. It does not contain other Clean Air Act requirements to which this facility is or may be subject, such as the FARR; New Source Performance Standards, 40 CFR Part 60, National Emissions Standards for Hazardous Air Pollutants, 40 CFR Part 61 and 63; and the Title V operating permit program, 40 CFR Part 71. As specified in Permit Condition 1.2, compliance with the terms of this permit in no way relieves or exempts the permittee from compliance with other applicable Clean Air Act requirements or of any other applicable federal, tribal, state, or local law or regulation.

### **4.3.2 Permit Section 2: Emission Limits and Work Practice Requirements**

This section of the permit contains any emissions limits or work practice requirements that have been established as a result of the subject permit action. As discussed earlier, in Section 4.1, for this permit action, the only limits established are the 9 tpy single HAP limit and the 24 tpy total HAP limit.

### **4.3.3 Permit Section 3: Monitoring and Recordkeeping Requirements**

Permit Condition 3.1 requires the permittee to calculate monthly emissions every month. The rolling 12-month emissions must be determined by adding the emissions calculated for the most recent month with the emissions for the immediately preceding 11 months. Emissions are to be calculated from the entire

facility. The following tables provide the emission factors that EPA currently accepts for estimating emissions from wood waste-fired boilers and from lumber kilns.

**Table 1: Wood Waste-Fired Boiler Emission Factors**

| Compound                                   | Emission Factor <sup>1</sup><br>(lb/MMBtu) | Compound                                  | Emission Factor <sup>1</sup><br>(lb/MMBtu) |
|--|--|---|--|
| Acetaldehyde                               | 8.30E-04                                   | Tetrachloroethene                         | 3.80E-05                                   |
| Acetophenone                               | 3.20E-09                                   | 1,1,1-Trichloroethane (methyl chloroform) | 3.10E-05                                   |
| Acrolein                                   | 4.00E-03                                   | Trichloroethene                           | 3.00E-05                                   |
| Benzene                                    | 4.20E-03                                   | Toluene                                   | 9.20E-04                                   |
| bis(2-Ethylhexyl) phthalate (DEHP)         | 4.70E-08                                   | 2,4,6-Trichlorophenol                     | 2.20E-08                                   |
| Bromomethane (methyl bromide)              | 1.50E-05                                   | Vinyl Chloride                            | 1.80E-05                                   |
| Carbon tetrachloride                       | 4.50E-05                                   | o-Xylene                                  | 2.50E-05                                   |
| Chlorine                                   | 7.90E-04                                   | POM                                       |  |
| Chlorobenzene                              | 3.30E-05                                   | Benzo(a)anthracene                        | 6.50E-08                                   |
| Chloroform                                 | 2.80E-05                                   | Benzo(a)pyrene                            | 2.60E-06                                   |
| Chloromethane (methyl chloride)            | 2.30E-05                                   | Benzo(b)fluoranthene                      | 1.00E-07                                   |
| Dibenzo furans                             |  | Chrysene                                  | 3.80E-08                                   |
| Heptachlorodibenzo-p-furans                | 2.40E-10                                   | Benzo(k)fluoranthene                      | 3.60E-08                                   |
| Hexachlorodibenzo-p-furans                 | 2.80E-10                                   | Dibenzo(a,h)anthracene                    | 9.10E-09                                   |
| Octachlorodibenzo-p-furans                 | 8.80E-11                                   | Indeno(1,2,3,c,d)pyrene                   | 8.70E-08                                   |
| Pentachlorodibenzo-p-furans                | 4.20E-10                                   | Acenaphthene                              | 9.10E-07                                   |
| 2,3,7,8-Tetrachlorodibenzo-p-furans        | 9.00E-11                                   | Fluorene                                  | 3.40E-06                                   |
| Tetrachlorodibenzo-p-furans                | 7.50E-10                                   | Anthracene                                | 3.00E-06                                   |
| 1,2-Dichloroethane (ethylene dichloride)   | 2.90E-05                                   | Phenanthrene                              | 7.00E-06                                   |
| Dichloromethane (methylene chloride)       | 2.90E-04                                   | Fluoranthene                              | 1.60E-06                                   |
| 1,2-Dichloropropane (propylene dichloride) | 3.30E-05                                   | Pyrene                                    | 3.70E-06                                   |
| 2,4-Dinitrophenol                          | 1.80E-07                                   | Perylene                                  | 5.20E-10                                   |
| Ethylbenzene                               | 3.10E-05                                   | Benzo(g,h,i)perylene                      | 9.30E-08                                   |
| Formaldehyde                               | 4.40E-03                                   | Acenaphthylene                            | 5.00E-06                                   |
| Hydrogen chloride                          | 1.90E-02                                   | Benzo(e)pyrene                            | 2.60E-09                                   |
| Naphthalene                                | 9.70E-05                                   | 2-Methylnaphthalene                       | 1.60E-07                                   |
| Pentachlorophenol                          | 5.10E-08                                   | Benzo(j,k)fluoranthene                    | 1.60E-07                                   |
| 4-Nitrophenol                              | 1.10E-07                                   | 2-Chloronaphthalene                       | 2.40E-09                                   |
| Phenol                                     | 5.10E-05                                   | Antimony                                  | 7.90E-06                                   |
| Polychlorinated biphenyls                  |  | Arsenic                                   | 2.20E-05                                   |
| Decachlorobiphenyl                         | 2.70E-10                                   | Beryllium                                 | 1.10E-06                                   |
| Dichlorobiphenyl                           | 7.40E-10                                   | Cadmium                                   | 4.10E-06                                   |
| Heptachlorobiphenyl                        | 6.60E-11                                   | Chromium (Total)                          | 2.10E-05                                   |
| Hexachlorobiphenyl                         | 5.50E-10                                   | Chromium (VI)                             | 3.50E-06                                   |
| Pentachlorobiphenyl                        | 1.20E-09                                   | Cobalt                                    | 6.50E-06                                   |
| Trichlorobiphenyl                          | 2.60E-09                                   | Lead                                      | 4.80E-05                                   |
| Tetrachlorobiphenyl                        | 2.50E-09                                   | Manganese                                 | 1.60E-03                                   |
| Propionaldehyde                            | 6.10E-05                                   | Mercury                                   | 3.50E-06                                   |
| Styrene                                    | 1.90E-03                                   | Nickel                                    | 3.30E-05                                   |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxins       | 8.60E-12                                   | Selenium                                  | 2.80E-06                                   |

<sup>1</sup> AP-42 September 2003, Tables 1.6-3 and 1.6-4

**Table 2: Kiln Emission Factors**

| Species                       | Max Kiln Temp °F | Total HAP lb/MMBF | Methanol Lb/MMBF | Formaldehyde lb/MMBF | Acetaldehyde lb/MMBF  | Propionaldehyde lb/MMBF | Acrolein lb/MMBF      |
|-------------------------------|------------------|-------------------|------------------|----------------------|-----------------------|-------------------------|-----------------------|
| Hemlock                       | ≤200°F           | 199               | 82               | 1.24                 | 113                   | 1                       | 1.6                   |
| Hemlock                       | >200°F           | 305               | 186              | 3.8                  | 113 <sup>(1)</sup>    | 1 <sup>(1)</sup>        | 1.6 <sup>(1)</sup>    |
| Douglas Fir                   | ≤200°F           | 97                | 38               | 1                    | 57                    | 0.55                    | 0.65                  |
| Douglas Fir                   | >200°F           | 116               | 57               | 1 <sup>(1)</sup>     | 57 <sup>(1)</sup>     | 0.55 <sup>(1)</sup>     | 0.65 <sup>(1)</sup>   |
| White Fir                     | ≤200°F           | 240               | 122              | 2.8                  | 113 <sup>(2)</sup>    | 1 <sup>(1)(2)</sup>     | 1.6 <sup>(1)(2)</sup> |
| White Fir                     | >200°F           | 301               | 183              | 2.8 <sup>(1)</sup>   | 113 <sup>(1)(2)</sup> | 1 <sup>(1)(2)</sup>     | 1.6 <sup>(1)(2)</sup> |
| Ponderosa Pine <sup>(3)</sup> | ≤200°F           | 184               | 65               | 2.9                  | 113 <sup>(1)(2)</sup> | 1 <sup>(1)(2)</sup>     | 1.6 <sup>(1)(2)</sup> |
| Lodgepole Pine <sup>(3)</sup> | ≤200°F           | 73.6              | 55               | 4                    | 12                    | 1 <sup>(1)(2)</sup>     | 1.6 <sup>(1)(2)</sup> |
| Lodgepole Pine <sup>(3)</sup> | >200°F           | 78.6              | 60               | 4 <sup>(6)</sup>     | 12 <sup>(6)</sup>     | 1 <sup>(1)(2)</sup>     | 1.6 <sup>(1)(2)</sup> |
| Slash Pine                    | >200°F           | 215               | 164              | 4 <sup>(5)</sup>     | 44.7                  | 1 <sup>(1)(2)</sup>     | 1.6 <sup>(1)(2)</sup> |

- (1) Assumes emissions of this HAP not temperature dependent. There is insufficient data to know for sure.
- (2) Assumes emissions are the same as hemlock.
- (3) Pine is not normally dried at temperatures > 200 °F.
- (4) No data for Slash Pine dried ≤ 200 °F.
- (5) Assume to be the same as for Lodgepole Pine.
- (6) Assumes emissions the same as for Lodgepole Pine dried at ≤ 200 °F.

It is EPA’s expectation that the permittee will use the emission factors in Tables 1 and 2 when estimating emissions from wood waste-fired boilers and from lumber kilns unless the permittee has other information showing why another technique more accurately represents its emissions. The permittee is also expected to calculate emissions from other HAP-emitting activities by using emission estimation methods that are verifiable using currently accepted engineering criteria.

Because chloride content in wood waste can vary from location to location, the facility is required (see Conditions 3.2 and 3.3) to test their wood waste fuel for chloride content and to base their facility-wide HAP emission calculations on the latest test results. Larger facilities (e.g. with a capacity > 60 MMbf/year) are required to test their fuel quarterly, while smaller facilities are required to conduct this testing on an annual basis.

The permittee is required (Condition 3.4) to maintain copies of required emissions calculations and all supporting documentation for a period of five years.

#### 4.3.4 Permit Section 4: Reporting Requirements

Condition 4.1 requires the permittee to annually submit to EPA a record of the 12 monthly 12-month emissions calculations. For ease in coordinating submittals, this report is required to be submitted concurrently with the annual FARR registration submittal. As specified in 40 CFR § 49.139(f), the annual FARR registration submittal must be submitted with the annual emission report and fee calculation required by 40 CFR Part 71.

This annual report must include details (see Condition 4.2) on how the emissions were calculated as well

as identifying the sources for various data elements.

## **5. Permit Procedures**

### **5.1 Permit Revision, Termination and Reissuance**

The permittee may request EPA to revise the conditions of this permit by submitting an application that contains the information specified in 40 C.F.R. 49.139(d). EPA will revise the permit using the same procedures that apply to initial permit issuance.

If the permittee wishes to terminate the permit, a written request must be submitted to EPA explaining the reasons for the request and, if necessary for continued operation, submitting applications for any Clean Air Act permits or approvals that the permittee avoided by establishment of the limits contained in this permit.

This permit may be terminated, revised, or revoked and reissued by EPA for cause. Cause exists to terminate, revise, or revoke and reissue this permit under the following circumstances:

1. This permit contains a material mistake;
2. Inaccurate statements were made in establishing the terms or conditions of this permit;
3. The permittee fails to comply with any condition of this permit; or
4. This permit must be terminated, revised, or reopened and reissued to assure compliance with Clean Air Act requirements.

EPA will use the same proceedings to terminate, revise, or revoke and reissue a permit for cause as for initial permit issuance. Before initiating proceedings to terminate, revise, or revoke and reissue a permit, EPA will provide the permittee at least 30 days' advance written notice of EPA's intent to terminate, revise, or revoke and reissue the permit, except that EPA may provide a shorter notice period in the case of an emergency.

### **5.2 Public Notice and Comment**

As required under 40 CFR § 49.139(c), all draft owner-requested operating permits must be publicly noticed and made available for public comment. For this permit action, the requirements of 40 CFR § 49.139(c)(5) are as follow:

1. Make available for public inspection, in at least one location in the area affected by the air pollution source, a copy of the draft operating permit prepared by EPA, the technical support document for the draft permit, the application, and all supporting materials (see 40 CFR 49.139(c)(5)(i));
2. Publish public notice for this draft permit, by prominent advertisement in a newspaper of general circulation in the area affected by this source, of the availability of the draft permit to operate and supporting materials and of the opportunity to comment. Where possible, notices will also be made in the Tribal newspaper (see 40 CFR 49.139(c)(5)(ii));
3. Provide copies of the notice to the owner or operator of the air pollution source, the Tribal governing body, and the Tribal, State and local air pollution authorities having jurisdiction in areas outside of the Indian reservation potentially impacted by the air pollution source (see 40 CFR 49.139(c)(5)(iii)); and
4. Provide for a 30-day period for submittal of public comments, starting upon the date of publication of the notice. If requested, the Regional Administrator may hold a public hearing



and/or extend the public comment period for up to an additional 30 days (see 40 CFR 49.139(c)(5)(iv)).

40 CFR § 49.139(c) also contains requirements that apply after the draft permit is made available for public comment. These additional requirements must be satisfied prior to issuance of the final permit:

1. EPA will accept comments on the draft permit, during the 30 day public comment period (see 40 CFR 49.139(c)(5)(iv));
2. After the close of the public comment period, EPA will consider all comments received and prepare a final permit to operate and final technical support document. The final technical support document will include a response to all comments received during the public comment period (see 40 CFR 49.139(c)(6));

After issuance of the final permit and technical support document, the following requirements must also be satisfied:

1. Make the final permit and technical support document available at all of the locations where the draft permit was made available (see 40 CFR 49.139(c)(7)); and
2. Send the final permit and technical support document to all persons who provided comments on the draft permit to operate (see 40 CFR 49.139(c)(7)).

### **5.3 Response to Public Comments**

The draft permit and technical support document were made available during a public comment period that lasted from August 24, 2007 to September 27, 2007. Through the public comment process, only one comment was received. The content of the comment and EPA's response are presented below:

**Comment:** My wife and I live and work in Plummer. In fact we live very close to the Stimson Mill site. We are of course very concerned with the quality of life we have here in Plummer including, land, air and water quality. It would be in everyone's best interests if air pollution would be kept to an absolute minimum from the Stimson Mill site so that we can enjoy a healthful life style here. On behalf of my wife Gail and myself, I wish that this email record be entered into the comments requested by EPA regarding an air permit for the Stimson Mill. Thank you for this opportunity.

**Response:** This permit establishes enforceable limits on emissions of hazardous air pollutants at levels below what the facility had the potential to emit prior to issuance of this permit. Please note that the facility also has a Title V operating permit that contains enforceable requirements implementing applicable provisions of the Clean Air Act. As a result, air emissions from the Stimson facility are kept to the minimum provided for by statute and regulation.

As the comment does not identify any material errors in the permit or statement of basis, the permit remains substantively unchanged from the draft permit.

## **6. Abbreviations and Acronyms**

|        |   |
|--------|---|
| CFR    | Code of Federal Regulations   |
| EPA    | United States Environmental Protection Agency (also U.S. EPA)                           |
| FARR   | Federal Air Rules for Reservations  |
| FR     | Federal Register  |
| HAP    | Hazardous air pollutant   |
| NESHAP | National Emission Standards for Hazardous Air Pollutants (Title 40 CFR Parts 61 and 63) |
| PTE    | Potential to emit   |
| tpy    | Tons per year   |