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Technical Support Document

For Air Operating Permit #
19RFC1321

Sierra Pacific Industries,
Shelton Mill

AOP – Renewal
19RFC1321
Draft
<date issued>

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1. DISCLAIMER

This Technical Support Document contains general background information on the dimensional lumber mill located at 100 N Front Street in Shelton, Washington, which is currently owned and operated by Sierra Pacific Industries (SPI) and is herein referred to as the Mill. All information contained in this Technical Support Document is for purposes of background information regarding air quality only and is not directly enforceable. Enforceable air quality related requirements including emission limits and monitoring, recordkeeping and reporting requirements are contained in the associated Air Operating Permit (AOP) for the Mill, permit # 19RFC1321, which was issued by Olympic Region Clean Air Agency (ORCAA) on **<center Date>**.

2. Background

2.1 Facility Description

The SPI Shelton Mill produces dimensional, kiln-dried lumber and is located at 421 Front Street in Shelton along the Oakland Bay waterfront. The facility includes a saw mill, planing mill, steam generating plant, log yard, rail loading facilities maintenance shop and offices. The Mill produces kiln-dried dimensional lumber from primarily Douglas Fir and Hemlock logs that are delivered to the Mill via either truck, barge or rail.

SPI purchased the Mill from the Simpson Lumber Company and substantially reconstructed the mill in 2015. The entire Mill was reconstructed except for the steam generating plant comprised of a Wellons biomass boiler (Wellons Boiler) and package gas-fired boiler (Backup Boiler). Reconstruction of the Mill was subject to New Source Review and was approved by ORCAA under Notice of Construction (NOC) #15NOC1128, which has since been superseded by 19NOR1326. Lumber production at Mill under SPI's ownership re-commenced after the renovations were completed in 2016.

Table 1: Contact Information

Company Name	Sierra Pacific Industries
Facility/Source Name	Sierra Pacific Industries – Shelton Division
Parent Company	Sierra Pacific industries
AOP Permit No.	19RFC1321
Mailing Address	Sierra Pacific Industries – Shelton Division P.O. Box 700 Shelton, WA 98584
Site Address	Sierra Pacific Industries – Shelton Division 100 N Front Street Shelton, WA 98584
Facility Description	Lumber Mill
Facility/Plant/Environmental Manager	Dick Phillips, Boiler Superintendent
Responsible Official	Darrin Moorcroft, Division Manager
Standard Industrial Classification (SIC) Code	2421/321113

Attainment Area Status	Attainment
Permitting Authority	Olympic Region Clean Air Agency
Permit Engineer	Mark V. Goodin – ORCAA Engineer Manager (360) 539-7610 ext. 108
Compliance Supervisor	Mike Shults – Compliance Supervisor (360) 539-7610

2.2 Basis for Title V Applicability

Title V AOPs apply to “major sources” based on their Potential to Emit (PTE). PTE is defined as the maximum possible emissions given physical and regulatory limitations. A Title V AOP is required for facilities with a PTE of 100 tons per year or more of any criteria air pollutant, 10 tons per year or more of any Hazardous Air Pollutant (HAP) or 25 tons per year or more of any combination of HAP. Facilities that meet or exceed these triggers are regulated as “Major Sources” and are required to operate under an approved Title V AOP.

Tables 2 and 3 below shows PTE estimates for the SPI Shelton Mill. These emissions rates were based on enforceable emissions limits, maximum design output and continuous operation of all equipment, and, therefore, represent the maximum possible emissions from the Mill. Based on these results, the SPI Shelton Mill emits is greater than the Title V applicability threshold for several air pollutants, including NO_x, CO, VOC, Acetaldehyde, Methanol and combined HAP. Therefore, the SPI Shelton Mill is a “Major Source” and is required to operate under a Title V AOP.

Table 2: SPI Shelton Mill PTE – Criteria Air Pollutants

	NO _x (tpy)	CO (tpy)	PM ₁₀ (tpy)	SO ₂ (tpy)	VOC (tpy)
Wellons Boiler^b	180	249	45	31	21
Kilns^c	0	0	5.0	0	193
Residuals System^d	0	0	5.3	0	0
Anti-Mold System^e	0	0	0	0	0.005
Log Yard^f	0	0	1.9	0	0
Facility-Wide Sum	180	249	58	31	213

Table Notes:

- Abbreviations: Tons per year (tpy), Oxides of Nitrogen (NO_x), Carbon Monoxide (CO), Particulate Matter (PM), Sulfur Dioxide (SO₂), Volatile Organic Compounds (VOC).
- Wellons PM based on Boiler MACT PM limit and continuous operation (8760 hrs/yr) at maximum heat-rate of 280 MMBtu/hr. Wellons CO based on CO cap (see condition #7). Wellons NO_x based on average of stack testing results from July 2006 and May 2011. Wellons SO₂ and VOC based on EPA AP-42.
- Kiln VOC based on production rate limit of 500 MMbf.
- Residuals System includes emissions from the Fuel House. Annual emissions from Residuals Systems based on 20 hours per day, 6 days per week operation for 52 weeks per year.
- Anti-Mold system VOC based on SDS of specific products applied.
- Negligible PM₁₀ and PM_{2.5} expected from Log Yard.

Table 3: SPI Shelton Mill PTE - Toxic and Hazardous Air Pollutants

	Acetaldehyde (tpy)	Acrolein (tpy)	Formaldehyde (tpy)	Methanol (tpy)
Wellons Boiler ^b	0.244	0.0387	2.4	1.02
Kilns ^c	30.0	0.375	0.325	20.25
Residuals System ^d	0	0	0	0
Anti-Mold System ^d	0	0	0	0
Log Yard ^d	0	0	0	0
Facility-Wide Sum	30.244	0.414	2.72	21.27

Table Notes:

- Abbreviations: Tons per year (tpy)
- TAP emissions from Wellons based on emissions factors from EPA AP-42 source test data-base and continuous operation at maximum heat-rate.
- Kiln TAP emissions calculated using emissions factors of the species with the highest emissions rate, drying at < 200 F° and an annual production cap of 500 MMbf/hr.
- No TAP emissions expected from Residuals System, Anti-Mold System or Log Yard.

2.3 Current Permit Action

The current permitting action is an AOP reopening for cause under WAC 173-401-730, which provides ORCAA authority to reopen and revise an AOP mid-permit-term to correct material mistakes, add new applicable requirements or make other qualifying changes. For the SPI Shelton Mill, the AOP is being reopened to incorporate new requirements from two NOC approvals: 18NOC1291 and 19NOR1326. The AOP is also being updated to ORCAA’s current AOP format and to include improvements to both the AOP and this Technical Support Document (TSD) that were recommended by EPA Region 10 through their review of ORCAA’s Title V program, which was completed September 29, 2020.

The same procedural requirements applying to an AOP renewal apply to an AOP reopening for cause, including public participation and affected state and EPA review, except that only those parts of the AOP revised are subject to public and affected states review. However, accomplishing the revisions needed for this reopening for cause required a comprehensive overhauling of both the AOP and TSD: Every section and nearly every condition of the AOP was revised. Therefore, the entire AOP and TSD are considered revised and subject to EPA, public and affected states review. Because of this, and because the review process for a reopening an AOP identical to a renewal AOP or an initial AOP, the resulting AOP and TSD will be considered equivalent to an AOP renewal, and will be issued with a 5-year permit term.

3. PERMIT ADMINISTRATION

The following sections clarify important AOP administrative requirements or the Washington Air Operating Permit Program per Chapter 173-401 of the Washington Administrative Code (WAC).

3.1 Permittee

The term “Permittee” refers to both the owner and operator of the facility. Both the owner and the operator are responsible for assuring compliance with the terms and conditions in the AOP. The current operator of the Mill is the Sierra Pacific Industries – Shelton Division (SPI). The current parent company or owner of the Mill is the Sierra Pacific Industries. The AOP for the Mill applies regardless of ownership changes. Therefore, a change in ownership transfers responsibility for complying with the AOP immediately to the new owner and operator.

3.2 Responsible Official

AOP regulations under Chapter 173-401 WAC require a “Responsible Official” certify the truth and accuracy of all compliance related submittals and reports required by the AOP based on their belief formed after reasonable inquiry. The Responsible Official must have the means and authority to initiate maintenance, testing, operational changes and purchase of equipment to maintain compliance with the AOP. The Responsible Official must also have a basic understanding of Title V of the federal Clean Air Act, an understanding of each required report and certification, how compliance with the AOP is assured, and the role of credible evidence in certifying compliance.

AOP compliance-related submittals covers practically every report, submittal and certification required by the AOP such as deviation reports, malfunction reports, periodic monitoring reports, test reports, quarterly reports and annual compliance certifications. The AOP does allow “batch-wise” certification of routine compliance reports. This is facilitated by condition G5, which states, “Provided, however, where a report is sent more frequently than once every six months, the responsible official’s certification needs only be submitted once every six months, covering all required reporting since the date of the last certification.” This provision allows the Responsible Official to batch-wise certify retroactively all reports submitted since the last certification.

According to WAC 173-401-200(29), the “Responsible Official” means one of the following:

- a. For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - i. The facilities employ more than two hundred fifty persons or have gross annual sales or expenditures exceeding forty-three million in 1992 dollars; or
 - ii. The delegation of authority to such representative is approved in advance by the permitting authority;
- b. For a partnership or sole proprietorship: A general partner or the proprietor, respectively;

- c. For a municipality, state, federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a regional administrator of EPA); or
- d. For affected sources:
 - i. The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the FCAA or the regulations promulgated thereunder and in effect on April 7, 1993 are concerned; and
 - ii. The designated representative for any other purposes under 40 C.F.R. Part 70.

The designated Responsible Official for the Mill is identified as the Mill Manager. This designation meets the requirements for Responsible Officials found in WAC 173-401-200(29), provided that the Mill Manager is a duly authorized by a president, secretary, treasurer, or vice president of the corporation who is in charge of a principal business functions. In general, the Responsible Official must be a person in a position capable of authorizing expenditures necessary to assure compliance with the AOP.

3.3 Origins and Authorities for AOP Conditions

Per the Washington Air Operating Permit Program under WAC 173-401-600, the regulatory origin and authority for each condition must be stated in an AOP. The origin and authority are stated at the end of each permit condition. The “Origin” cites the local, state, federal regulation or New Source Review permit where the applicable requirement came from. The “Authority” cites the specific section in Chapter 173-401 WAC providing authority to include the requirement in the AOP. Table 4 below lists the authorities generally used by ORCAA for AOPs.

Table 4: Legal Authorities for AOP Conditions

Category of AOP Condition	Origin	Authority
Federal Emissions Limits and Standards	NOC condition or state, federal or local performance standard	WAC 173-401-600(1)(a)
State Emissions Limits and Standards		WAC 173-401-600(1)(b)
NSR Permit Conditions		WAC 173-401-600(1)(c)
Applicable Monitoring <i>When monitoring is required by an applicable requirement</i>	NOC condition or state, federal or local performance standard	WAC 173-401-615(1)(a)
Gap-filling Monitoring <i>When monitoring is not specified by an applicable requirement</i>	If a surrogate monitoring provision is adopted, then its origin is cited. Otherwise, the origin is not applicable.	WAC 173-401-615(1)(b)
Additional Monitoring Equipment Requirements <i>When required monitoring references a federal performance specification and QA procedure</i>	If a surrogate monitoring equipment specification is adopted, then its origin is cited. Otherwise, the origin is not applicable.	WAC 173-401-615(1)(c)
Sufficiency Monitoring <i>When monitoring is required by an applicable requirement, but it is not sufficient to assure compliance</i>	If a surrogate monitoring requirement is adopted, then its origin is cited. Otherwise, the origin is not applicable.	WAC 173-401-630(1)
Recordkeeping (including gap-filling)	NOC condition or state, federal or local regulation requiring the record is cited	WAC 173-401-615(2)
All Reporting	NOC condition or state, federal or local regulation requiring the reporting is cited	WAC 173-401-615(3)

3.4 AOP Enforcement

Terms and conditions in the AOP apply continuously and are enforceable by ORCAA, Washington State, and, except for state or local only designated requirements, the U.S. EPA. Each condition in the AOP cites both the regulatory origin and authority of the condition. Any disputes regarding the exact language of an applicable requirement listed in the AOP should be settled by consulting the regulations cited as the regulatory origins for the condition.

3.5 Annual Fees

ORCAA calculates annual fees for Title V sources (AOP fees) using a formula that includes a facility fee, a fee based on the number of emission units, and an emissions fee based on tons of air pollution emitted the previous calendar year. The intent of the formula is to compute annual Title V fees sufficient to cover ORCAA's cost of administering the Title V program. The formula used to calculate AOP fees is found in ORCAA Rule 3.2. For fee assessment purposes, the SPI Shelton Mill is recognized as having 7 emissions units: Wellons boiler, backup boiler, lumbermill operations, dry kilns, wood residuals handling systems, log yard and anti-mold system. Over calendar year 2020, The SPI Shelton Mill emitted a total of 254 tons of air pollution. Based on these parameters, the annual fee for SPI Shelton for fiscal year 2022 was assessed at \$86,756.

3.6 Permit Renewals

The Shelton Mill AOP is issued with a fixed term of five years. Unless the Permittee submits a complete permit renewal application no later than six months before the expiration date, the AOP will expire. If a complete application is received in a timely manner, the AOP will remain in effect until a renewal AOP is issued. The same procedural requirements that apply to issuing an initial AOP apply to permit renewals, including public participation and affected state and EPA review. If ORCAA denies an AOP renewal application, the procedures for permit revocation apply. A final determination to deny an AOP renewal application can be contested by filing an appeal with the Pollution Control Hearings Board and serving a copy upon ORCAA within 30 days of receipt of the notice of the final determination to deny.

3.7 Permit Revocation

ORCAA may revoke the AOP upon request of the permittee or for cause. For all revocations, ORCAA is required to provide at least thirty days written notice to the holder of the AOP prior to taking final action to revoke the permit or deny a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee/applicant an opportunity to discuss the proposed action prior to ORCAA's final decision. ORCAA may issue conditional revocations with a future effective date. A preliminary determination to revoke an AOP can be contested by filing an appeal with the Pollution Control Hearings Board and serving a copy upon ORCAA within 30 days of receiving notice of the intended action.

3.8 Reopening for Cause

ORCAA will reopen and revise the AOP if any of the following occurs:

1. Additional requirements become applicable and the remaining permit term is 3 years or longer;
2. Additional requirements become applicable under the acid rain program;

3. ORCAA or the EPA determines that the AOP contains a material mistake or inaccurate information was used to set any of the terms or conditions of the permit; or,
4. ORCAA or the EPA determines that the AOP must be revised to assure compliance with any applicable requirement.

ORCAA will provide the Permittee at least 30 days written notice before reopening an AOP for cause, unless an emergency requires a shorter time period. The same procedural requirements that apply to issuing an initial AOP apply to reopening and reissuing an AOP, including public participation and affected state and EPA review, except that only those parts of the AOP modified or revised are subject to public and affected states review.

3.9 Administrative Permit Amendments

An administrative permit amendment is a permit revision to the AOP that:

1. Corrects typographical errors;
2. Identifies a name change, contact information, or similar administrative change;
3. Requires more frequent monitoring or record keeping;
4. Allows for a change in ownership or control; or,
5. Incorporates conditions from a Notice of Construction (NOC), provided the NOC approval process substantially meets the same requirements as an AOP modification and no gap filling is required to verify compliance.

The Permittee may request an administrative amendment, which ORCAA will either incorporate into the permit or deny within 60 days. ORCAA will then submit the revised permit to EPA.

3.10 Changes not Requiring Permit Revisions

The Permittee may make a physical or operational change to emissions units or connected control device at a Title V facility without first securing a permit revision if all of the following conditions are met:

1. The proposed changes are not Title 1 modifications;
2. The proposed changes do not result in an increase in emissions, either a rate or a total, beyond what is allowed by the permit;
3. The proposed changes do not alter permit terms required to enforce limitation on emissions from emission units covered by the permit; and,
4. The permittee provides ORCAA and EPA written notification of the proposed changes at least 7 days prior to making the changes, unless an emergency requires swifter action.

A Title 1 modification is defined as any modification subject to a Part 111 standard (NSPS) or a Part 112 standard (NESHAP) or is subject to preconstruction review under the PSD program or in a nonattainment area.

3.11 Minor Permit Modifications

A physical change or change in the method of operation of an emissions unit or connected air pollution control device requiring a permit revision may be classified as a minor permit modification if it meets the following conditions:

1. No applicable requirements are violated;
2. There are no significant changes to monitoring, reporting, or record keeping requirements;
3. There are no changes to case-by-case determinations regarding an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. The changes do not establish or change a permit term or condition assumed by the source for the purpose of avoiding an applicable requirement; and,
5. No Title 1 modifications are proposed.

A Title 1 modification means any modification subject to a Part 111 standard (NSPS) or a Part 112 standard (NESHAP) or is subject to preconstruction review under the PSD program or in a nonattainment area.

Requests for minor permit modifications must be made on official forms supplied by ORCAA and certified by a responsible official. Once ORCAA declares the application complete, it is ORCAA's responsibility to notify the EPA administrator and affected states and post notice on the Permit Register, which initiates a 21-day comment period. Within 90 days of receiving an application for a minor permit modification or within 15 days after the end of EPA's 45-day review period, whichever comes last, ORCAA shall either:

1. Issue the modification as proposed;
2. Deny the proposed modification;
3. Determine that the proposed modification should be resubmitted as a major permit modification; or,
4. Revise the draft permit modification and transmit to EPA.

The Permittee may make the proposed changes immediately upon requesting the modification (unless a NOC is required). However, the Permittee must continue to comply with the applicable requirements governing the change and the proposed terms and conditions. During this time period, the Permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.

3.12 Major Permit Modifications

A physical change or change in the method of operation of an emissions unit or connected control device requiring a permit revision that does not qualify as a minor permit modification,

qualifies as a major permit modification. In addition, every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping permit terms or conditions must be considered significant. Major permit modifications must meet all the requirements of Chapter 173-401 WAC, including those for applications, public participation, review by affected states, and review by EPA, as they apply to permit issuance and permit renewal. ORCAA shall complete review on the majority of significant permit modifications within 9 months after receiving of a complete application.

4. FACILITY DESCRIPTION

4.1 Facility History

The SPI Shelton Mill site has been the location of a variety of timber products industries since July 1925 when the Reed Mill commenced operation as a hemlock sawmill. The site has been the location of several sawmills, a fiber-board plant, a plywood plant and a pulp facility. Production of timber products (primarily lumber and plywood) has been fairly continuous at the site since 1943.

SPI Industries purchased the Mill from the Simpson Lumber Company on July 1, 2015 with the intent to renovate and upgrade the Mill into a state-of-the-art dimensional lumber mill. The renovations completed were extensive, involving demolition and reconstruction of nearly the entire Mill except for the steam generating plant. The entire plywood portion of the Mill was demolished and equipment such as plywood presses and veneer dryers sold. The renovations were completed over the 2015-2016 time-frame and SPI resumed milling operations in late 2016.

The Mill as purchased by SPI predates the State and federal Clean Air Acts and ORCAA's own regulations, which were established in 1969. However, since ORCAA's inception in 1969, additions and modifications of stationary sources of air emissions at the Mill have been approved by ORCAA through the Washington New Source Review (NSR) permitting process, which includes Notice of Construction (NOC), Notice of Modification (MOD) and Notice of Revision (NOR) permits. For convenience, Approval Orders for such permits will be referred to generally as "NSR permits." Individual NSR permits will be referred to by their unique NSR permit #. A chronological list of NSR permit approvals issued to the Mill is provided in Table 5. Table 3 also specifies whether the NSR permit is effective, obsolete or now superseded.

The Wellons biomass boiler currently used by SPI was approved by ORCAA in 1986 and installed that same year. In 1993, ORCAA required additional particulate emissions control to be installed on the Wellons Boiler and approved adding the present electrostatic precipitator (ESP) to accomplish this end. Adding the ESP substantially improved particulate control and achieved compliance with the federal particulate limit from 40 CFR Part 60, Subpart Db. The existing lumber mill, dry kilns, residuals handling systems, log yard and anti-mold system were approved

by ORCAA in 2015 under 15NOC1128 prior to SPI renovating the Mill. This permit, 15NOC1128, was recently revised under 19NOR1326 to correct factual errors.

Table 5: NSR Approval Orders (aka: Air Permits)

Approval Order NOC # (date)	Status	Description
NOC (7/19/72)	Retired ¹	Unconditional NOC approval to install dust collection system and baghouse for planer on finishing line in insulating board plant.
NOC (3/10/75)	Retired ¹	Unconditional NOC approval to install a high pressure transport system for green sawdust and planer shavings.
NOC (3/10/75)	Retired ¹	Unconditional NOC approval to install a baghouse control unit to clean flue gases from five existing wood waste boilers.
NOC (5/8/75)	Retired ¹	Unconditional NOC approval to install a wood residual collection system to collect wood residuals generated from a small chipper units.
79NOC282 (10/18/79)	Retired ¹	Unconditional NOC approval to install three cyclones and new finger-joint lumber line.
80NOC296 (6/23/80)	Retired ¹	Unconditional NOC approval to install two new cyclones to handle planer shavings load.
85NOC359 (8/14/85)	Retired ¹	Unconditional NOC approval to install new cyclones and relocate existing cyclones.
86NOC365 (1/30/86)	Superseded ² by 93NOC508	Unconditional NOC approval to replace existing Dutch oven boilers with new Wellons fuel cells rated at 140,000 lbs/hr at 600 psig steam, and installation of new 20,000 lb/hr gas fired boiler.
87NOC386 (8/25/87)	Retired ¹	Unconditional NOC approval to rebuild veneer dryers.
92NOC477 (9/28/92)	Retired ¹	Conditional NOC approval to install new truck loading bin and cyclone at plywood plant.
93NOC508 (5/3/93) (Revised 3/10/99)	In Effect³	Conditional NOC approval to install an electrostatic precipitator for controlling emissions from the Wellons Boiler.
94NOC581 (6/27/94)	Retired ¹	Conditional NOC approval to burn veneer dryer scrubber solids in the Wellons fuel cell units.
94NOC561 (2/28/94) (Revised 3/10/99)	Retired ¹	Conditional NOC approval to replace veneer dryer #4 with a new dryer.
95NOC640 (5/19/95)	Retired ¹	Conditional NOC approval to install a new truck load out bin and two new truck bin cyclones.
95NOC673 (9/27/95)	Retired ¹	Conditional NOC approval to install a new cyclone ("relay Cyclone" #153).
96NOC043 (12/19/96)	Retired ²	Conditional NOC approval to burn tire derived fuel (TDF) in the Wellons fuel cells.
96NOC037 (9/30/96) (Revised 3/10/99)	Retired ¹	Conditional NOC approval to install an auxiliary veneer dryer control system.
98NOC010 (3/22/99)	Retired ¹	Conditional NOC approval to install two new dry kilns (#7 & #8).
99NOC014 (3/22/99)	Retired ¹	Conditional approval to replace an existing conveyor system used to transport sander dust with a new pneumatic transport system including a new baghouse.

00NOC088 (10/18/2000)	Retired ¹	Approval to add a baghouse to control emissions from cyclones F1 and F2.
03NOC302 (5/5/2003)	Retired ¹	Conditional NOC approval to replace two existing wood preservative (fungicide) spray systems with two new systems.
05NOC424 (7/5/2005)	Retired ¹	Conditional NOC approval to construct the North Planer, North Planer Cyclone NP-6, and two new lumber dry kilns.
09NOC706 (10/9/09)	Retired ¹	Conditional NOC approval to install the baghouse serving the NP-2 cyclone.
11NOC805 (3/14/2011)	Retired ¹	Conditional NOC approval to install the baghouse serving the SL-1 cyclone.
13NOC954 (4/4/2013)	Retired ¹	Conditional NOC approval to replace cyclone F1 with functionally identical cyclone.
15NOC1128 (2/19/2016)	Superseded ² by 19NOR1326	Conditional NOC approval to renovate and rebuild the mill including the lumbermill, planning mill, residuals handling systems, log yard and lumber dry kilns.
16NOI1173	Expired	Conditional approval of temporary concrete crushing operations.
18NOC1291 (7/17/2018)	In Effect	Conditional approval to install two new baghouses to control emissions from saw repair and refurbishing activities and emissions from plasma cutting and welding operations associated with equipment fabrication and repair activities.
19NOI1320	In Effect	Notice of intent to use End Shield
19NOR1326 (5/12/2021)	In Effect	Revises and supersedes the Approval Order for 15NOC1128.

Table Notes:

1. Approval Order has been retired because the subject air emissions source has been removed from the Mill.
2. Approval Order has been superseded and is no longer effective.
3. Approval Order is effective and enforceable.

4.2 Background Air Quality

Ambient air quality in Shelton is generally good. A temporary Federal Reference Method (FRM) PM2.5 monitor was installed in Shelton in 2001 and found no exceedances of the PM2.5 National Ambient Air Quality Standard (NAAQS). While the Shelton area is officially considered unclassified with regards to attainment status, a nephelometer has been used to monitor PM2.5 in Shelton for the past 20 years. Based on nephelometer data collected above the Central Mason Fire Station on Franklin St, the 24-hr PM2.5 Design Value (DV) for Shelton is currently 30.7 ug m⁻³ if the impacts of wildfire smoke are included. If exceptional events (wildfire smoke) are excluded, the Shelton DV is 14.4 ug m⁻³. WA_ECY has set a statewide ambient air quality goal for all regions' design values to stay under 20 ug m⁻³. The annual average PM2.5 (including wildfire smoke impacts) over the last 4 years has been 7.0 (+/- 1.4) ug m⁻³. This is well below the annual PM2.5 NAAQS of 12.0 ug m⁻³.

4.3 Lumber Mill

Operations at lumber mills such as de-barking, sawing, and planing may generate fine particulate matter with the potential to remain airborne. As such, lumbermills are regulated as stationary sources of particulate air pollution. The SPI lumbermill is designated as Emissions Unit 4 (EU4).

SPI completely reconfigured and rebuilt the lumbermill when it was renovated in 2016. Emissions from lumber milling operations such as debarking, sawing and planing are largely fugitive. The principle control means employed by SPI is to enclose and capture airborne particulate emissions where feasible. The general standards for opacity and nuisance prohibitions apply as well as specific work practice and design standards imposed through 19NOR1326. There are no specific federal standards that apply to the Lumber Mill.

4.4 Log Yard

The ORCAA regulates log yards as stationary sources of air emissions due to their potential for fugitive particulate from entrainment of dust into the ambient air by heavy vehicles used to move logs. Significant amounts of airborne PM can result from heavy vehicle use in a log yard when debris accumulates on haul routes and dries to the point where it can become airborne when disturbed. The SPI Shelton Log Yard is designated as Emissions Unit 7 (EU7).

SPI's Log Yard at the Shelton Mill is paved to reduce the potential for fugitive dust entrainment. The Log Yard is also periodically cleaned using a sweeper/vacuum truck and water spray when warranted. The general standards for opacity and nuisance prohibitions apply as well as specific work practice and design standards imposed through 19NOR1326. There are no specific federal standards that apply to the Log Yard.

4.5 Residuals System

Lumber mills generate substantial amounts of wood residuals in the form of sawdust, planer shavings, hog fuel and chips. All these residual byproducts contain some percentage of fine particulate with the potential to remain airborne. As a result, equipment handling wood residuals such as chippers, conveyor belts, pneumatic conveying systems, cyclones and bins all have the potential to emit particulate matter (PM) air pollution both as fugitive emissions and in exhaust. Therefore, Residuals Systems and are regulated as stationary sources of particulate matter air pollution

SPI completely reconfigured and rebuild Residuals System when the Mill was renovated in 2016. Equipment making up SPI Residuals System are subject to the general standards for opacity, grain loading standards and nuisance prohibitions. Certain work practice and design standards imposed through 19NOR1326 also apply. There are no specific federal standards that

apply. SPI's Residuals System is designated as Emissions Unit 6 (EU6) and includes the following equipment:

- Pneumatic and belt conveyors;
- Chippers and hogs;
- Cyclones;
- Baghouses;
- Storage bins and piles; and,
- The fuel house.

4.6 Dry Kilns

Lumber dry kilns directly emit Particulate Matter (PM) in the form of organic compounds that condense to form particulate in the ambient air. They also emit Volatile Organic Compounds (VOC), and several gaseous air pollutants that are regulated as Hazardous Air Pollutants (HAP), Toxic Air Pollutants (TAP) or both. HAP and TAP emitted from lumber dry kilns include Acetaldehyde, Acrolein, Formaldehyde and Methanol. In addition to direct emissions, the Kilns are indirectly responsible for emissions from the boilers since they are the principle users of steam at a lumbermill. Therefore, lumber dry kilns are regulated as stationary sources of particulate, VOC, HAP and TAP.

The SPI Mill currently has 10 existing lumber dry kilns regulated collectively as Emissions Unit 6 (EU6) and referred to as Lumber Dry Kilns in the AOP. All ten lumber dry kilns are identical in size and operation. They are double-track dry kilns and each has the capacity to hold approximately 245,000 board feet of lumber. They are all equipped with computerized temperature management controls and are programmed to maintain drying temperatures to 200 F or less. The average drying time per kiln charge ranges between 32 and 36 hours for Douglas fir and 51 to 55 hours for Hemlock.

SPI performs the following monitoring to assure proper operation and maintenance of the temperature management system:

- Continuous monitoring dry-bulb temperature in each drying zone of each kiln;
- Maintaining daily average drying temperatures to 200 F° or less in each zone; and,
- Periodic calibration of dry bulb temperature sensors.

The Kilns are subject to the State's and ORCAA's general standards for opacity and grain loading and nuisance prohibitions. They are also subject to work practice standards imposed through 19NOr1326 such as monitoring and maintaining drying temperatures. Regarding federal requirements, even though SPI Shelton does not manufacture plywood, the Lumber Dry Kilns are subject to the National Emissions Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products (AKA: Plywood MACT) under 40 CFR Part 63, Subpart DDDD, which encompasses lumber drying operations. However, the only requirement from the Plywood MACT applying to SPI's Lumber Dry Kilns is the initial notification requirement in 40 CFR §63.9(b), which has passed. Therefore, there are no ongoing federal requirements that apply to the Kilns. All requirements applicable to the Kilns including requirements from past Approval

Orders and general standards from State and ORCAA regulations are included in this revised AOP.

4.7 Wellons Boiler

The main source of steam heat for the Mill is a Wellons biomass boiler, which is referred to as the Wellons Boiler and regulated as Emissions Unit 1 (EU1). The Wellons Boiler consists of six Wellons fuel cell furnaces and a Wellons boiler with a maximum steam production rating of 140 thousand pounds per hour of saturated steam. It was originally permitted by ORCAA under NOC # 86NOC365 and constructed in 1986. Later in 1993 it was equipped with a four-field electrostatic precipitator (ESP) for particulate emissions control. The ESP was approved by ORCAA under NOC # 93NOC508 and installed in 1994. The Wellons Boiler is approved to burn clean wood residuals only, either generated on site from Mill operations or purchased from outside sources.

Besides general standards for opacity and grain loading and nuisance prohibitions, the Wellons Boiler is subject to specific emissions standards and operating requirements from the federal Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subpart Db, AKA: Boiler NSPS) and the National Emission Standards for Hazardous Air Pollutants for Major Sources - Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD, AKA: Boiler MACT). Under the Boiler MACT, the Wellons Boiler is required to meet the applicable requirements for the existing “Fuel cells designed to burn biomass/bio-based solid” subcategory of boilers.

The Wellons Boiler is operated continuously when the Mill is not shut down for annual maintenance or other reasons. During startup, clean dry wood fuel is ignited using propane torches. The ESP is activated once the exhaust gas rises to 300°F. The ESP is activated only after the exhaust gas temperature reaches 300 °F. A typical shutdown follows the reverse process of a startup, but only takes one or two hours.

The Wellons Boiler is equipped with a Continuous Monitoring Systems (CMS) for opacity, Carbon Monoxide (CO), Oxygen, steam production and exhaust flow. The ESP is equipped to monitor secondary voltage and amperage to all ESP fields.

All requirements applicable to the Wellons Boiler including requirements from past Approval Orders, Boiler MACT, Boiler NSPS and general standards from State and ORCAA regulations are included in this AOP revision.

4.8 Backup Boiler

SPI’s backup boiler (Backup Boiler) is a natural gas fired Cleaver Brooks package boiler that is used to provide backup steam when the Wellons Boiler is down for maintenance, and auxiliary steam in situations when steam demand exceeds capacity of the Wellons Boiler. It was

permitted unconditionally by ORCAA and installed at the same time as the Wellons Boiler under NOC # 86NOC508 in 1986. It is rated at 20,000 pounds per hour of saturated steam and has a maximum heat input rate of 31.2 MMBtu/hr. Like the Wellons Boiler, the Backup Boiler was not reconstructed or modified when SPI renovated the Mill in 2016.

Besides general standards for opacity, grain loading and nuisance prohibitions, the Backup Boiler is subject to specific emissions standards and operating requirements from the National Emission Standards for Hazardous Air Pollutants for Major Sources - Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD, AKA: Boiler MACT). Under the Boiler MACT, the Backup Boiler is required to meet the applicable requirements for the “Units designed to burn gas 1 fuels” subcategory of boilers. The “Units designed to burn gas 1 fuels” subcategory of boilers are subject to the work practices requirements from the Boiler MACT, but not emissions limitations. Although the federal New Source Performance Standards (NSPS) in 40 CFR Part 60, Subpart Dc apply to gas-fired boilers with heat input rates greater than 10 MMBtu/hr, SPI’s Backup Boiler was installed in 1986, which was prior to the applicability date of this NSPS. Because the Backup Boiler has not been reconstructed or modified since it was originally constructed, it is not subject to 40 CFR Part 60, Subpart Dc.

All requirements applicable to the Backup Boiler including requirements from past Approval Orders, the Boiler MACT, and general standards from State and ORCAA regulations are included in this AOP revision. The Backup Boiler is designated as Emissions Unit 2 (EU2).

4.9 Anti-Mold System

SPI treats all cut lumber (dried as well as green) with two water-borne agents: One that protects the wood against sap-stain, mold, mildew, decay, and bacteria during storage and transit (Workhorse® III), and another that brightens the lumber to improve its appearance (IronFix™ 1002). The anti-mold solutions do not contain any TAP or HAP but do contain ingredients that are regulated as VOC. For this reason, anti-mold spray systems are regulated as stationary sources of emissions by ORCAA. SPI’s anti-mold spray system is referred to as the Anti-Mold System and is regulated as Emissions Unit 8 (EU8) in this AOP revision.

Both solutions are spray applied simultaneously while passing through the enclosed spray chamber in a continuous manner. The spray chamber is located inside the planer mill. It exhausts through a mist eliminator to recycle the solution in vapor phase back into the spray chamber reservoir. Excess solution and condensate captured and then filtered before being recycled.

4.10 Emission Unit Summary

Table 6: Summary of Emissions Units

ID #	Name & Description	Effective NOCs	Control Technology
EU1	Wellons Boiler: Wood fired boiler consisting of 6 Wellons fuel cells that burn wood residuals to generate steam for dry kilns. The Wellons wood fired boiler system is rated at 140,000 pounds of steam per hour. For purposes of the boiler MACT standards, EU1 is classified as a "Fuel Cell" boiler.	93NOC508 (3/10/1999)	Multiclone and four field electrostatic precipitator (ESP)
EU2	Backup Boiler: Cleaver Brooks package boiler is used for production of auxiliary steam and when the Wellons wood fired boiler is down for maintenance. The boiler combusts only natural gas and is rated at 20,000 pounds of steam per hour, which is equal to approximately 30 million Btus per hour (30 MMBtu/hr).	86NOC365 (1/30/1986)	Combustion control.
EU3	vacant	N/A	N/A
EU4	Lumber Mill Operations: Encompasses all lumber milling and planning operations that generate wood residuals or dust including debarking units, hogs, chippers, saws, planers and sanders.	19NOR1326 (5/12/2021)	Dust enclosure, capture and control systems sufficient to prevent visible fugitive dust.
EU5	Lumber Dry Kilns: Includes all lumber dry kilns at the facility.	19NOR1326 (5/12/2021)	Computerized kiln management system. Monitoring kiln drying temperatures. Maintaining kiln dry bulb temperatures to prescribed temperature set points.
EU6	Wood Residuals Handling Systems: Encompasses all equipment and systems that collect, capture, transport, store and load wood residuals including: Pneumatic transport systems Conveyor transport systems Cyclones Baghouses Wood residuals bins Wood residuals piles	19NOR1326 (5/12/2021)	Exhaust from residuals transport systems controlled by fabric filters or baghouses. Conveyors enclosed Residual drop points enclosed or shrouded Residuals bins enclosed
EU7	Log Yard: Includes all log yard operations	19NOR1326 (5/12/2021)	Paved log yard Periodic log yard cleaning to remove dust and debris
EU8	Anti-Mold System: Includes the lumber spray system used to apply anti-mold/anti-stain solutions to lumber.	19NOR1326 (5/12/2021)	Equipped with a mist eliminator and system to recycle solutions used.

4.11 Insignificant Emission Unit Determinations

In addition to the emission units identified and described in Table 6 above, the SPI Mill includes emissions units that qualify as Insignificant Emissions Units (IEU) under WAC 173-401-530. Designation of an emission unit or activity as an IEU does not exempt the unit or activity from any applicable requirement, including generally applicable requirements. However, testing, monitoring, recordkeeping and reporting required by the AOP are not required for IEUs unless determined by the permitting authority to be necessary to assure compliance, or unless it is otherwise required by a generally applicable requirement of the state implementation plan.

Where a permit does not require testing, monitoring, recordkeeping and reporting for an IEU, the Permittee may certify continuous compliance if there were no observed, documented, or known instances of noncompliance during the reporting period. Where a permit does require testing, monitoring, recordkeeping and reporting for an IEU, the Permittee may certify continuous compliance when the testing, monitoring, recordkeeping required by the permit revealed no violations during the period, and there were no observed, documented, or known instances of noncompliance during the reporting period. The permit shield per WAC 173-401-640 does not apply to IEUs.

Emissions units that qualify as a categorically exempt IEU under WAC 173-401-530(1)(b) need not be listed in the AOP. Categorically exempt IEUs are listed in WAC 173-401-532 and cover a wide range of activities including but not limited to:

- De-barkers
- Chippers
- Totally enclosed conveyors
- Repair and maintenance activities, not involving installation of an emission unit and not increasing potential emissions of a regulated air pollutant
- Cutting, sawing, surface grinding, sanding or planing wood provided that:
 - a. Activity is performed indoors;
 - b. Particulate emission control in the immediate vicinity of the activity;
 - c. Exhaust from the particulate control is within the building housing the activity;
 - d. No fugitive particulate emissions enter the environment.
- Fuel and exhaust emissions from vehicles in parking lots
- Plant upkeep including routine housekeeping, preparation for and painting of structures or equipment, retarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and paving or stripping parking lots.
- Brazing, soldering and welding equipment and oxygen-hydrogen cutting torches for use in cutting metal where in components of the metal do not generate HAPs or HAPs precursors.
- Internal combustion engines for propelling or powering a vehicle.

These are just a few of the categorically exempt IEUs that are or may be located at SPI's mill in Shelton and that don't need to be specifically listed in the AOP for the Mill.

In addition to categorically exempt IEUs, SPI listed in their latest AOP application several units and activities that qualify as IEUs on the basis of size, or that are fugitive only sources. These IEUs do need to be specifically listed in the AOP and are described in Table 7. ORCAA reviewed and concurs with SPI's IEU determinations.

TABLE 7. Insignificant Emissions Units Identified in Application

Insignificant Emission Unit ID#	Description	IEU Basis
IEU1	Storage Vessels (Round House) - Round House includes several waste oil storage tanks used for maintenance operations. The tanks are equipped with lids, not heated and are each less than two hundred sixty gallon capacity (35 cft).	WAC 173-401-533(2)(a)
IEU2	Storage Vessels (Outside of Round House) - Includes one diesel fuel tank used to store diesel fuel for vehicles. The tank is equipped with a lid and is less than 10,000 gallons capacity.	WAC 173-401-533(2)(c)
IEU3	Fork Lift Trucks (Used throughout facility) - Combustion source less than 5 MM Btu/hr. Exclusively using natural gas or propane.	WAC 173-401-532(2)(e)
IEU4	Fork Lift Trucks (Used throughout facility) - Combustion source less than 1 MM Btu/hr. Using kerosene, No. 1 or No. 2 fuel oil.	WAC 173-401-533(2)(g)
IEU5	Welding - SPI Shelton performs a variety of maintenance and repair activities on-site that involve metal fabrication and welding. Welding (Used in maintenance areas throughout Mill) consume less than one ton per day of welding rod.	WAC 173-401-533(2)(l)
IEU6	Space and Hot Water Heaters - Includes all space heaters and hot water heaters using natural gas, propane or kerosene and generating less than five million Btu/hr.	WAC 173-401-533(2)(r)
IEU7	Storage vessels for dispensing inorganic salts (Powerhouse) - Includes all tanks, vessels, and pumping equipment, with lids or other appropriate closure for storage or dispensing of aqueous solutions of inorganic salts, bases and acids described under WAC 173-401-533(2)(S). Includes vessels and pumping equipment for one caustic tank, one alkaline amine, and one brine tank.	WAC 173-401-533(2)(s)
IEU8	Cold Cleaning Tank (Plywood plant): cleaning solution is less than 1% VOC by weight.	WAC 173-401-533(2)(z)
IEU9	Oil and grease separating tank (between Roundhouse and maintenance shop) - Tank qualifies as NPDES permitted pond utilized solely for the purpose of settling suspended solids and skimming of oil and grease.	WAC 173-401-533(3)(d)

IEU10	De-barkers, Hogs and Chippers - SPI Shelton performs chipping and debarking activities on raw timber. These activities are deemed insignificant in accordance with WAC 173-401-532(112 and 113). Although de-barkers and hogs are categorically exempt and do not need to be listed in the AOP, SPI wanted them listed in the TSD anyways because they perform critical functions at the Mill	WAC 173-401-532(112 and 113)
IEU11	Natural Gas Space Heaters (Throughout all plants) - space heaters and hot water heaters use natural gas or propane and generate less 5 MMBtu/hr.	WAC 173-401-533(2)(r)
IEU12	Hot Water Heaters (Throughout all plants) - combustion source less than 5 MMBtu/hr. Exclusively using natural gas or propane.	WAC 173-401-533(2)(e)
IEU13	Aerosol can painting operations (Throughout all plants) - all emissions are fugitive.	WAC 173-401-530(1)(d)
IEU14	Spray Coating of End Shield	WAC 173-401-530(1)(a)

Table 7 Notes:

1. All IEUs identified in Table 7 are subject to only general applicable requirements in the AOP.
2. ORCAA has determined no additional monitoring, record keeping or reporting is required for any of the IEUs identified.
3. All IEUs identified in Table 7 were listed in SPI's last AOP renewal application.

4.12 Compliance History

The Mill in Shelton now owned and operated by SPI has not received any High Priority Violations (HPVs) since Title V program inception. There have been minor permit deviations which have been resolved administratively. A summary of AOP permit deviations is provided in Attachment 2.

4.13 Source Testing

Since SPI renovated the Mill in 2016 the Wellons Boiler has been tested three separate times in accordance with 40 CFR Part 63, Subpart DDDDD (aka: Boiler MACT). All three tests demonstrated compliance with applicable emissions limits. Summaries of results for the most recent testing in 2019 is provided in the following tables.

Table 8: 2019 Summary of Compliance Test Results

Run Number	Run 1	Run 3	Run 4	Average
Date	9/17/19	9/18/19	9/18/19	--
Steam Flow, lb	137,218.6	138,595.2	136,389.9	137,401.2
Filterable Particulate Matter Data				
Concentration, grain/dscf @ 7% O ₂	0.00042	0.00024	0.00022	0.00029
Emission Rate, lb/hr	0.13	0.063	0.054	0.082
Emission Factor, lb/MMBtu	0.00088	0.00051	0.00046	0.00062
Permit Limit, lb/MMBtu	--	--	--	2.0E-02
Percent of Limit, %	--	--	--	3
Condensable Particulate Matter Data				
Concentration, grain/dscf @ 7% O ₂	0.0010	0.0010	0.0011	0.0010
Emission Rate, lb/hr	0.31	0.27	0.26	0.28
Emission Factor, lb/MMBtu	0.0021	0.0021	0.0022	0.0022
Total Particulate Matter Data ¹				
Concentration, grain/dscf @ 7% O ₂	0.0014	0.0013	0.0013	0.0013
Emission Limit, grain/dscf @ 7% O ₂	--	--	--	0.04
Percent of Limit, %	--	--	--	3
Emission Rate, lb/hr	0.44	0.33	0.32	0.36
Emission Factor, lb/MMBtu	0.0030	0.0026	0.0027	0.0028
Permit Limit, lb/MMBtu	--	--	--	0.037
Percent of Limit, %	--	--	--	7
Visible Emission Evaluations Data				
6-Minute Average Opacity, %	0.0	0.0	0.0	--
Limit, %	--	--	--	20
Run Number	Run 1	Run 2	Run 3	Average
RATA Run Number	Run 1-3	Run 4-6	Run 7-9	--
Date	9/18/19	9/18/19	9/18/19	--
Sulfur Dioxide Data				
Concentration, ppmvd ²	0.00	0.20	0.13	0.11
Concentration, ppmvd @ 7% O ₂	0.00	0.20	0.13	0.11
Permit Limit, ppmvd @ 7% O ₂	--	--	--	1,000
Percent of Limit, %	--	--	--	< 1

* Copied from Alliance Source Testing, LLC final Source Test Report for Sierra Pacific Industries Shelton Mill testing conducted on September 17 and 18, 2019.

¹ Total PM is the summation of filterable and condensable PM.

² After post run bias/drift corrections, the SO₂ concentration for Run 1 was negative or zero. Therefore, zero is presented for this run.

Table 9: 2019 Summary of Performance Specification Test Results

CEMS	Performance Test Data		Relative Accuracy	
	Reference Method Data	CEMS Data	Performance Required	Performance Demonstrated
Oxygen Data				
Concentration, % (dry)	7.99	7.79	≤ 20 %	4.3 % ¹
Carbon Monoxide Data				
Concentration, ppmvd @ 3% O ₂	79.1	93.0	≤ 5 %	1.7 % ²
Emission Rate, lb/hr	7.8	9.4	≤ 5 %	1.8 % ³
Volumetric Flow Rate				
High Load Flow Rate, scfh (dry)	32,937	35,728	≤ 20 %	10.1 % ¹

* Copied from Alliance Source Testing, LLC final Source Test Report for Sierra Pacific Industries Shelton Mill testing conducted on September 17 and 18, 2019.

¹ Calculated using the mean reference method.

² Calculated using the applicable source standard of 1,100 ppmvd @ 3% O₂ for CO.

³ Calculated using the applicable source standard of 114.48 lb/hr for CO.

6. ACTUAL EMISSIONS

Actual annual emissions are reported to ORCAA annually in conjunction with ORCAA's Emissions Inventory program. The most recent emissions inventory for Mill that has been reviewed and approved by ORCAA is the emissions inventory for calendar year 2020 which is summarized in the following table.

Table 10: SPI Shelton Mill Actual Emissions 2020

Pollutant	Tons/Year	Lbs/Year
PM (Total Particulate)	53	
PM-10 (Total Particulate) (<= 10)	34	
PM 2.5 (Fine Particulate (<=2.5))	20	
VOC as Volatile Organic Compounds	144	
SO2 (Sulfur Dioxide)	0.2	
NOX (Nitrogen Oxides)	57	
CO (Carbon Monoxide)	53	
Total HAP	31	
Acetaldehyde		33,450
Methanol		23,683
Hydrogen Chloride		56
Formaldehyde		2,024
Benzene		633
Acrolein		424
Propionaldehyde		311
Dichloromethane		245
Lead		115
Naphthalene		81
Carbon Tetrachloride		39
Manganese		19.5
Vinyl Chloride		15.7
Nickel		9.0
Mercury		0.1
Chromium, hexavalent		1.3
Arsenic		0.6
Cadmium		0.3
Beryllium		0.1

7. NEW SOURCE REVIEW APPROVALS

Approval Orders for effective NSR permits (NOC, MOD, NOR) and how conditions were incorporated into the AOP for the SPI Mill are summarized in the following table.

TABLE 11. Requirements from Effective NSR Approval Orders

Permit # (date)	Condition #	Permit Condition (Areas highlighted in yellow are included as applicable requirements in the AOP)	AOP Condition or Determination
93NOC508 (as revised 3/10/99)	1	The ESP shall be in accordance with the equipment types, capacities, process rates and specifications as described in NOC application #508 submitted to OAPCA on April 4, 2993.	Not a requirement (see note 1)
	2	OAPCA shall be notified prior to any alterations, changes in fuel type, replacements or increases in capacity, equipment, materials processed or operations which may increase the amount or type of air pollutant emissions as stated in this application. Prior approval by OAPCA may be required for any changes which may significantly increase or alter air pollutant emissions including visual opacity or for changes requiring mandatory approval in accordance with WAC 173-400 or WAC 173-460.	1 st sentence: R12 2 nd sentence specifies what changes may trigger NSR and is redundant.
	3	Simpson shall notify OAPCA of completion of construction prior to startup of the facility. Compliance with this Order of Approval will be verified by OAPCA inspection.	Not a requirement (see note 2)
	4	The boiler stack gas concentration of particulate after exiting the ESP but prior to exiting the stack, including both the front and back half catches as measured consistent with OAPCA's current particulate source test procedures shall not exceed 0.04 grains per dry standard cubic foot of air corrected to 7% oxygen. Particulate concentration from the exhaust stack shall be measured during an OAPCA approved source test no later than sixty (60) days after initial startup of the ESP. The source test shall conform to OAPCA's approved source test procedure for particulate source tests. Source test results shall be submitted to OAPCA no later than 30 days after conducting the source test.	AR2.6
	5	Stack emissions shall not exceed twenty (20) percent opacity for three consecutive minutes in any one hour.	AR2.2
	6	No later than forty (40) days prior to the arranged source test date(s), Simpson shall submit to OAPCA for approval, a source test plan(s) for the source test specified in condition 4 above.	R7
	7	Simpson shall install sampling ports and a platform on the boiler exhaust stack. The sampling ports shall meet the requirements of 40, CFR Part 60, Appendix A, Method 1. Adequate and safe access to the sampling platform shall be provided for.	Not a requirement (see note 1)
	8	Emissions of carbon monoxide (CO) from the boiler stack shall not exceed 438 tons per consecutive twelve month	Superseded by a 249 tpy CO limit

	period. Simpson shall monitor CO emissions according to procedures approved by OAPCA.	established under 19NOR1326, condition 7a (5/12/2021)
9	Simpson shall implement an ESP operation and maintenance (O&M) plan consistent with manufacturer recommendations and good engineering practice. Air pollution control equipment and associated gauges and monitors necessary to verify performance of the ESP shall be maintained and operated according to the plan.	AR2.15
10	Simpson shall install a continuous emissions monitoring system (CEMS) for continuously monitoring carbon monoxide and oxygen concentrations in the boiler exhaust stack. Hourly average CO and O2 concentrations shall be recorded at hourly intervals during operation of the boiler and retained. Cumulative CO emissions over the previous 12 month period shall be calculated and reported to OAPCA on a monthly basis. The CEMS shall be a certifiable model in accordance with 40 CFR Part 60, Appendix B, Performance Specifications 3 and 4, and shall be installed and operated in accordance with manufacturer recommendations. The CEMS shall be operational and tested for compliance with Performance Specifications 3 and 4 prior to the source test specified in condition 4 above.	M8
11	Simpson shall install a continuous opacity monitoring system (COMS) to continuously monitor stack gas opacity. The COMS shall be a certifiable model in accordance with 40 CFR Part 60, Performance Specification 1 (appendix B), and shall be installed and operated in accordance with manufacturing recommendations. Stack gas opacity monitored by the COMS shall be recorded continuously and reported to OAPCA on a monthly basis on OAPCA approved forms. The CMS shall be operational and tested for compliance with Performance Specification 1 prior to the source test specified in condition 4 above.	M7
12	No later than 30 days from commencement of operation of the ESP, Simpson shall conduct performance tests on the CEMS and COMS to demonstrate compliance with 40CFR Part 60, Appendix B Performance Specifications. No later than 30 days prior to conducting the performance test, Simpson shall submit to OAPCA for approval a test plan for conducting the required performance tests on the CEMS and COMS. No later than 30 days after conducting the performance tests, Simpson shall submit the performance test evaluations of the CEMS and COMS to OAPCA.	Not a requirement (see note 2)
13	Upon commencement of operation of the ESP, Simpson shall implement a quality assurance (QA) plan for maintaining CEMS which is consistent with 40CFR Part 60, Appendix F, and a QA plan for maintaining COMS which is consistent with the EPA "Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems" (EPA 340/1-86-010). Simpson shall submit the QA plans to ORCA	AR2.16

		for review and approval prior to commencement of operation of the ESP.	
	14	Simpson shall submit monthly compliance reports on OAPCA approved forms.	This requirement is considered superseded by more specific Title V reporting requirements.
	15	A file containing the following items shall be maintained and made available at the site: <ul style="list-style-type: none"> a. A copy of the OAPCA Approval Order containing the conditions for approval. b. Material Safety Data (MSD) sheets for all toxic or hazardous material used. c. The operation and maintenance manual for operation of the boiler and ESP. d. QA plan required by condition #13 above. e. Operation and maintenance logs. 	This requirement is considered superseded by more specific Title V reporting requirements.
	16	Failure to comply with the terms and conditions of this order constitutes violation of OAPCA Regulation 1 and will be subject to penalties accordingly.	Not a requirement (see note 1)
18NOC1291 (7/17/2018)	1	Replacement Baghouses: The permittee is approved to install and operate the baghouses listed in the following table, in accordance with this Order of Approval (Order), at 100 N Front Street in Shelton, Washington.	Not a requirement (see note 1)
	2	Filter Efficiency Records: The permittee shall retain and make available when requested records verifying the filtering efficiency of the filters used for each baghouse.	AR4.5 RK3
	3	Operations: The baghouses shall be operated whenever operations in the respective areas they serve generate emissions.	AR4.14
19NOI1320 (2/4/2019)	1	The product End Shield is used at the formulation described in the application for 19NOI1320.	AR4.15
	2	The amount of End Shield used per year does not exceed 4,000 gallons of product.	AR4.15
19NOR1326 (5/12/2021)	1	Approved New Sources: The new sources of air pollutant emissions as described in the following table and in Notice of Construction #15NOC1128 (15NOC1128), are approved for construction and operation at the lumber mill (Mill) located at 100 N Front Street in Shelton, Washington. Deviations from equipment or operating specifications of approved new sources, whether stated in 15NOC1128 or this Order of Approval, may constitute a violation of this condition and ORCAA regulations, unless prior approval is granted by ORCAA. For ease of describing applicable requirements in this Order of Approval, approved new sources of air pollutant emissions are grouped by type and function into the distinct emission unit categories shown in the following table (<i>table not included here</i>).	Not a requirement (see note 1)

2	<p>Lumber Mill Operations (EU4): Lumber milling and planing equipment including log de-barkers, hogs, chippers, saws and planers shall be sufficiently enclosed and controlled to prevent visible airborne dust that persists beyond the enclosure or building housing the equipment.</p>	AR4.1
3	<p>Wood Residuals Handling Systems (EU6): The following conditions apply:</p> <ul style="list-style-type: none"> a. All cyclones shall exhaust to fabric filter baghouses. b. Particulate emissions from baghouses shall not exceed 0.002 grains per dry standard cubic foot of exhaust air on an hourly average basis (gr/dscf, 1-hr ave). c. Baghouse performance shall be documented through any of the following means: <ul style="list-style-type: none"> i. Site specific testing in accordance with EPA Method 5; ii. Testing performed on a similar unit; or, iii. Engineering calculations based on the filtering efficiency of the specific bags used. d. Baghouse performance shall be maintained by: <ul style="list-style-type: none"> i. Assuring and documenting bag filtering efficiency; ii. Periodically inspecting the baghouse and bags for leaks; iii. Monitoring pressure drop across the baghouse; and, iv. Maintaining pressure drop within the recommended range. e. Conveyors used to transport wood residuals containing particulate (sawdust, chipped wood, hog fuel, planer shavings, and wood dust) shall be completely enclosed, except for portions of the system where materials are not transported such as return belts. SPI shall submit to ORCAA drawings detailing the proposed design of the conveyors and conveyor enclosures. Final conveyor enclosure design shall be approved by ORCAA prior to commencing construction of EU6. f. Material drop points along the enclosed wood residuals conveyor system shall be enclosed or shrouded. g. Precautions and preventative maintenance shall be taken as appropriate to prevent visible fugitive emissions from operation of wood residual bins that are part of the enclosed wood residuals conveyor system. h. Truck and rail loading operations shall be enclosed or shrouded sufficiently to prevent visible airborne dust that persists beyond the facility boundary. i. Wood residual piles shall be enclosed sufficiently to prevent windblown dust. j. Visible emissions from baghouses shall not exceed 5% opacity for more than three minutes in any one hour. k. Visible fugitive dust from EU6 shall not exceed 10% opacity for more than 3 minutes in any one hour. 	AR4.4 AR4.5 AR4.6 AR4.7 AR4.8 AR4.9 AR4.10 AR4.11
4	<p>Lumber Dry Kilns (EU5): The following conditions apply to all lumber dry kilns:</p>	AR4.2

	<ul style="list-style-type: none"> a. Dry kiln dry-bulb set point temperature must not exceed 200 F°. b. Drying temperatures must be maintained at 200 F° or less on a daily average basis. c. Drying temperature shall be continuously monitored and recorded. d. Temperature sensors shall be maintained and positioned to accurately monitor drying temperatures. 	
5	Log Yard (EU7): The log yard shall be paved and periodically cleaned to prevent visible airborne dust that persists beyond the Mill property line.	AR4.12
6	<p>Anti-Mold System (EU8): The following conditions apply to the anti-mold systems:</p> <ul style="list-style-type: none"> a. The anti-mold system shall be enclosed and equipped with a mist eliminator. b. The anti-mold system is approved for applying the following solutions or other solutions with identical formulations: <ul style="list-style-type: none"> i. Workhorse® III; ii. IronFixT™ 1002; iii. Sawmill Penetrator A20; and, iv. Antifoam Agent 30. c. Use of any other formulation that results in a new TAP or HAP or that increase emissions requires prior approval by ORCAA. 	AR4.13
7	<p>Voluntary Limits (Facility-wide): The following voluntary limits are adopted:</p> <ul style="list-style-type: none"> a. Facility-wide emissions of Carbon Monoxide (CO) shall not exceed 249 tons over any 12-consecutive-month period. CO emissions from the existing Wellons Boiler shall be based on the CO Continuous Emissions Monitoring System (CO CEMS). During CO CEMS malfunction, CO emissions shall be calculated using ORCAA-approved emissions factors. CO emissions from the existing gas-fired boiler shall be based on an emissions factor of 84 pounds per million standard cubic foot (lb/106scf) of natural gas combusted in the gas boiler and the record of gas consumption. b. Dried lumber production shall not exceed 500 million board feet (MMbf) over any 12-consecutive-month period. c. The natural gas-fired boiler shall operate as a back-up to the Wellons boiler only and shall not operate in parallel with the Wellons boiler to provide steam to the mill. d. Particulate emissions from the Wellons boiler, including both filterable and condensable particulate, shall not exceed 0.037 lbs/MMBtu. Compliance shall be determined in conjunction with and using the same test methods as required to demonstrate compliance with 40 CFR Part 63, Subpart DDDDD (AKA: The Boiler MACT) according to the schedule set forth in the Boiler MACT. Continuous compliance shall be verified indirectly by 	AR1.2 AR4.3 AR3.1 AR2.3

		monitoring performance of the Electrostatic Precipitator (ESP) and opacity from the ESP stack.	
8		<p>Required Records: The following records shall be maintained for at least five (5) years from the date the record originated or as specified, and made available upon request:</p> <ul style="list-style-type: none"> a. Planer mill cyclone design specifications including design cut particle diameter with 50% collection efficiency (d50) and fractional efficiency curves. These records shall be maintained for the useful life of the cyclone. b. Documentation of baghouse performance as required by condition 3d. These records shall be maintained for the useful life of the baghouse. c. Record of periodic baghouse inspections and daily baghouse monitoring. d. Daily average kiln drying temperatures. e. Kiln maintenance records. f. Monthly board feet of lumber dried by species. g. 12-month cumulative board feet of lumber dried by species. h. Safety Data Sheets for the solutions used in the anti-mold system. i. Monthly amount of natural gas combusted by the gas-fired boiler j. Wellons Boiler CO CEMS data. k. 12-month cumulative, facility-wide CO emissions. l. 12-month cumulative lumber production including both green and dried lumber produced. 	RK3 RK10
9		<p>Reporting and Notifications: The following reports and/or notifications are required:</p> <ul style="list-style-type: none"> a. A notification and test protocol shall be provided to ORCAA for approval at least 30 days prior to conducting any emissions testing; b. Final design specifications of the residuals handling system shall be provided to ORCAA prior to commencing construction. c. Facility-wide, cumulative 12-month lumber production and CO emissions shall be reported to ORCAA semiannually. 	R3 R7

Table Notes:

1. Not a requirement needing ongoing compliance demonstration, monitoring, record keeping or reporting.
2. Applicable requirement with a one-time compliance demonstration that has already passed and been verified.

8. APPLICABLE REGULATIONS AND STANDARDS

8.1 Effective Versions of Applicable Requirements

The effective versions of applicable requirement in the AOP are the versions that were effective on the date the AOP was issued.

8.2 Title V of the Federal Clean Air Act

The Mill is a major source of both criteria and hazardous air pollutants and, therefore, subject to Title V of the Federal Clean Air Act. The Mill has operated under either a permit application shield or under an effective AOP continuously since it became subject to Title V.

8.3 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart Db (Subpart Db): Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units – Applies to Wellons Boiler only: Subpart Db applies to steam generating units with heat input capacities greater than 100 MMBtu/hr and that commenced construction, modification, or reconstruction after June 19, 1984. Both boilers at the SPI Shelton Mill were permitted and constructed in 1986. However, only the Wellons Boiler has a heat input capacity greater than 100 MMBtu/hr. Therefore, only the Wellons Boiler is subject to Subpart Db.

Subpart Db imposes a particulate matter emission limit and an opacity standard which are included in the AOP under conditions AR2.4 and AR2.1 respectively. In addition, Subpart Db requires testing, monitoring, record keeping and reporting in accordance with the general requirements under 40 CFR Part 60, Subpart A. For monitoring, a continuous opacity monitoring system (COMS) conforming to performance specification 1 in Appendix B and Appendix F of 40 CFR Part 60 is required. COMS requirements are included in condition M7 of the AOP. Testing requirements are included in conditions M11 and M12.

40 CFR Part 60, Subpart A (Subpart A) – General Provisions - Applies: Because 40 CFR Part 60, Subpart Db applies to the Wellons Boiler, certain requirements from Subpart A of 40 CFR Part 60 also apply. Subpart A includes general provisions and requirements for record keeping, notifications, testing and monitoring, but does not contain any applicable emissions limitations. Only those requirements from Subpart A that apply to SPI Shelton on an ongoing basis are incorporated into the AOP. Most of these requirements are identical to the general requirements under the Boiler MACT which are discussed below.

8.4 National Emission Standards for Hazardous Air Pollutants (NESHAP)

EPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAP) under 40 CFR 63 to regulate HAP emissions from major sources of HAP. This regulatory program defines a major source as any facility that has the potential to emit more than 10 tons per year of a single HAP or more than 25 tons per year of all HAPs combined. The SPI Shelton Mill has a potential to emit great than 10 tons per year of Acetaldehyde and Methanol and greater than 25 tons per year of total HAP. Therefore, the Mill is a major HAP source.

40 CFR Part 63, Subpart DDDDD (Boiler MACT): National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters – Applies to both Wellons Boiler and Backup Boiler: According to §63.7485, facilities that are major sources of HAP and operate boilers or process heaters will be subject to this subpart. Therefore, the Boiler MACT applies to both boilers at the Mill.

The Wellons Boiler is regulated as an existing “Fuel Cell” boiler under the Boiler MACT and is subject to particulate, CO, Hg, HCl, opacity and operating load limits. These applicable requirements are included in the AOP under conditions AR2.5, AR2.7, AR2.8, AR2.9, AR2.11(a)(1) and AR2.11(a)(2) respectively. The Boiler MACT also requires periodic tune-ups of subject boilers. For the Wellons Boiler, a tune-up is required every 5 years. This requirement is included in the AOP under condition AR2.14.

The Backup Boiler is classified under the “Units designed to burn gas 1 fuels” subcategory of boilers. It is subject only to general duty requirements and a periodic tune-up requirement which is included in the AOP under condition AR3.2.

40 CFR Part 63, Subpart A (Part 63, Subpart A) - General Provisions – Applicable: Because 40 CFR Part 63, Subpart DDDDD applies to both boilers at the Mill, certain provisions and requirements from Part 63, Subpart A also apply. These include general duty requirements to minimize emissions, and record keeping, reporting, testing and monitoring requirements. Only ongoing requirements are included in the AOP: One-time requirements such as the initial notification requirement are not included.

40 CFR Part 63, Subpart DDDD (Plywood MACT) - National Emission Standards for Hazardous Air Pollutants for Major Sources: Plywood and Composite Wood Products – “Applicable but no substantive requirements”: 40 CFR Part 63, Subpart DDDD, contains the National Emission Standards for Hazardous Air Pollutants for Major Sources: Plywood and Composite Wood Products (AKA: Plywood MACT). The Plywood MACT regulates HAP emissions from Plywood and Composite Wood Products (PCWP) facilities that are major HAP sources. Subpart DDDD applies to various wood products facility processes, including dry kilns located at major HAP facilities. SPI Shelton is a major source of Acetaldehyde and Methanol, which are both HAP, and uses lumber dry kilns. Therefore, SPI Shelton is subject to the Plywood MACT. However, the Plywood MACT does not impose any emissions limits, work practice requirements or other compliance requirements on facilities that produce only lumber, except for an initial notification requirement:

§63.2252 - For process units not subject to the compliance options or work practice requirements specified in §63.2240 (including, but not limited to, lumber kilns), you are not required to comply with the compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping or reporting requirements of this subpart, or any other requirements in subpart A of this part, except for the initial notification requirements in §63.9(b).

The entirety of the Plywood MACT reduces down to a single notification requirement for SPI Shelton, which is the §63.9(b) initial notification requirement. This was a one-time requirement that has already been met by the former mill owner. Therefore, there are no ongoing applicable requirements from the Plywood MACT that apply to the SPI Shelton Mill.

8.5 State Greenhouse Gas (GHG) Reporting Rule

According to WAC 173-441-030(1), the State GHG Reporting Rule applies to industrial facilities that emit at least 10,000 metric tons per year of GHG in terms of carbon dioxide equivalents, including carbon dioxide from biofuels. Because the mill has the potential to emit GHGs above this level, the State GHG Reporting Rule applies. Requirements for reporting GHG emissions pursuant to Chapter 173-441 WAC are included in condition R13 in the AOP.

9. RELEVANT REGULATIONS AND STANDARDS DETERMINED NOT TO APPLY

9.1 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart D: Standards of Performance for Fossil-Fuel Fired Steam Generators – Not Applicable: Subpart D applies to fossil-fuel fired steam generators for which construction is commenced after August 17, 1971. For wood fired boilers, 40 CFR § 60.40(a) defines the affected facility as each fossil-fuel and wood residue fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 250 MMBtu/hr. The Wellons Boiler does not burn any fossil fuel. The Backup Boiler is natural gas fired and has a maximum design heat rate of 30 MMBtu/hr. Therefore, neither boiler triggers applicability of 40 CFR Part 60, Subpart D.

40 CFR Part 60, Subpart Da: Standards of Performance for Electric Utility Steam Generators – Not Applicable: Electric utility steam-generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW net-electrical output to any utility power distribution system for sale. Both boilers only produce process steam for the Facility and, therefore, do not meet the definition of electric utility. Therefore, neither boiler is subject to 40 CFR Part 60, Subpart Da.

40 CFR Part 60, Subpart Dc (Subpart Dc): Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units – Not Applicable: Subpart Dc applies to steam generating units with a heat input capacity greater than 10 MMBtu/hr but less than 100 MMBtu/hr that commenced construction, modification, or reconstruction after June 9, 1989. Construction of both boilers predate this effective date. Therefore, Subpart Dc does not apply.

9.2 National Emission Standards for Hazardous Air Pollutants (NESHAP)

40 CFR Part 63, Subpart JJJJJ (Subpart JJJJJ): National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters at Area Sources – Not Applicable: In June of 2010, EPA proposed the NESHAP for boilers and process heaters located at area sources of hazardous air pollutants (HAP). The term “Area Sources” refers to sources of HAP emissions that are not major. The final rule was posted on the Federal Register on February 1, 2013. Because the SPI Shelton Mill is a major source of HAP emissions, it is not an “Area Source” of HAP emissions and, therefore, not subject to Subpart JJJJJ.

9.3 Accidental Release Prevention Program - Not Applicable

Section 112r of the Clean Air Act Amendments of 1990 require facilities using substances that pose the greatest risk of harm from accidental releases to develop and implement Risk Management Programs including:

- Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases scenarios;
- Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and
- Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g., the fire department) should an accident occur.

Section 112r applies to stationary sources that manufacture, use, store, or otherwise handle more than a threshold quantity of a listed regulated substance. Determining whether a facility has more than a threshold quantity of a regulated substance should be based on subsection §68.115 of Part 68. SPI’s AOP application did not state 40 CFR Part 68 as an applicable requirement. Also, past inspections of the SPI Shelton Mill have not revealed any regulated substance being used or stored above its threshold quantity. Therefore, based on the information available, ORCAA’s conclusion is that 40 CFR Part 68 does not need to be included in SPI’s AOP.

9.4 Compliance Assurance Monitoring Rule – Not Applicable

Applicability of the Compliance Assurance Monitoring (CAM) Rule under §64.2(a) is determined on a pollutant by pollutant basis. The CAM Rule applies to a pollutant subject to an emissions limitation or standard when a control device is used to meet the limitation or standard and potential, pre-control device emissions are greater than a major source threshold. The CAM rule exempts backup utility units. Also, the CAM Rule does not apply to emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or

112 of the Act, and emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1.

CAM determinations for each emissions unit are summarized in the following CAM applicability table.

TABLE 12. CAM Applicability

Emission Unit (ID#)	Pollutants	Control Device	Limit/Standard	Post 11/15/1990?	Major, Pre-controlled Emissions	CAM Applicable?		
Wellons Boiler (EU1)	Opacity Particulate Mercury	Electrostatic Precipitator	§60.43b(f) – opacity	yes	CAM Not Applicable – ORCAA concluded that monitoring provisions under the Boiler MACT is sufficient monitoring for these limits.			
			§60.43b(c)(1) – PM	yes				
			§63.7500 – Limits for PM, opacity, mercury, and particulate HAP	yes				
			93NOC508 – Limits for PM and opacity.	yes				
	CO	Combustion Controls	19NOR1326, condition 7d – voluntary PM limit	yes			CAM Not Applicable – CO CEMS is required for monitoring compliance.	
			§63.7500 – CO operating limit	yes				
			19NOR1326, condition 7a - Mill-wide Voluntary CO limit	yes				
	HCl	no control	§63.7500 – HCl limit	CAM Not Applicable – No pollution controls are used to meet the HCl limit.				
	NOx	no control	no NOx limit	CAM Not Applicable – There are no limits for these pollutants				
	SO2	no control	no SO2 limit					
VOC	no control	no VOC limit						
Lead	no control	no Lead limit						
Backup Boiler (EU2)	CO	Combustion Controls	19NOR1326, condition 7a - Mill-wide Voluntary CO limit	yes	CAM Not Applicable – ORCAA concluded that the Boiler MACT tune-up requirement and the required CO emissions factor incorporated into the AOP for compliance demonstration purposes is sufficient monitoring.			
	Opacity Particulate HAP NOx SO2 VOC Lead	no control	no limits	CAM Not Applicable – There are no limits on the Backup Boiler for these pollutants				

Lumber Mill Operations (EU4)	PM	sufficiently enclosed	19NOR1326 - work practice standards	yes	CAM Not Applicable – Emissions unit is subject to only work practice standards.
Lumber Dry Kilns (EU5)	PM VOC HAP	energy management system	19NOR1326 – work practice standards	yes	CAM Not Applicable – Emissions unit is subject to only work practice standards.
Wood Residuals Handling Systems (EU6)	PM fugitive PM	Baghouses	Grain loading and opacity limits per 19NOR1326 and 18NOC1291	yes	CAM Not Applicable – ORCAA determined that monitoring required under 19NOR1326 and 18NOC1291 is sufficient monitoring.
Log Yard (EU7)	fugitive PM	no control	19NOR1326 – work practice standards	yes	CAM Not Applicable – Emissions unit is subject to only work practice standards.
Anti-Mold System (EU8)	VOC	mist eliminator	19NOR1326 – work practice standards	yes	CAM Not Applicable – Emissions unit is subject to only work practice standards.

10. PERMIT CONDITIONS OVERVIEW

10.1 Permit Administration

Permit administrative conditions (A1-A14) include conditions specifying how the AOP is managed according to the State AOP program under Chapter 173-401 WAC and conditions having implications on assuring compliance with all other conditions in the AOP. Many of the permit administrative conditions are “standard terms and conditions” and required to be in the AOP per either Chapter 173-401 WAC or federal requirements for AOPs.

The origin of each permit administrative condition is stated at the end of each condition. Authority to include permit administrative conditions comes from primarily from WAC 173-401-600(1)(b), which specifies AOPs contain requirements from the Washington Clean Air Act (Chapter 70A.15 RCW) and rules implementing that chapter (Washington’s AOP program is pursuant to RCW 70A.15.2270, which is under the Washington Clean Air Act).

Permit administrative conditions specify terms of the AOP such as the permit duration, expiration, renewal and revision requirements. They also explain the “Permit Shield,” extent of AOP enforceability and how the AOP can be revoked or re-opened for cause. They are essential to the proper functioning of the AOP under the State of Washington Title V Program. Because permit administrative conditions do not include any applicable emissions limitations or operational standards, monitoring is not applicable. However, general recordkeeping and reporting requirements apply. Also, compliance with permit administrative conditions must be certified annually.

10.2 General Terms and Conditions

General terms and conditions (G1 – G23) cover general compliance and permitting requirements. These conditions are categorized as General Terms and Conditions in the permit because they either have broad implications on multiple conditions in the AOP, or are entire programs that are applicable if triggered, such as the Stratospheric Ozone Protection program. Authority for each condition varies depending on whether the applicable requirement originated from a state or federal regulation. Several general terms or conditions are discussed in detail below.

10.3 Prohibited Activities

Prohibited activities conditions (PA1-PA7) cover general prohibitions. These applicable requirements are categorized as Prohibited Activities in the permit because they identify broad prohibitions that apply to Title V facilities at all times, such as prohibition of concealment or masking of emissions. Besides monitoring complaints, there are no specific monitoring

requirements for these prohibited activities because prohibitions generally do not involve applicable emission limits or operational standards for which testing and/or monitoring are needed. However, compliance with the prohibited activities conditions must be certified annually. Authority for each condition varies depending on whether the prohibited activity originated from a state or federal regulation.

10.4 Applicable Requirements

Applicable requirements (AR1-AR9) include all emissions limits and standards, work practice standards and operating requirements for emissions units that apply. Applicable requirements are grouped in the AOP as follows:

- AR1.1-1.12 covers general applicable requirements that apply facility-wide to all emissions units at the SPI Shelton Mill.
- AR2.1-2.18 includes requirements that apply specifically to the Wellons Boiler (EU1).
- AR3.1-3.3 includes requirements that apply specifically to the Backup Boiler (EU2).
- AR4.1-4.15 covers requirements for the Lumber Mill (EU4), Dry Kilns (EU5), Residuals Systems (EU6), Log Yard (EU7) and Anti-Mold System (EU8).

10.5 Monitoring Terms and Conditions

Applicable monitoring terms and conditions (M1 – M16) include all monitoring required under the permit. The overarching requirement for Title V permits is that they contain monitoring sufficient for assuring compliance. This is codified in the Washington Title V rule under WAC 173-401-630(1) which states:

Consistent with WAC 173-401-615, all chapter 401 permits shall contain compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit.

To meet this requirement for Title V permits, monitoring provisions may be added to a permit when either the applicable limit or standard does not specify monitoring, or when the specified monitoring is not sufficient to assure compliance. Therefore, there are three different categories of monitoring included in a Title V permit, each under a specific authority:

- **Applicable Monitoring.** All monitoring specified by an applicable requirement needs to be included in the permit per WAC 173-401-615(1)(a). When this is the case, WAC 173-401-615(1)(a) is cited as the authority for including the monitoring and the underlying applicable requirement is cited as the “Origin” of the monitoring.
- **Gap-filling Monitoring.** When an applicable requirement (emissions limit, standard or work practice standard) does not specify monitoring, monitoring sufficient to assure compliance must be added to the permit. This category of monitoring is referred to by EPA as “gap-filling monitoring.” The authority to include gap-filling monitoring comes from WAC 173-401-615(1)(b)

- **Sufficiency Monitoring.** When monitoring is specified by an applicable requirement but it does not meet the Title V requirement of assuring compliance with the applicable requirement, the applicable monitoring needs to be augmented. This category of monitoring is referred to by EPA as “Sufficiency Monitoring.” The authority to include sufficiency monitoring provisions to a permit comes from WAC 173-401-630(1). The origin for sufficiency monitoring remains the underlying applicable requirement itself.

10.6 Recordkeeping Requirements

Applicable recordkeeping terms and conditions (RK1 – RK12) include all required recordkeeping requirements for Title V AOPs as required under WAC 173-401-615(2). Origin and authority are stated at the end of each condition.

10.7 Reporting

Applicable reporting terms and conditions (R1 – R13) include all required reporting requirements for Title V AOPs as required under WAC 173-401-615(32). Origin and authority are stated at the end of each condition.

ATTACHMENTS

Attachment 1: Data Summary

Name: Sierra Pacific Industries – Shelton

Physical address: 421 S Front St, Shelton WA 98584

County: Mason

Primary Contact: Jeremy Higgins

Contact phone number: 360 427-8204

Air Operation Permit #: 09AOP690/15REV1118

EIS #: 7044811

FRS #: 110067420222

ICIS-AIR #: WAORC0005304500002

Type of ownership: private

Operating status: operating

NAICS code: 321113

SIC code(s): 2421

Air program(s): MACT, NSPS, SIP, Title 5 *(list all that apply-Title 5, SIP, NSPS, NESHAP Part 61, PSD, FESOP(SM), MACT Part 63, Acid Precipitation, NSR, and a few others)*

Subparts: Part 60 Db; Part 63 DDDDD; Part 63 DDDD; (these were taken from 2011 TSD) (Dc does not apply to gas boiler-installed prior to promulgation)

Major for which pollutant(s)? NOx, CO, VOC, HAPs include acetaldehyde and methanol

Class: Major

Attachment 2: Compliance History

DATE	NOV #	REGULATION OR CONDITION	DESCRIPTION	RESOLUTION
05/26/2009	2913	AOP, condition 4.11	Visible emissions from the North Planer cyclone exceeded the BACT limit (5%) and the applicable state standard (20%).	A baghouse was installed to control emissions from the North Planer cyclone.