

# Statement of Basis for the Air Operating Permit — Final

## **Pacific Woodtech Corporation**

Burlington, Washington

**August 14, 2019**



*Serving Island, Skagit & Whatcom Counties*

## PERMIT INFORMATION

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**SIC: 2439**

**NWCAA ID: 1813-V-S**

**NAICS: 321213**

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## 1 INTRODUCTION

The Pacific Woodtech Corporation (identified subsequently as the permittee, the facility or PWC) is required to have an air operating permit (AOP) because the facility has the potential to emit greater than 10 tons per year of methanol, a hazardous air pollutant.

The purpose of this Statement of Basis is to set forth the legal and factual basis for the conditions of the PWC AOP and to provide background information to facilitate review of the permit by interested parties. This Statement of Basis is not a legally enforceable document in accordance with WAC 173-401-700(8).

### 1.1 AOP Changes Made in the Second Renewal

NWCAA received the application for the second renewal of the PWC AOP on August 13, 2018. The following changes have been made to the AOP during the second renewal:

- Regulatory citations in the permit were revised to reflect new or modified regulations and updated revision/promulgation dates.
- Formatting throughout the entire permit has been updated to current NWCAA standards.
- Contact names and information for PWC and the NWCAA were updated as appropriate. The responsible official for PWC has changed and the Permit Information page has been updated. In addition, the Permit Information page reflects the updated permit number and dates for the permit renewal. Note that the renewal application is due a year in advance of the permit expiration date.
- Table 1-1 was modified to include the LVL Billet Beam operation reviewed in OAC 1285, the revisions to OAC 1151a to include the Veneer Drum Chipper and reorganized to better reflect the grouping and organization of emission points at the facility.
- AOP Section 2 (Standard Terms and Conditions) and 3 (Standard Terms and Conditions for NESHAP) have been replaced with the latest NWCAA standard versions, containing any new or modified regulations and updated reference dates.
- Section 4 primarily lists NWCAA and Washington Administrative Code (WAC) regulations, which often lack specific methods for compliance determination and require that additional monitoring, recordkeeping and recording (MR&R) provisions be added to the AOP for the purpose of compliance determination. This aspect of Air Operating Permits, known as gap-filling, is discussed further in Section 4 of this document.
- Section 5 includes separate tables that list requirements for each set of similar emission points: Plantwide, Line 1 and Line 2 presses, LVL Billet Beam Cold press, Baghouses 1, 2, 3, and 4, LVL Billet Beam Baghouse, and Heaters and Burners.
- The conditions of OAC 1151a, issued on 11/12/2015, replace conditions in OAC 1151 in Section 5 of the AOP.
- The conditions of OAC 1285, issued on 09/12/2017 have been added in Section 5 of the AOP.
- The Statement of Basis content and layout were revised to standardize the documents issued for PWC. Factual information was revised to correct for current operation and some text has been rephrased to add clarification.

## **2 FACILITY DESCRIPTION**

### **2.1 General Facility Description**

#### **2.1.1 Commercial Products Produced**

Pacific Woodtech Corporation (PWC) is a manufacturer of laminated veneer lumber (LVL) and wood I-joists. The sawdust by-product of primary manufacturing is sold to a wholesaler for use as fuel and animal bedding.

LVL is a composite of wood veneer sheet elements with wood fiber primarily oriented along the length of the member. The veneer sheets are bonded together with structural exterior exposure adhesive. LVL applications include structural members such as headers and rim board, flanges for I-joists, and scaffold planks.

Wood I-joists are structural members manufactured using sawn lumber or LVL flanges and wood structural panel webs bonded together with structural exterior exposure adhesive to form an "I" cross-sectional shape. PWC primarily uses LVL flanges, produced by PWC, and oriented strand board (OSB) web stock, produced by others, to manufacture I-joists. Sawn lumber flanges are occasionally used and are supplied by others. I-joist applications include roof and floor systems.

#### **2.1.2 Manufacturing Processes**

PWC receives dried veneer from others. Some of the veneer is processed further by PWC on the Scarf Line where it is trimmed to a uniform length and in some cases receives a tapered cut along its short edge. Not all veneer received by PWC is processed on the Scarf Line.

PWC operates two nearly identical continuous LVL presses. Line 1 began operation in 2000 and Line 2 began operation in 2006.

Veneer is fed into the presses where each sheet passes through a glue curtain where it is coated with a uniform layer of adhesive. PWC uses a phenol-formaldehyde-based adhesive. In some cases a catalyst is added to the adhesive mix for greater control of the resin cure time. An insecticide, whose active ingredient is Imidacloprid, is also occasionally added to the adhesive mix.

The adhesive-coated veneer is then layered. The mat is pre-heated by a microwave before entering the press. Once in the press heat and pressure are applied to form the mat into the intended thickness. The heat for the press is supplied by thermal oil. The thermal oil is heated in natural gas-fired heaters.

The completed LVL billet is cut to length and both edges are hogged to give uniform width as it exits the press. The LVL billets are stacked in the warehouse. Some LVL billets are wrapped and sold as full billets. Most billets are sent through one of three rip saws where they are cut to final width as headers or flanges.

The headers continue down the line where most receive a layer of wax sealant on all surfaces. The headers are then wrapped, prepared for shipping, and sent outside for storage before leaving by truck or rail for sale.

The flanges enter into the I-line assembly process. The flanges have a rout cut into them for their entire length. OSB web is inserted into this rout and this joint is held together with a polyurethane adhesive. The OSB is received from others by PWC in 8' by 8' sheets. The OSB is cut to width in the web saw. The OSB web is then profiled on all four edges before it joins the flange. The completed I-joist is cut to length, wrapped, prepared for shipping, and sent outside for storage before leaving by truck or rail for sale.

In 2018, PWC added a LVL Billet Beam line. LVL Billet Beams are a LVL product produced by bonding either 3 or 4 pieces of LVL together using adhesives in a cold press to produce thicker LVL beams. The LVL beams are finished by using a planer, an edge easer and a bundle saw to even up the width.

### **2.1.3 Other Processes**

Four make-up air units are used by PWC. These make-up air units are fueled by natural gas. The make-up air units provide heat for the plant and air into the plant to maintain equal pressure.

### **2.1.4 Operating Schedule**

The operating schedule for the facility is 24 hours per day, 7 days per week, 52 weeks per year.

Both LVL lines are capable of running around the clock continuously except for maintenance. At a minimum the LVL lines need 12 hours of downtime every two weeks for maintenance.

The I-line is capable of running for 16 hours before requiring a downtime of 8 hours for cleaning and maintenance. The I-line also requires 12 hours of downtime every two weeks for more comprehensive maintenance.

The entire facility is shut down for a minimum of 7 days a year for holiday vacations and overall maintenance of plant infrastructure.



The PWC facility is located at 1850 Park Lane in Burlington, Washington.

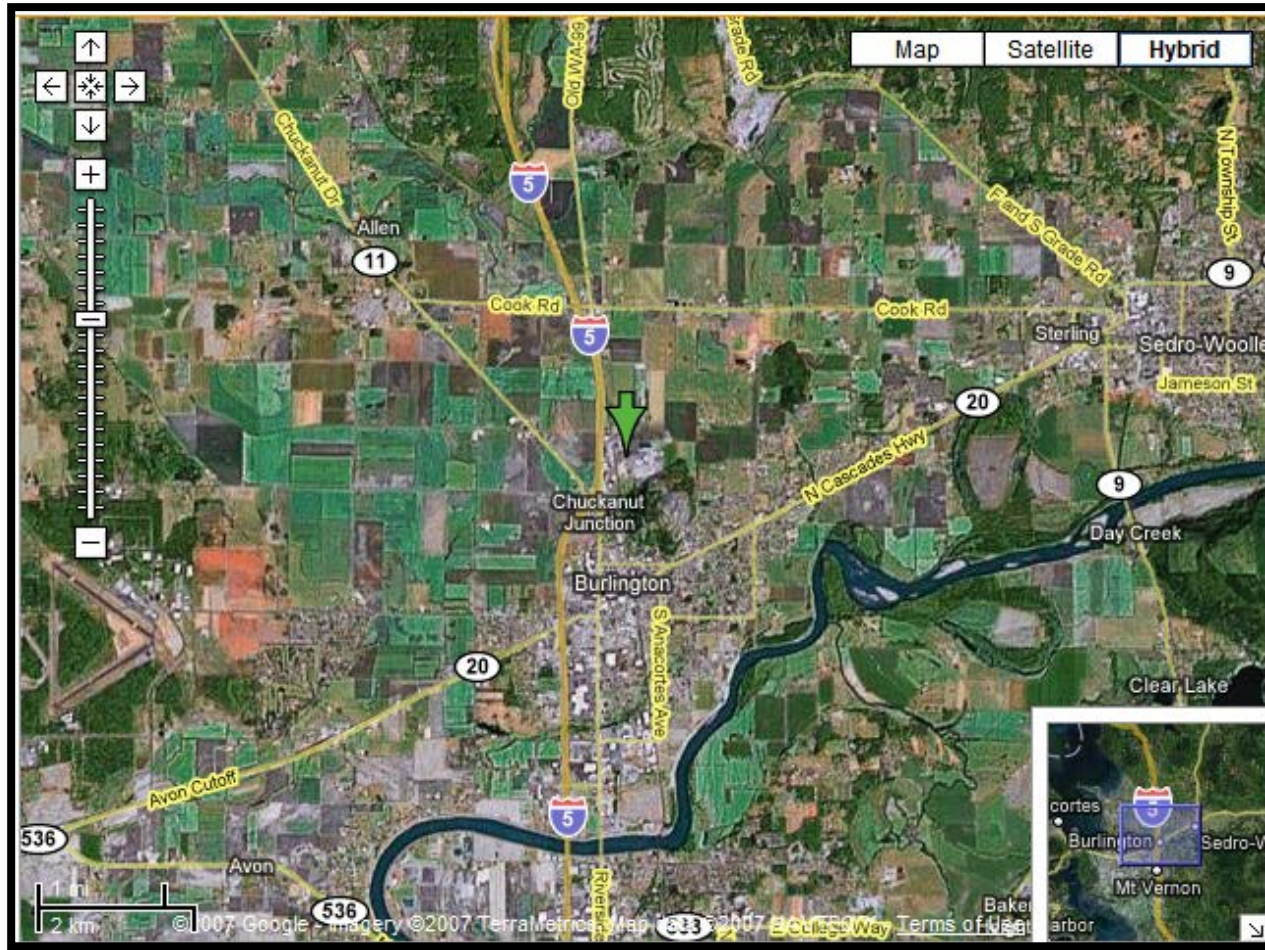


Figure 2-1 Location of Pacific Woodtech Corporation

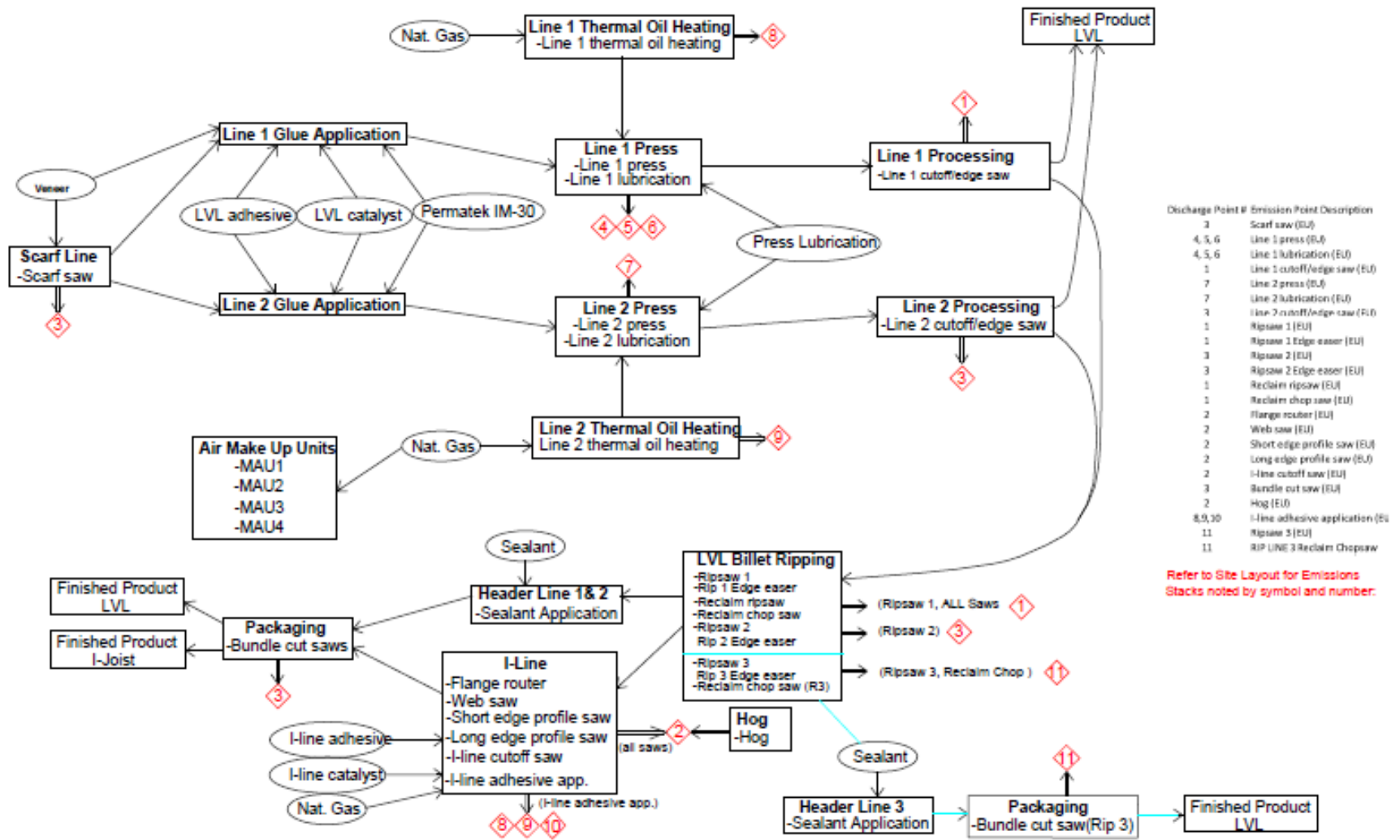


Figure 2-2 Process flow diagram

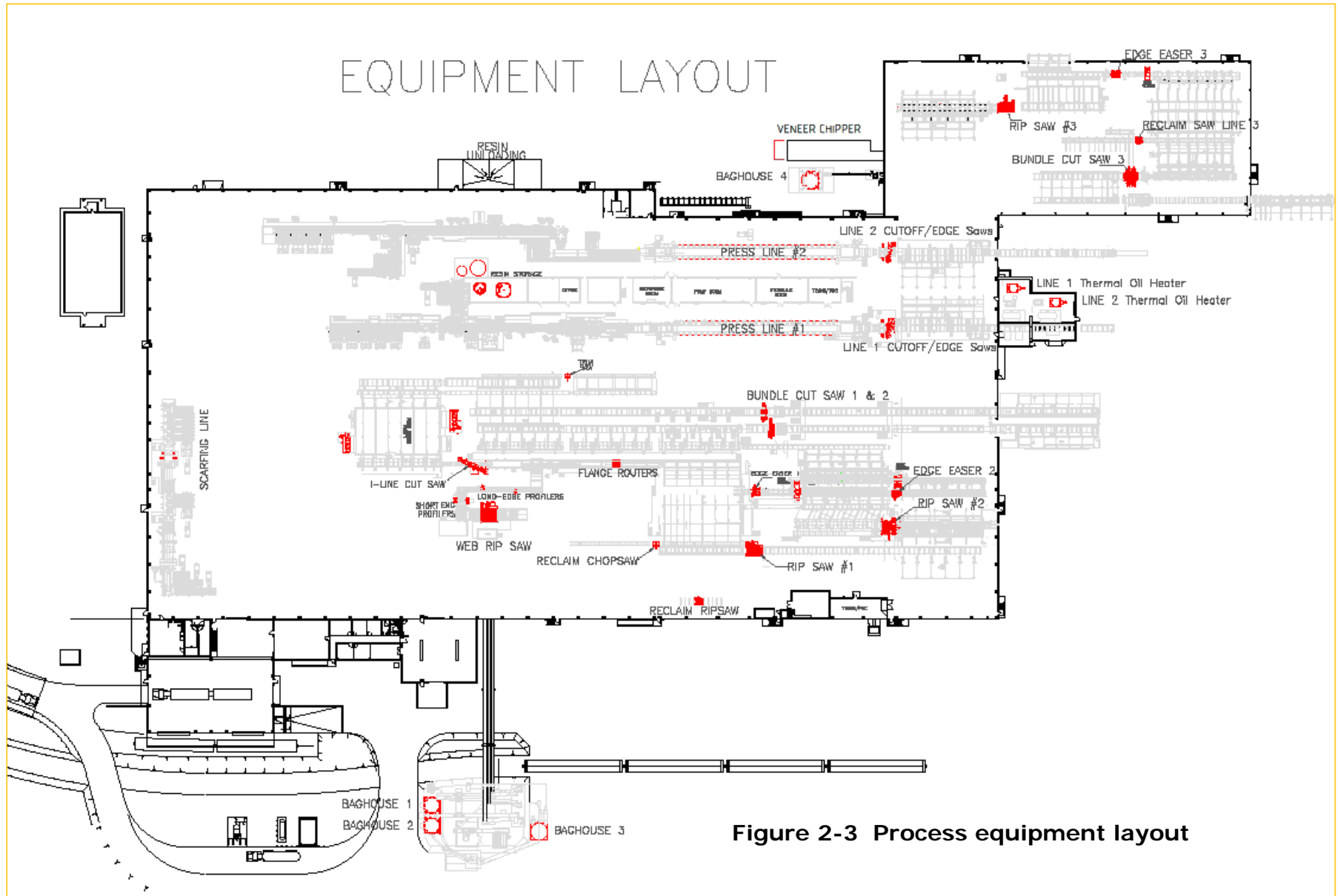


Figure 2-3 Process equipment layout

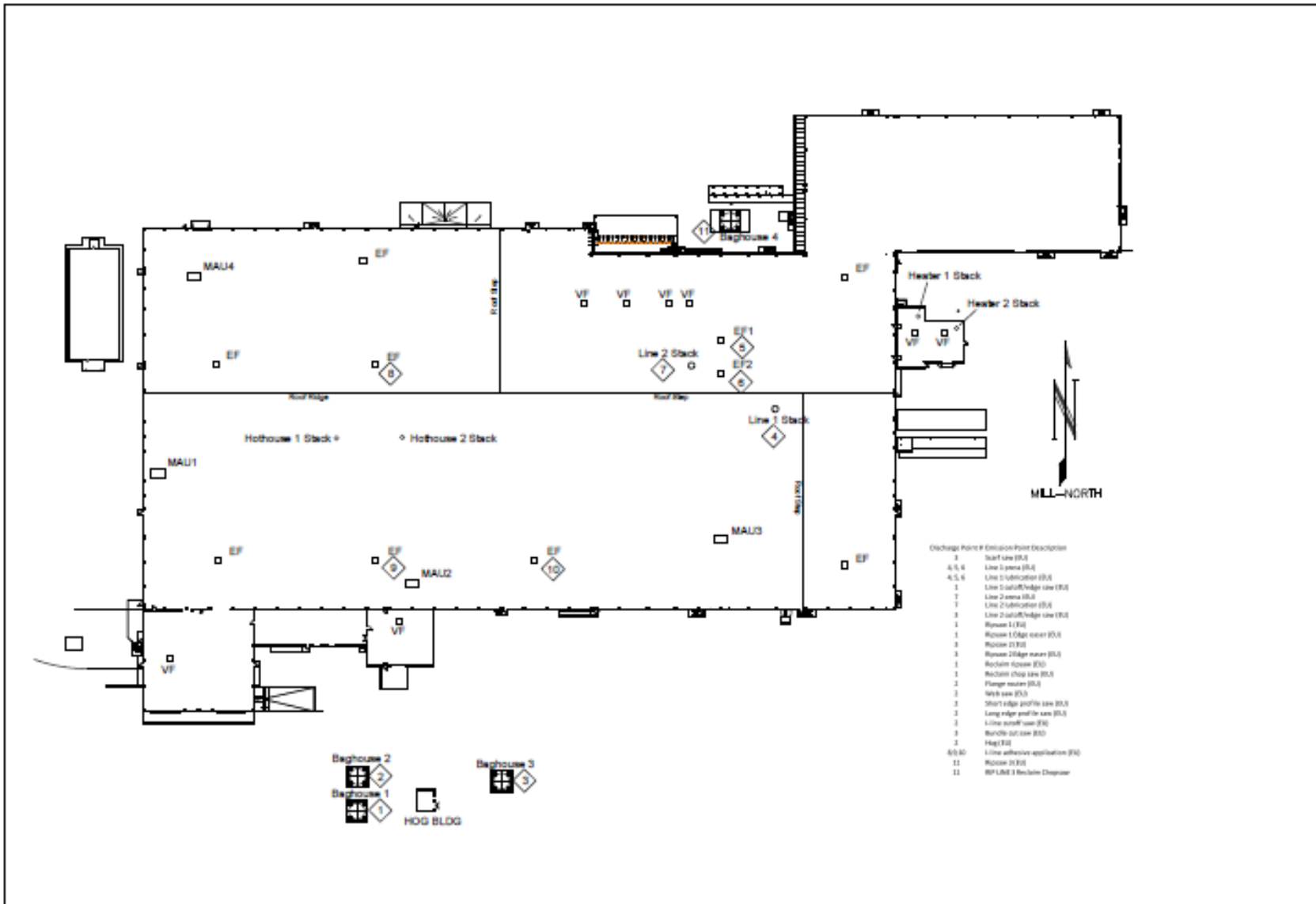


Figure 2-4 Discharge (stack) locations on roof

## **2.2 Emissions Unit Description**

### **Plant-wide**

This category includes all emission units, including those that do not have specific permit requirements.

### **Scarf Line**

Raw veneer is checked for moisture content and other defects. Raw veneer is trimmed to length and in some cases receives a tapered cut on the short edge. Particulate emissions from the Scarf Line are controlled by Baghouse 3.

### **Line 1 Glue Application**

On Line 1, resin is mixed with additives and applied via glue curtain to sheets of veneer. There is no control device for this operation, which is vented to the atmosphere through the Line 1 stack and exhaust fans 1 and 2 (EF1 and EF2).

### **Line 1 Press**

On Line 1, alternating layers of veneer and resin are pre-heated with a microwave before entering a continuous press that applies heat and pressure. There is no control device for this operation, which is vented to the atmosphere through the Line 1 stack and EF1 and EF2.

### **Line 1 Processing**

On Line 1, completed billets exiting the press are cut to length and both edges of the billet are hogged to maintain a consistent billet width. Particulate emissions from the Line 1 billet saws are controlled by Baghouse 1.

### **Line 2 Glue Application**

On Line 2, resin is mixed with additives and applied via glue curtain to sheets of veneer. There is no control device for this operation, which is vented to the atmosphere through the Line 2 stack.

### **Line 2 Press**

On Line 2, alternating layers of veneer and resin are pre-heated with a microwave before entering a continuous press that applies heat and pressure. There is no control device for this operation, which is vented to the atmosphere through the Line 2 stack.

### **Line 2 Processing**

On Line 2, completed billets exiting the press are cut to length and both edges of the billet are hogged to maintain a consistent billet width. Particulate emissions from the Line 2 billet saws are controlled by Baghouse 3.

### **LVL Billet Ripping**

Full billets are fed into rip saws to be cut into smaller widths for use as headers or I-joist flanges. Particulate matter emissions from LVL billet ripping are controlled by Baghouse 1, 3, and 4.

### **LVL Billet Beam Cold Press**

LVL sheets are layered together with adhesives then pressed in a cold press to form billet beams. There is no control device for this operation, any emissions from the cold press vent through billet beam building vents.

### **LVL Billet Beam Processing**

LVL billets are cut and trimmed in planer, edge easer, and bundle saw into LVL billet beams. Particulate emissions from LVL billet beam processing are controlled by the billet beam baghouse.

### **Header Line**

LVL Headers receive ink stamps and an optional wax sealant coating. This process is vented to Baghouse 3 for Ripsaw #2 and Baghouse #4 for Ripsaw #3.

### **I-Line**

Flanges are combined with OSB web to construct wood I-joists. Particulate matter emissions from the I-line are controlled by Baghouse 2.

### **Packaging**

Finished products are wrapped and prepared for shipping. This often includes final length cut using the bundle cut saws. Packaging Line #1 and Packaging Line #2 saws are controlled by baghouse #3. Header rip line bundle cut saw #3 is controlled by baghouse #4.

### **Line 1 Thermal Oil Heating**

Thermal oil is used to heat the Line 1 Press and is itself heated by a 7 MMBtu/hr heat input natural gas-fired heater. There is no control device for the gas-fired heater, which is vented to the atmosphere through the Heater 1 stack.

### **Line 2 Thermal Oil Heating**

Thermal oil is used to heat the Line 2 Press and is itself heated by a 9 MMBtu/hr heat input natural gas-fired heater. There is no control device for the gas-fired heater, which is vented to the atmosphere through the Heater 2 stack.

### **Air Make-Up Units**

Air is brought into the plant and heated in natural gas-fired heaters. This air serves to maintain pressure differentials and to provide heat to the facility. There are no control devices on the make-up air units (MAU), which vent to the atmosphere through four MAU stacks.

### **Veneer Drum Chipper**

Scrap veneer lumber is chipped in the drum, so chips can be sold for reuse off site. Emissions from chipping are controlled by baghouse #4.

### **Hog**

Unusable scraps of veneer, LVL, or I-joist are hogged into sawdust. Particulate matter from the hog saw is controlled by Baghouse 2.

## **2.3 Emissions Inventory**

Each year major sources are required to submit an air pollution emissions inventory upon request to NWCAA. Table 2-1 and Table 2-2 show the last five years of available data PWC reported to NWCAA, from 2013 through 2017. Table 2-1 lists the criteria pollutant emissions in tons per year, and Table 2-2 lists hazardous and toxic air pollutant emissions in pounds per year. PWC is not, at this time, required to submit emissions inventory data for greenhouse gases. See Section 3.6 of this document for more detail.

**Table 2-1 Annual Emissions Inventory, criteria pollutants**

Pollutant, ton/yr	2013	2014	2015	2016	2017	2018
Total suspended particles (TSP)	3	3	12	5	6	2
PM <sub>10</sub>	0	0	0	3	3	2
PM <sub>2.5</sub>	0	0	0	1	1	1
SO <sub>2</sub>	0	0	0	0	0	0
CO	3	3	3	4	3	3
NO <sub>x</sub>	2	2	2	2	2	2
VOC	38	34	40	40	37	48

**Table 2-2 Annual Emissions Inventory, toxic air pollutants**

Pollutant, lb/yr	2013	2014	2015	2016	2017	2018
4,4-Diphenyl-methane Diisocyanate	1.5	1.5	1.6	1.5	1.7	1.7
Acetaldehyde	1,731	2,072	2,061	1,937	2,374	2,479
Acetone	6,566	7,859	7,817	7,348	9,006	9,406
Formaldehyde	2,944	3,242	3,195	2,678	3,723	3,970
Methanol	28,351	31,217	30,770	25,785	35,853	37,714
Toluene	1,076	1105	1,088	1,096	1,275	1,281

**2.4 Potential To Emit**

The facility is a major source subject to the requirements of the Title V program because it has the potential to emit more than 10 tons per year (tpy) of methanol, a pollutant that has been designated as a HAP in Section 112(b) of the Federal Clean Air Act. Table 2-3 shows the PTE for the facility based on calculations submitted by PWC. It should be noted that the calculations are based on full production for 8,343 hours per year, and not the 8,760 hours available per year; the facility must spend time on maintenance of their equipment.

PWC also emits criteria air pollutants due to natural gas combustion and sawing activities. Emissions of each criteria pollutant in quantities greater than 100 tpy qualify a source as major for that pollutant. PWC is not major for any criteria pollutant.

**Table 2-3 Annual potential to emit**

Pollutant	Tons/year
PM	52.1
PM10	25.8
PM2.5	12.9

<b>Pollutant</b>	<b>Tons/year</b>
CO	12.5
NOx	11.5
VOCs as Propane	69.5
Formaldehyde	2.6
Methanol	25.1
Acetaldehyde	1.8
Toluene	3.1
Propionaldehyde	1.5

## **2.5 Permitting History**

### **2.5.1 OAC 695**

On March 15, 1999, on behalf of Pacific Woodtech, Columbia Engineering International, Ltd., submitted an application to construct a laminated veneer lumber (LVL) header and I-beam plant at 1850 Park Lane, Burlington Hill Business Park, Burlington, WA. Emission sources from the LVL plant were to include particulate matter from sawing operations, VOC/HAP from gluing, lamination and pressing, and NO<sub>x</sub>, CO, and VOC from assorted natural gas-fired heaters. Wood dust emissions were to be controlled using two Air-Cure model 376AC10 baghouse filters with an efficiency of 99.96%. Best Available Control Technology for natural gas-fired heaters was considered to be fuel selection and good operation and maintenance practices. OAC 695 was issued on May 19, 1999. OAC 695 limited VOC emissions to 21.4 tons per year, and emissions of any single HAP (methanol, formaldehyde, etc.) to 9.0 tons per year. Compliance with these limits was to be determined by tracking of purchases of raw materials, such as resin and press lube oil.

The OAC “preamble” contained a statement that, “A tier 1 modeling analysis has indicated that without controls formaldehyde emissions will exceed the acceptable source impact levels as defined in WAC 173-460. Best Available Control Technology for Toxics (T-BACT for formaldehyde) was determined to be a packed tower scrubber. The Agency required that PWC use a SLY, Inc. Model 102-120 packed tower scrubber to control formaldehyde emissions from the press exhaust hood and billet stacker hood with a control efficiency of 95%.”

### **2.5.2 OAC 695a**

An amended application, dated June 10, 1999, and NCASI technical bulletin #769 entitled “Volatile Organic Compound Emissions from Wood Products Manufacturing Facilities Part II – Engineered Wood Products” were submitted by Columbia Engineering International, Ltd. on behalf of PWC. The NCASI Technical Bulletin contained new testing data indicating that formaldehyde emissions from resin use would not exceed the acceptable source impact level for formaldehyde as defined in WAC 173-460. PWC requested removal of the requirement for installation of a scrubber and some changes to allowable emissions. One new requirement in OAC 695a was that PWC perform a source test to verify that formaldehyde emissions would not be released in quantities sufficient to cause impacts in excess of the ASIL of 0.077 microgram per cubic meter (µg/m<sup>3</sup>). The source test took place in 2002. The results of the test indicate emissions were below 0.077 µg/m<sup>3</sup> (in compliance with the limit).

### **2.5.3 OAC 933**

On June 17, 2005 PWC applied to install a second laminated veneer lumber (LVL) manufacturing line. The facility proposed to use a continuous Dieffenbacher press to produce a billet of laminated softwood from previously dried veneer which is then cut to produce headers and I-beams. To support the LVL line, a 9.0 MMBtu/hr natural gas-fired thermal oil heater, two make-



up air heaters (each 2.5 MMBtu/hr), hooding and venting equipment, and a Superior Systems Model 13-416-10 baghouse were proposed to be added. The facility would increase emissions of the toxic air contaminants formaldehyde and methanol from the pressing operation and criteria pollutants from the support equipment. With the startup of the Line 2 Press, the facility would become subject to the Air Operating Permit program.

OAC 933 was issued on October 10, 2005, superseding OAC 695a.

#### **2.5.4 OAC 1151**

In March 2013, PWC applied to construct and operate a new saw cutting area and baghouse to expand LVL sawing capability. PWC purchased a used baghouse and a new fan for this project, which will control particulate matter emissions generated by the operation of a multi-blade ripsaw, a cross-cut saw, a bundle cut package band saw, and two edge easer motors, each with two saw blades. OAC 1151 was issued on August 26, 2013 and establishes limits for particulate matter emissions, source testing requirements, and stack exhaust height. PWC must also monitor baghouse differential pressure daily when the saw cutting area is in operation and maintain monitoring records. The saw cutting area commenced operations on January 2, 2014.

#### **2.5.5 OAC 1151a**

On June 29, 2015, PWC requested a revision to OAC 1151, to install and operate a new Veneer Drum Chipper used to chip scrap veneer to be sold for reuse, with emissions controlled by the existing baghouse #4 approved in OAC 1151. The revision was approved October 21, 2015. The Veneer Drum Chipper began operating on September 12, 2016 and testing to confirm compliance with particulate emission limits was performed on September 27, 2016.

#### **2.5.6 OAC 1285**

On July 17, 2017, PWC applied for approval to construct and operate a new billet beam production line where LVL sheets would be layered together with adhesives and then pressed in a cold press to form LVL billets. The LVL billets would be planed to final finished size, edged, then cut at the bundle saw to various lengths forming billet beams. Sawdust from the cutting steps is collected and routed to a dust collection system consisting of a cyclone and a pulse-jet Superior Systems baghouse. OAC 1285 was issued on September 12, 2017.

### **2.6 Compliance History**

PWC was initially registered by the NWCAA on June 28, 1999. Regular (annual) facility inspections have occurred since registration.

#### **2.6.1 Notice of Violation**

PWC has had Notices of Violation (NOV) issued for violations of recordkeeping and reporting issues, as well as for opacity exceedances from Baghouse #1. Since the permit renewal in 2014, PWC has only received two NOV.

NOV 4208 was issued for failure to submit the annual compliance certification report for calendar year 2015 by February 28, 2016. The report was submitted June 27, 2016 and a penalty of \$3,000 was assessed and paid on October 11, 2016, resolving the violation.

NOV 4306 was issued on December 4, 2018 for failure to perform timely tune-ups on two thermal oil heaters and various missing or incomplete records. A penalty of \$10,000 was assessed and paid on January 28, 2019, resolving the violation.

#### **2.6.2 Compliance Reports**

The PWC AOP requires semiannual and annual reports to be submitted to the NWCAA as part of the facility's ongoing compliance demonstration. In addition, permit deviations must be

reported within 30 days of the end of the month in which the deviation was discovered. Semiannual and annual reports submitted by PWC are certified by the responsible official. Certification of the truth and accuracy of reported information by the responsible official is required at least semiannually. Annually, the responsible corporate official certifies compliance with all applicable requirements in the AOP term by term and whether the facility was fully or intermittently in compliance with each term. Biennial and quinquennial reports are required by the Boiler MACT (40 CFR 63 Subpart DDDDD).

### 3 BASIS OF REGULATION APPLICABILITY

#### 3.1 40 CFR 60 – New Source Performance Standards (NSPS)

No federal New Source Performance Standards apply to PWC.

#### 3.2 40 CFR 63 – National Emissions Standards for Hazardous Air Pollutants (NESHAP)

**40 CFR 63 Subpart DDDD—National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products (PCWP)** applies to PWC because the facility is a major source of HAP emissions and manufactures composite wood products by bonding veneers with resin under heat and pressure to form an engineered wood product.

Table 1 of the Federal Register in which 40 CFR 63 Subpart DDDD was promulgated (69 FR 45949; 7/30/04) lists process units subject to the final control requirements in which engineered wood product (EWP) presses are listed separately from reconstituted wood product (RWP) presses. Under the rule, RWP presses are subject to control requirements as either new or existing affected sources. Both new and existing EWP presses are clearly excluded from control requirements established by this rule. PWC employs EWP presses to manufacture composite wood products.

40 CFR 63 Subpart DDDD distinguishes between engineered wood products (EWP) and reconstituted wood product (RWP) presses by the following definitions (40 CFR 63.2292):

*Engineered wood product* means a product made with lumber, veneers, strands of wood, or from other small wood elements that are bound together with resin. Engineered wood products include, but are not limited to, laminated strand lumber, laminated veneer lumber, parallel strand lumber, wood I-joists, and glue-laminated beams.

*Reconstituted wood product press* means a press, including (if applicable) the press unloader, that presses a resinated mat of wood fibers, particles, or strands between hot plates or hot rollers to compact and set the mat into a panel by simultaneous application of heat and pressure. Reconstituted wood product presses are used in the manufacture of hardboard, medium density fiberboard, particleboard, and oriented strandboard. Extruders are not considered to be reconstituted wood product presses. A *reconstituted wood product press* is a process unit.

The affected sources at PWC under 40 CFR 63 subpart DDDD include the EWP presses, “miscellaneous finishing operations”, and “miscellaneous coating operations”. PWC applies ink stamps and edge seals to some products, which is considered a “group 1 miscellaneous coating operation”. Group 1 miscellaneous coating operations are subject to work practice requirements in Table 3 to this subpart per 40 CFR 63.2241. However, 40 CFR 63.2252<sup>1</sup> states that process units not subject to the compliance options or work practice requirements specified in 63.2240 are not required to comply with the requirements of subpart DDDD or subpart A of Part 63, except for initial notification. Therefore, since the EWP presses, miscellaneous coating operations, and other PCWP process activities at PWC are not subject to 63.2240, the processes at the facility are subject only to initial notification requirements in 63.9(b) (40 CFR 63 Subpart A). PWC submitted initial notification to NWCAA per 40 CFR 63.2252 as part of their original AOP application in 2007. In a separate correspondence, PWC submitted initial notification to EPA in 2007 as well.

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<sup>1</sup> 40 CFR 63 Subpart DDDD, §63.2252 (2/16/06): 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).

**40 CFR 63 Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** (Boiler MACT) applies to the two 7.5 MMBtu/hr Line 1 Press and Line 2 press thermal oil heaters and to the two 2.8 MMBtu/hr I-line hot house heaters because these heaters meet the 63.7575 definition of process heater. These four natural gas heaters became subject to the Boiler MACT upon publication of the rule on January 31, 2013. Boiler MACT requirements for these units include a one-time 8-hour energy assessment, tune-ups once every two (Line 1 and 2 Press thermal oil heaters) or five (I-Line hot house heaters) years, recordkeeping, and periodic reports. The compliance deadline for these existing units, as defined in the Boiler MACT, was January 31, 2016.

The four Make-Up Air Units are not subject to the Boiler MACT because they provide space heating to the facility and are exempt from the Boiler MACT by the definition of process heater in 63.7575, which specifically states that “[p]rocess heaters do not include units used for comfort heat or space heat...”

### **3.3 40 CFR 64 - Compliance Assurance Monitoring (CAM)**

EPA established the CAM program to regulate emission sources that employ a control device to maintain compliance with an enforceable emission limit or standard. 40 CFR §64.2 establishes the three applicability criteria for the CAM program:

- The unit is subject to an emission limit, other than an emission limit from a NSPS or NESHAP that was proposed after November 15, 1990
- The unit uses a control device to achieve compliance with that limit, and
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, required for a source to be classified as a major source.

For units that meet all 3 applicability criteria above, one further criterion is evaluated to determine whether a CAM Plan is needed: if a unit is equipped with a continuous monitor (i.e., CEM) and monitoring for compliance with a limit is done using the continuous monitor, then a CAM plan is not required for that unit for that specific limit or standard.

As defined in the CAM rule, for each pollutant specific emission unit (PSEU), the emission unit is considered separately with respect to each regulated air pollutant and each “control device” is defined as the equipment, other than inherent process equipment, that is used to destroy or remove air pollutants prior to discharge to the atmosphere. The term “control device” does not include passive methods that prevent pollutants from forming such as low NOx burners, lids or seals, or inherent process equipment provided for safety or material recovery. An emission unit is not exempted from the CAM rule if nonexempt emission limitations or standards (e.g., a state rule or an older NSPS emission limit) apply to the emission unit.

CAM applies to emission units equipped with add-on control devices. Such air pollution control devices in use at PWC are the five baghouses. Therefore, the emission units that exhaust to these five baghouses are reviewed for CAM applicability. According to Chapter 1 of EPA’s CAM Technical Guidance Document<sup>2</sup>, pre-control device emissions can be estimated using post-control potential to emit and the estimated control device efficiency. Post-control potential to emit and control device efficiency estimates were included as part of the PWC AOP renewal application. By this estimate, all five emission points controlled by the baghouses have an uncontrolled potential to emit greater than the major source threshold of 100 tons per year of PM10. See Table 4.

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<sup>2</sup> [http://www.epa.gov/ttnchie1/mkb/documents/TSD\\_1.pdf](http://www.epa.gov/ttnchie1/mkb/documents/TSD_1.pdf)

**Table 3-1 CAM Applicability**

Emission Unit	Add-on Control Device Present?	Is unit subject to emission limit or standard for which the unit has a control device?	If control is present, what pollutant does it control?	Are pre-control emissions greater than 100% of major source?	Is unit equipped with a continuous monitor for the pollutant for which it exceeds 100% of major source?	Is a CAM Plan Required?
Line 1 & LVL Billet Rip Saws	Yes – baghouse 1	Opacity – 5% PM – 0.10 gr/dscf	Baghouse - PM & Opacity	Yes for PM, Opacity, (142 tpy)	No	PM & Opacity: YES
Line 2 Saws	Yes – baghouse 2	Opacity – 5% PM – 0.10 gr/dscf	Baghouse - PM & Opacity	Yes for PM, Opacity, (119 tpy)	No	PM & Opacity: YES
Scarf line and LVL Billet Rip saws	Yes – baghouse 3	Opacity – 5% PM – 0.10 gr/dscf	Baghouse - PM & Opacity	Yes for PM, Opacity, (178 tpy)	No	PM & Opacity: YES
LVL saws and veneer drum chippers	Yes – baghouse 4	Opacity – 5% PM – 0.10 gr/dscf PM – 0.005 gr/dscf	Baghouse - PM & Opacity	Yes for PM, Opacity, (149 tpy)	No	PM & Opacity: YES
Billet Beam Saws	Yes – Billet Beams baghouse	Opacity – 0% PM – 0.005 gr/dscf	Billet Beam Baghouse - PM & Opacity	Yes for PM, Opacity, (141 tpy)	No	PM & Opacity: YES

Emissions from each of the five baghouses are subject to limits. All baghouses are subject to the generally applicable PM emission limit of 0.10 gr/dscf as well as a visible emissions limit of 20%. Baghouses 1-3 are also subject to specifically applicable opacity limits as well as opacity limits stemming from OAC conditions. Baghouse 4 is also subject to a specifically applicable PM emission limit from an OAC condition of 0.005 gr/dscf as well as a 5% opacity limit from an OAC condition. The Billet Beam Baghouse is also subject to a specifically applicable PM emission limit from an OAC condition of 0.005 gr/dscf and 0% opacity limit from an OAC condition.

Visible emissions from baghouses are directly related to sawdust particulate matter emissions; when a baghouse is functioning properly, no visible emissions will be observed. Since each baghouse controls PM emissions to below the major source threshold (100 tpy PM emissions), 40 CFR 64.3(b)(4)(iii) requires data collection at least once per 24-hour period. The PWC CAM Plan consists of daily observation of emissions from the baghouses and daily readings of the pressure drop across the baghouses, including descriptions of “excursion” and “exceedance” events, as appropriate. An excursion is a departure from an indicator range established for monitoring consistent with the averaging period specified for the monitoring. An excursion does not necessarily indicate that a permit limit has been exceeded and includes periods when significant periods of data collection are missed. An exceedance is an incident when emissions limits have been surpassed.

In the case of the nature of the monitoring and averaging periods for the gr/dscf and opacity limits at the baghouses, excursions are defined the same as exceedances, and permit terms are written as such. This monitoring plus monitoring records were found to be appropriate based on guidance provided by EPA in a Frequently Asked Questions Concerning the CAM Rule (October 2004) guidance document<sup>3</sup>. In this document, EPA stated that daily observation for any visible emissions from a baghouse stack satisfies the monitoring requirement of CAM for PM emissions.

### **3.4 Risk Management Plan (RMP)**

**40 CFR 68 – Chemical Accident Prevention Provisions:** PWC is not subject to the provisions of this program at the time of permit renewal. The goal of 40 CFR 68 and the Risk Management Program (RMP) it requires is to prevent accidental release of substances that can cause serious harm to the public and the environment and to mitigate the severity of releases if they do occur. If a tank, drum, container, pipe, or other process at a facility contains any of the regulated toxic and flammable substances listed in 40 CFR 68.130 in an amount above the “threshold quantity” specified for that substance, the facility operator is required to develop and implement a risk management program. At the time of permit renewal, PWC states that no substance listed in 40 CFR 68.130 is maintained at the facility at or above threshold quantities. PWC will certify in the annual compliance certification that, should the facility become subject to the regulation, PWC will comply with the requirement to submit a Risk Management Plan according to the requirements of 40 CFR 68.

### **3.5 New Source Review (NSR)**

#### **3.5.1 Basic Information**

New Source Review (NSR) requires stationary sources of air pollution to acquire permits before they begin construction. NSR is also referred to as construction permitting or preconstruction permitting.

There are three types of NSR permits. A source may have to acquire one or more of these permits:

- Prevention of Significant Deterioration (PSD) permits, which are required for new major sources or a major source making a major modification in an attainment<sup>4</sup> area;
- Nonattainment NSR permits, which are required for new major sources or major sources making a major modification in a nonattainment area. (There are currently no areas classified as nonattainment with the NWCAA’s jurisdiction. Hence, the use of a nonattainment NSR permit is not required at this time.); and
- Minor source permits, which are required for sources that emit pollutants below the major source threshold but above the minor source threshold. It is generally the case that a major new or modified source will also require minor NSR permitting that covers a different subset of pollutants.

#### **3.5.2 What are Permits?**

Permits are legal documents that the source must follow. Permits specify what emission limits must not be exceeded and how the source is to demonstrate compliance with the set limits. Permits may contain conditions to ensure that the source is built according to the permit application upon which the permitting agency relies for air impact analysis. For example, the permit may specify a stack height that was used by the permitting agency to determine compliance with air pollutant limits. Some limits in the permit may be specified at the request

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<sup>3</sup> [www.epa.gov/ttn/emc/cam/camfaq1r1004.pdf](http://www.epa.gov/ttn/emc/cam/camfaq1r1004.pdf)

<sup>4</sup> An attainment area means a geographic area designated by EPA at 40 CFR 81 as having attained the National Ambient Air Quality Standard for a given criteria pollutant (Reference: WAC 173-400-030 (9)).

of the source to keep them from being subject to other requirements. For example, the source may take limits in a minor NSR permit to keep the source out of PSD. To assure that sources follow permit requirements, permits also contain monitoring, recordkeeping, and reporting (MR&R) requirements.

### **3.5.3 Who Issues the Permits?**

In Washington State most NSR permits are issued by the Washington State Department of Ecology (Ecology) or local air pollution control agencies. The EPA issues the permit in some cases. Ecology and local air pollution control agencies have their own permit programs that are approved by the EPA in the State Implementation Plan (SIP). In general, in the NWCAA jurisdiction, which encompasses Island, Skagit, and Whatcom Counties, Ecology issues major NSR permits (PSD permits) and NWCAA issues minor NSR permits (Orders of Approval to Construct, or OACs).

### **3.5.4 Prevention of Significant Deterioration (PSD)**

Before a major source can be constructed or modified in an area that meets all the ambient air requirements, the owner or operator must demonstrate that the project will not cause or contribute to violations of any ambient air quality standard or air quality increment through the PSD permitting program under 40 CFR 52.21. Also, the owner or operator must demonstrate that the project will not cause significant deterioration in nearby Class I Areas (parks and wilderness areas).

### **3.5.5 Minor New Source Review**

New or modified sources of air pollution are required to obtain a permit from the NWCAA before construction begins. Permits are referred to as Orders of Approval to Construct (OACs) and contain requirements to minimize air pollution impacts on the environment. The type of activity, the size of the operation, and the kinds of pollutants emitted determine permit conditions.

### **3.5.6 Other Federal New Source Review Programs**

The entire jurisdiction of NWCAA is designated as in attainment for all criteria pollutants. For this reason no other federal new source review programs for new or modified sources of air pollution are applicable.

## **3.6 Greenhouse Gas (GHG) Regulation**

Greenhouse gases are chemicals that contribute to climate change by trapping heat in the atmosphere. The greenhouse gases (GHG) recognized by EPA and Ecology are: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF<sub>6</sub>). "Hydrofluorocarbons" or "HFCs" means a class of greenhouse gases primarily used as refrigerants, consisting of hydrogen, fluorine, and carbon.

PWC emitted 3,840 metric ton CO<sub>2</sub> equivalents<sup>5</sup> (CO<sub>2</sub>e) during the period between November 2012 and October 2013. Because the amount of GHG emissions from stationary sources located at PWC is below the reporting thresholds described below, PWC is not required, as of date of this permit renewal, to report GHG emissions.

### **3.6.1 40 CFR 98, Federal Mandatory Greenhouse Gas Emission Inventory Regulation**

The requirements for mandatory greenhouse gas reporting are contained in 40 CFR 98. This regulation is implemented in its entirety by the EPA. This regulation is excluded from appearing

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<sup>5</sup> CO<sub>2</sub>e is the sum of metric tons per year of each greenhouse gas multiplied by the global warming potential (GWP) of the gas. For example, CO<sub>2</sub> has a GWP of 1, and methane has a GWP of 21. Then 100 tons of CO<sub>2</sub> and 10 tons of methane have a CO<sub>2</sub>e of: 100\*1 + 10\*21 = 100 + 210 = 310.

in a Title V air operating permit because it does not contain applicable requirements under the Title V program (WAC 173-401-200(4)).

The following discussion is included for completeness. This regulation does not apply to PWC at the time of this permit renewal because GHG emissions from stationary sources at PWC do not exceed the 25,000 metric ton CO<sub>2</sub>e reporting threshold. Should GHG emissions from the facility exceed 25,000 metric tons CO<sub>2</sub>e, PWC will be subject to the reporting provisions of this regulation.

### **3.6.2 Chapter 173-441 WAC, Reporting of Emissions of Greenhouse Gases**

This regulation requires GHG reporting for owners or operators of a source that emits at least 10,000 metric tons per year of CO<sub>2</sub>e. This regulation is implemented in its entirety by Ecology and is considered an applicable requirement under the Title V program. As such it is included in Term 2.4.5 of the AOP for this facility.



## **4 GENERAL PERMIT ADMINISTRATION AND ASSUMPTIONS**

### **4.1 Permit Content**

The permit contains (1) standard terms, (2) generally applicable conditions, and (3) specifically applicable conditions. Specifically applicable conditions originate from orders of approvals to construct, any regulatory orders, and any emission unit specific federal, state or local regulatory requirements.

Applicable requirements that were satisfied by a single past action on the part of the source are not included in the permit but are discussed in this Statement of Basis. Also, regulations that require action by a regulatory agency, but not by the regulated source, are not included as applicable permit conditions.

### **4.2 Federal Enforceability**

Federally enforceable requirements are terms and conditions required under the Federal Clean Air Act or under any implementing regulation. Local and state regulations may become federally enforceable by formal approval and incorporation into the State Implementation Plan (SIP) or through other delegation mechanisms. Federally enforceable requirements are enforceable by the EPA and citizens. All applicable requirements in the permit including Standard Terms and Conditions, Generally Applicable Requirements, and Specifically Applicable Requirements are federally enforceable unless identified in the permit as enforceable only by the state (i.e., labeled as “state only”).

Most rules and requirements are followed by a date in parentheses. Two different versions (identified by the date) of the same regulatory citation may apply to the source for state or local rules if federal approval/delegation lags behind changes made to the Washington Administrative Code (WAC) or the NWCAA Regulation. For WAC regulations, the date listed in parentheses in the AOP represents the “State Effective Date”. For SIP-approved WAC regulations (identified by the absence of the “state only” designation), the date represents the “State Effective Date” of the regulation version that was SIP-approved. For NWCAA regulations, the date represents the most recent Board of Directors adoption date, which is identified as the “Passed” or “Amended” date in the NWCAA Regulation. For SIP-approved NWCAA regulations (also identified by the absence of the “state only” designation), the parenthetical date represents the “Passed” or “Amended” date of the regulation version that was SIP-approved. The date associated with an OAC or PSD permit represents the latest revision date of that order. For a federal rule, the date is the rule’s most recent promulgation date prior to issuance of the AOP.

Note that WAC 173-401 is a state regulation, but it is unique from other state and local regulations listed in the AOP in that it does not require EPA approval through the SIP process. As noted in gap-filling, below, 173-401 stems from 40 CFR Part 70. All of the requirements listed as coming from WAC 173-401 are federally enforceable for the source. Hence, the reader will not see two different versions of WAC 173-401 requirements listed in the AOP.

### **4.3 Gap-Filling**

Title V of the Federal Clean Air Act is the basis for the EPA’s 40 CFR 70, which is the basis for the State of Washington air operating permit regulation, Chapter 173-401 WAC. Title V requires that all air pollution regulations applicable to the source be called out in the AOP for that source. Title V also requires that each applicable regulation be accompanied by a federally enforceable means of “reasonably assuring continuous compliance.”

Some of the older general regulations and federal NSPS do not have monitoring, recordkeeping and reporting requirements that are sufficient to reasonably assure continuous compliance with

emission limitations. Title V, 40 CFR 70, and WAC 173-401-615 all contain a “gap-filling” provision for that situation<sup>6</sup>.

The permitting agency is required to create MR&R requirements that fill the gap and to incorporate those requirements into the air operating permit. In any term where gap-filling has taken place, the regulatory citation for that term is noted as “directly enforceable” and the citation of the gap-filling authority in WAC 173-401-615(b) & (c), 10/17/02 is included in the table heading information.

#### **4.4 Future Requirements**

Applicable requirements promulgated with future effective compliance dates may be included as applicable requirements in the permit. Some requirements that are not applicable until triggered by an action, such as the requirement to file an application prior to constructing a new source, are addressed within the standard terms and conditions section of the permit.

There are presently no pending applications to construct or modify PWC in such a way as to trigger New Source Review. PWC has certified in the permit application that the facility will meet any future applicable requirements on a timely basis.

#### **4.5 Compliance Options**

PWC did not request emissions trading provisions or specify more than one operating scenario in the air operating permit application; therefore, the permit does not address these options as allowed under WAC 173-401-650. This permit does not condense overlapping applicable requirements (streamlining) nor does it provide any alternative emission limitations.

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<sup>6</sup> WAC 173-401-615(1) Monitoring. Each permit shall contain the following requirements with respect to monitoring:  
(b) Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit, as reported pursuant to subsection (3) of this section. Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Recordkeeping provisions may be sufficient to meet the requirements of this paragraph; and  
(c) As necessary, requirements concerning the use, maintenance, and, where appropriate, installation of monitoring equipment or methods.

## **5 COMPLETED REQUIREMENTS**

### **5.1 OAC 933**

#### **5.1.1 Condition 7**

The following portion of Condition 7 from Order of Approval to Construct (OAC) 933 is not included in the AOP because the PWC CAM plan requires more stringent monitoring:

- OAC 933, Condition 7: “Compliance with Condition 6 shall be monitored by observing the baghouses’ exhaust for visible emissions monthly for six consecutive months. ... If, at the end of the six month period of monthly monitoring, visible emissions have consistently been zero, monitoring may become quarterly. If visible emissions are detected for more than two minutes during any quarterly observation, inspection frequency shall revert to monthly until six consecutive months of acceptable observations are recorded. .... A request must be made to the NWCAA if the facility wishes to progress to quarterly monitoring”.

Daily opacity monitoring established by the CAM plans meets the requirements of monthly and weekly monitoring required by OAC 933. The recordkeeping and reporting requirements established by OAC 933 are still included in the AOP terms that address baghouse opacity standards.

#### **5.1.2 Condition 13**

OAC 933, Condition 13: “The permittee shall demonstrate compliance with the Washington Administrative Code (WAC) Chapter 173-460 within eight weeks of permit issuance. Compliance may be demonstrated through (a) computer modeling, or (b) installation of a ninety-four foot above grade exhaust stack for the Line 2 Press prior to initial startup. A report certifying compliance with this condition shall be submitted to the NWCAA at the end of the eight week period”. A report demonstrating compliance with WAC 173-460 by dispersion (computer) modeling was submitted to the NWCAA on December 7, 2005.

#### **5.1.3 Condition 17**

OAC 933, Condition 17: “Written notification of initial startup of the second press line shall be submitted to the NWCAA no less than 20 days following startup”. Written notification of the first test billets produced by the Line 2 Press on August 29, 2006 was received by the NWCAA on September 1, 2006.

### **5.2 OAC 1151a**

#### **5.2.1 Conditions 2, 3, and 4**

These conditions refer to an initial stack test, including submission of the test plan and the test report. This test was performed on September 27, 2016, and the test report was received on November 28, 2016 indicating compliance with the limit.

#### **5.2.2 Condition 11**

The following portion of Condition 11 from OAC 1151a is not included in the AOP because the PWC CAM plan requires more stringent monitoring:

- OAC 1151a, Condition 11: “The baghouse stack shall be observed at least once per operating week while it is operating and controlling emissions from sawing operations...”

Daily opacity monitoring established by the CAM plans meets the requirements of monthly and weekly monitoring required by OAC 1151a. The recordkeeping and reporting requirements

established by OAC 1151a are still included in the AOP terms that address baghouse opacity standards.

### **5.2.3 Condition 14**

OAC 1151a, Condition 14: “The NWCAA shall be provided written notification of the startup date of the chipper approved by this Order. The notice shall be postmarked no later than 15 days after startup of the equipment listed herein and shall include a reference to OAC 1151a”. The veneer drum chipper was started on September 12, 2016 and notice was received by NWCAA on September 30, 2016.

## **5.3 OAC 1285**

### **5.3.1 Conditions 2, 3, and 4**

All three conditions pertain to an initial source test:

OAC 1258, Condition 2: Demonstrate compliance with Condition (1) by an initial source test on the Billet Beam baghouse conducted according to 40 CFR 60 Appendix A Methods 5 and 202 to measure total particulate emissions. Conduct source testing in accordance with Section 367 and Appendix A of the NWCAA Regulation. Complete source testing within 90 days of startup of the Billet Beam line and perform while all of the approved emission units are in operation. Submit any modification to the source testing methods required by this approved Order to NWCAA in advance with the test plan.

OAC 1285 Condition 3: In accordance with Appendix A of the NWCAA Regulation, submit a source test plan to the NWCAA at least 30 days prior to conducting testing. Specify the operational mode of each approved emission unit listed in this Order as planned during testing of the Billet Beam baghouse.

OAC 1285 Condition 4: In accordance with Appendix A of the NWCAA Regulation, submit a source test report to the NWCAA within 60 days of completing each test. Include the operational status of each emission unit controlled by the Billet Beam baghouse during the course of testing. Include detailed information regarding the filtration material type, and number and size of the bags in the baghouse during the test.

The test was performed on April 30, 2019 and the results were received on June 19, 2019.

## **5.4 40 CFR 63 Subpart DDDD**

PWC is subject to 40 CFR 63 Subpart DDDD; however, no applicable requirements from this regulation are included in the AOP because only initial notification was required. The Title V permit regulations require that all applicable rules be identified; therefore, a place-holder has been left for 40 CFR 63 Subpart DDDD in Section 5 of the AOP. However, there are no on-going compliance requirements with the rule as PWC already satisfied the initial notification requirement. PWC submitted an initial notification to NWCAA in August 2007 as part of its original AOP application and to EPA Region 10 by mail on 12/20/2007. 40 CFR 63 Subpart DDDD, §63.2252 (2/16/06) states “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)”. Line 2 at PWC commenced operation on August 29, 2006, and PWC had one year to submit an AOP application. PWC submitted an AOP application on August 29, 2007. 40 CFR 63.2233(c) requires that an area source that increases its potential to emit such that it becomes a major source of HAP must be in compliance with Subpart DDDD by 10/1/07 or upon initial startup of the affected source as major source, whichever is later. PWC became an affected source upon startup of the Line 2 press, and had 120 days from

10/1/07 (the later compliance date) to submit initial notification. The 40 CFR 63 Subpart DDDD initial notification was submitted (postmarked) by mail on December 20, 2007, 80 days after the 10/1/07 compliance date and within the 120 days allowed by 40 CFR 63.9(b).

### **5.5 40 CFR 63 Subpart DDDDD**

40 CFR 63 Subpart DDDDD applies to the two 7.5 MMBtu/hr Line 1 Press and Line 2 press thermal oil heaters and to the two 2.8 MMBtu/hr I-line hot house heaters because these heaters meet the 63.7575 definition of process heater. These four natural gas heaters became subject to the Boiler MACT upon publication of the rule on January 31, 2013. Boiler MACT requirements for these units include a one-time 8-hour energy assessment and a submission of a Notification of Compliance Status.

The Notification of Compliance Status was submitted on 03/17/2016.

The one-time energy assessment was received on 05/22/2017.

## **6 PERMIT ELEMENTS AND BASIS FOR TERMS AND CONDITIONS**

### **6.1 Permit Organization**

The PWC AOP is divided into the following sections:

Permit Information

Attest

Table of Contents

Section 1 Emission Unit Identification

Section 2 Standard Terms and Conditions

Section 3 Standard Terms and Conditions for National Emission Standards for Hazardous Air Pollutants

Section 4 Generally Applicable Requirements

Section 5 Specifically Applicable Requirements

Section 6 Inapplicable Requirements

### **6.2 Permit Information and Attest**

#### **6.2.1 Permit Information**

The Permit Information page identifies the source and provides general information relevant to the permit such as the facility address, the responsible corporate official, the permit issuance date and the permit expiration date, and the agency personnel responsible for permit preparation, review, and issuance.

#### **6.2.2 Attest**

The Attest page provides authorization for the source to operate under the terms and conditions contained in the permit.

### **6.3 Section 1: Emission Unit Identification**

The Emission Unit Identification section lists the significant emissions units, process names and descriptions, emission points, and associated control device, if any. This section is a general overview of the facility. Detailed information about the plant can be found in this Statement of Basis, the permit application, and supporting files.

### **6.4 Section 2: Standard Terms and Conditions**

The Standard Terms and Conditions section of the permit specifies administrative requirements or prohibitions with no ongoing compliance monitoring requirements. Regulations that give legal authority to the Standard Terms and Conditions are cited for each topic. At times, requirements are paraphrased; the language of the cited regulation takes precedence over the paraphrased summary. For understanding and readability, the terms and conditions have been grouped by function. Similar requirements from the State and NWCAA are grouped together where possible. Requirements that are not applicable until triggered are also included. An example would be the requirement to file a "Notice of Construction and Application for Approval".

Several permit conditions in Section 2 are labeled "Directly enforceable under WAC 173-401-615(1)(b) & (c), 10/17/02". These conditions are a clarification of the regulatory requirements, as the NWCAA interprets those requirements. "Directly enforceable" conditions are legal

requirements with which the permittee must comply and are directly enforceable through the permit per NWCAA's gap-filling authority.

**6.5 Section 3: Standard Terms and Conditions for National Emission Standards for Hazardous Air Pollutants**

This section contains the generally applicable requirements from 40 CFR 63 Subpart A. These requirements consist mainly of administrative recordkeeping, reporting, general testing, operation and maintenance standards, and apply generally to emission units that are subject to federal requirements under the NESHAP. These standard terms and conditions typically do not have associated ongoing compliance monitoring requirements. 40 CFR 63 Subpart A has been adopted through NWCAA Regulation Section 104.2.

PWC is subject to the NESHAP General Provisions because the facility is subject to the following National Emission Standards for Hazardous Air Pollutants (NESHAPs):

- 40 CFR 63 Subpart DDDD – Plywood and Composite Wood Products and
- 40 CFR 63 Subpart DDDDD – Industrial, Commercial, and Institutional Boilers And Process Heaters.

**6.6 Introduction to AOP Sections 4 and 5: Generally and Specifically Applicable Requirements**

Requirements that limit emissions and broadly apply to all sources within the jurisdiction of the NWCAA are identified in AOP Section 4 – Generally Applicable Requirements. Requirements that limit emissions and apply specifically to emission units at PWC are identified in AOP Section 5 – Specifically Applicable Requirements.

Both Generally and Specifically Applicable Requirements are organized in tabular form, as shown below.

**Table 4-1 Generally Applicable Requirements – Plantwide**

Term	Citation	Description	Monitoring, Recordkeeping, and Reporting Requirements
4.1 General	WAC 173-401-615(3) (10/17/02) 40 CFR 60 Subpart A 60.19(c) (2/12/98) 40 CFR 63 Subpart A 63.10(a)(5) (4/20/06)	<u>Required Monitoring Reports</u> Submit reports of any required monitoring to the NWCAA at least once every six months. All instances of deviations from permit requirements must be clearly identified in such reports.	Directly Enforceable: Monthly reports shall cover a calendar month, quarterly reports shall cover a calendar quarter, six-month reports shall cover January through June and July through December, and annual reports shall cover a calendar year. The reports shall be submitted within 30 days after the close of the period that the reports cover, except when the reporting deadline is specified in a permit term including, but not necessarily limited to: Term 2.1.8 - Source testing Term 2.4.1 - Annual AOP certification Term 2.4.4 – Annual emissions inventory

The “Permit Term” column lists the permit term number and identifies the pollutant. The second column, “Citation” identifies the regulatory citation. The third column, “Description”, provides a brief description of the applicable requirements for information purposes, and is not enforceable. The fourth column, “Monitoring/Recordkeeping/Reporting”, identifies the periodic or continuous monitoring, recordkeeping and reporting (MR&R) obligations the source must perform as required by WAC 173-401-605(1) and -615(1) & (2), or the underlying requirement. MR&R obligations do not apply to insignificant emissions units pursuant to WAC 173-401-530(2)(c).

The requirements in the MR&R column labeled “Directly Enforceable:” are legally enforceable requirements added under the NWCAA's “gap-filling” authority (WAC 173-401-615(1)(b) & (c)).

MR&R requirements noted as “CAM” are part of the Compliance Assurance Monitoring Plan for the specified unit(s) as required by 40 CFR 64.6(c).

Other MR&R requirements not labeled “Directly Enforceable:” or “CAM” are brief descriptions of the regulatory requirements for informational purposes and are not enforceable, unless they are identical to the cited requirement. Unless the text of the MR&R column is specifically identified to be directly enforceable or pursuant to CAM, the language of the cited regulation takes precedence over a paraphrased requirement. The following paragraphs provide additional information describing the basis of those MR&R requirements that do not stem directly from other regulations (i.e., those requirements that are directly enforceable or come from the CAM Plan).

Many of the permit requirements do not need to be explained in this Statement of Basis because the legal and factual basis for the requirement is self-evident. Some of the terms, however, contain requirements that are not well defined or have MR&R for which the rationale is not readily apparent. For these, additional discussion is provided below.

## **6.7 Section 4: Generally Applicable Requirements**

Section 4 - Generally Applicable Requirements of the AOP identifies requirements that apply broadly to the facility. These requirements are normally not called out in NOC approvals (i.e., OACs). Instead, they are general air pollution rules found in the NWCAA Regulation or the WAC.

### **6.7.1 General Nuisance (Permit Terms 4.3 - 4.4):**

NWCAA Regulations and the WAC contain requirements regarding emissions deemed to be a “general nuisance”. Emissions of air contaminants that damage human health, plant or animal life, or otherwise interfere with the “enjoyment of life and property” are prohibited. These rules, however, do not include specific monitoring, recordkeeping, or reporting requirements. Therefore, per the requirements of WAC 173-401-615, the MR&R for AOP term 4.3 was “gap-filled” with MR&R requirements. The gap-filled MR&R requirements require PWC to inspect potential sources of nuisance emissions upon receipt of a complaint, repair problems found, document the inspection and subsequent work, and notify NWCAA if repairs cannot be made in a timely fashion. If nuisance emissions cannot be corrected within four hours, PWC must notify the NWCAA within twelve hours with a description of the complaint and action being taken to resolve the problem. PWC will provide assurance of compliance with these requirements in the annual compliance certification and by maintaining a log of nuisance complaints and associated repairs and mitigation actions.

### **6.7.2 Odor and Fugitive Emissions (Permit Terms 4.5 - 4.6):**

PWC may not generate odors that “unreasonably interfere with property use” and must use good practices to reduce odors to a reasonable minimum. PWC must also take “reasonable precautions to prevent” fugitive emissions, which are defined as particulate emissions made airborne by forces of wind, human activity, or both. Further, AOP terms regarding fugitive emissions prohibit the offsite deposition of particulate matter.

AOP terms that limit odors and fugitive emissions refer to the gap-filled requirements of permit term 4.3, which require the facility to respond to and correct nuisance emissions as soon as possible, and to the gap-filled requirements of permit term 4.12, which require PWC to conduct a facility-wide inspection at least once per month to identify visible emissions, odors, prohibited activities, or activities that require New Source Review. PWC must maintain records of odor or dust complaints, visible emissions observations, and corrective actions taken.

### **6.7.3 Opacity and Particulate Matter Standards (Permit Terms 4.12 - 4.15):**

Opacity is defined as “the degree to which an object seen through a plume is obscured, stated as a percentage” and is assumed to be a reasonable approximation of particulate matter



emissions. As such, generally applicable AOP terms establishing opacity and particulate matter standards have a common MR&R requirement. NWCAA Regulations and the WAC require that opacity from any stack not exceed 20% for any period aggregating more than 3 minutes in any 60-minute period and that particulate matter emissions from any stack not exceed 0.1 grains per dry standard cubic feet or 0.05 grains per dry standard cubic feet, depending on the emission source. These opacity and particulate matter standards apply generally to all stacks at the facility. However, the Line 1 and Line 2 glue application and press exhaust stacks and the baghouses must comply with more stringent opacity limits, which are listed in Section 5 of the AOP.

The generally applicable opacity and particulate matter MR&R requirements require that PWC conduct a facility-wide inspection at least once per month for visible emissions, odors, prohibited activities listed in AOP Section 2.7 and activities that require New Source Review as required by AOP Section 2.8. PWC is required to take immediate corrective actions if visible emissions are observed and to maintain records of observations and actions taken. Since the MR&R requirements of term 4.12 were generated as part of the Air Operating Permit, the MR&R is denoted as “Directly Enforceable”, which establishes the language as enforceable requirements.

#### **6.7.4 Sulfur Dioxide and Fuel-bound Sulfur (Permit Terms 4.16 - 4.18)**

##### *6.7.4.1 Fuel Sulfur Content (Permit Term 4.16):*

Natural gas is used in the Line 1 and Line 2 thermal oil heaters and various room air heaters and is the only fuel allowed at PWC. NWCAA 520 limits sulfur content of gaseous fuels to a maximum of 412 ppm sulfur, which is about 26 grains of sulfur per 100 standard cubic feet. Natural gas is supplied via pipeline by Cascade Natural Gas and contains an average of 1 to 2 grains of sulfur per 100 standard cubic feet and up to 20 grains of sulfur per 100 standard cubic feet, which is equivalent to about 321 ppm sulfur:

$$\frac{20 \text{ gr. Sulfur}}{100 \text{ ft}^3} \times \frac{1 \text{ lb}}{7000 \text{ gr}} \times \frac{1 \text{ lb-mole}}{32 \text{ lb}} \times \frac{359 \text{ ft}^3}{1 \text{ lb-mole}} \times 10^6 = 321 \text{ ppm S by volume}$$

*Note:*

A “lb-mole” of a pure gas weighs the molecular weight of that gas in pounds and occupies 359 ft<sup>3</sup> at 32° F and 1 atmosphere pressure. A “lb-mole” of sulfur (S) weighs 32 lb and reacts with a lb-mole of oxygen (O<sub>2</sub>) which also weighs 32 lb to form a lb-mole of sulfur dioxide, which weighs 64 lb. Therefore, 2 lb of SO<sub>2</sub> are emitted for every lb of sulfur in the fuel.

PWC demonstrates compliance with this requirement by burning only natural gas as required in Term 5.5.1.

##### *6.7.4.2 Sulfur Dioxide, Stack Emissions (Permit Terms 4.17 and 4.18):*

SO<sub>2</sub> emissions are not to exceed 1,000 parts per million on a dry, volumetric basis<sup>7</sup> (ppm) according to AOP terms 4.17 and 4.18.

<sup>7</sup> “ppm” means “parts per million on a volumetric dry basis.” Sometimes this is written as “ppmvd.” Stack gas is usually sampled through a probe placed somewhere in the middle of the stack cross-section. The moisture is removed from the gas stream as part of the sampling process. The stack gas sample is analyzed for the pollutant in question, with the lab results being calculated as cubic feet (or meters) of pollutant per million cubic feet (or meters) of dry stack gas. If you had a stack with 50% moisture that was running right at the 1,000 ppm SO<sub>2</sub> standard, you would have 1,000 cubic feet of SO<sub>2</sub> for every million cubic feet of dry stack gas. You would also have 1,000 cubic feet of SO<sub>2</sub> for every two million cubic feet of “wet” (as is) stack gas, which is 500 ppm. This is why it’s important to know how stack sampling is done and why stack sampling and continuous emission monitoring methods are so specific.

The heaters and other fuel-consuming sources at PWC are required to burn only natural gas and are incapable of violating the SO<sub>2</sub> limit. The following calculations show that while burning natural gas, an emission unit cannot exceed the 1,000 ppm sulfur dioxide limit.

Natural gas means a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), such as the gas sold or distributed by any utility company regulated by the Washington Utilities and Transportation Commission. PWC receives the same natural gas as all of the other natural gas consumers, private and industrial, in the Northwest.

According to *Perry's Chemical Engineer's Handbook*, each cubic foot of natural gas requires approximately 10 cubic feet of air for combustion, yielding approximately 11 cubic feet of combustion exhaust gases, consisting mostly of nitrogen, water vapor, and carbon dioxide. The sulfur in the natural gas will almost all be converted to sulfur dioxide, with each cubic foot of sulfur producing the same volume of sulfur dioxide. Since each cubic foot of natural gas may contain up to  $3.21 \times 10^{-4}$  cubic foot of sulfur (from section 6.7.4.1 above), each cubic foot of stack exhaust will contain approximately:

$$3.21 \times 10^{-4} \frac{\text{ft}^3 S}{\text{ft}^3 \text{ nat. gas}} \times \frac{1 \text{ ft}^3 \text{ SO}_2}{1 \text{ ft}^3 S} \times \frac{1 \text{ ft}^3 \text{ nat. gas}}{11 \text{ ft}^3 \text{ stack exhaust}} = 2.92 \times 10^{-5} \frac{\text{ft}^3 \text{ SO}_2}{\text{ft}^3 \text{ stack exhaust}}$$

This is equivalent to 29.2 ppmdv SO<sub>2</sub>. Note that this estimated value is about three percent of the 1,000 ppm SO<sub>2</sub> standard. Therefore, it is reasonable to assume that combustion units that are fired on natural gas cannot exceed the 1,000 ppm SO<sub>2</sub> limit.

## **6.8 Section 5: Specifically Applicable Requirements**

This section lists requirements that apply specifically to the emission units at PWC. Section 5 is divided into six tables that list applicable requirements for the five different emission unit groups at the facility: plantwide, Line 1 and Line 2 presses, Baghouses 1, 2, & 3, Baghouse 4, the Billet Beam Baghouse, and heaters and burners. The format and organization of the tables in Section 5 are the same as those in Section 4.

### **6.8.1 Table 5-1 – Lines 1 & 2 Press, Baghouses 1, 2, & 3**

This table lists two AOP terms that apply to equipment permitted through OAC 933. Since these two AOP terms establish requirements concerning operations and maintenance (O&M) and odors, the MR&R requirements for O&M and odors in AOP Section 4 serve to ensure compliance for these terms as well.

### **6.8.2 Table 5-2 – Line 1 Press & Line 2 Press**

This table lists the requirements from OAC 933 that apply specifically to the Line 1 and Line 2 laminated veneer lumber presses. These AOP terms establish opacity limits for the press exhaust stacks and requirements for daily opacity observations and for handling and monitoring materials that contain Hazardous Air Pollutants (HAP).

### **6.8.3 Table 5-3 – Baghouses 1, 2, and 3**

Table 5-3 lists conditions from OAC 933 that apply specifically to the three original baghouses. PWC must periodically monitor the baghouses and fines collection hopper for visible emissions and the differential pressure gauges on the baghouse to ensure proper operation.

### **6.8.4 Table 5-4 – Baghouse 4**

Conditions established in OAC 1151 for a new sawing area and associated baghouse are listed in Table 5-4. Requirements for Baghouse 4 are similar to those for Baghouses 1, 2, & 3, with the addition of an initial particulate matter source test requirement and a requirement to test Baghouse 4 for particulate emissions if the configuration of the system changes.

### **6.8.5 Table 5-5 – Billet Beam Baghouse**

Conditions established in OAC 1285 for a new LVL Billet Beam production line and associated baghouse in a new building adjacent to the existing PWC site are listed in Table 5-5. Requirements for the Billet Beam Baghouse are similar to those for Baghouse 4.

### **6.8.6 Table 5-6 – Heaters and Burners**

This table lists AOP terms that apply to the heaters and burners. Heaters and burners at PWC are limited by OAC 933 to burn only natural gas. The two 7.5 MMBtu/hr thermal oil heaters that provide heat to the two LVL presses and the two 2.8 MMBtu/hr I-line hot house heaters are subject to 40 CFR 63 Subpart DDDDD (the “Boiler MACT”); those requirements are also listed in this table.

## 7 INSIGNIFICANT EMISSIONS UNITS

Some categorically exempt insignificant emission units (IEU) as defined in WAC 173-401-532 are present at PWC and are listed in Table 7-1. Emission units at PWC that have been determined to be insignificant on the basis of size or production rate as defined in WAC 173-401-530 and WAC 173-401-533 are also listed as IEUs in Table 7-1.

**Table 7-1 Insignificant Activities and Emissions Units**

IEU Name	Basis for IEU Designation
Vehicle exhaust from repair shop	WAC 173-401-532 (7) Categorically exempt insignificant emission units: Vehicle exhaust from auto maintenance and repair shops.
Vents from microwave room and hydraulic pump room	WAC 173-401-532 (9) Categorically exempt insignificant emission units: Vents from rooms, buildings and enclosures that contain permitted emissions units or activities from which local ventilation, controls and separate exhaust are provided.
Vehicles in parking lot	WAC 173-401-532 (54) Categorically exempt insignificant emission units: Fuel and exhaust emissions from vehicles in parking lots.
Bathroom vents	WAC 173-401-532 (48) Categorically exempt insignificant emission units: Natural and forced air vents and stacks for bathroom/toilet facilities.
Welding	WAC 173-401-533 (2)(i) Units and activities defined as insignificant on the basis of size or production rate: Welding using not more than one ton per day of welding rod.
Sealant application	WAC 173-401-532 (32) Categorically exempt insignificant emission units: Wax application.
Make-up air units 1, 2, 3, & 4	WAC 173-401-533 (2)(r) Units and activities defined as insignificant on the basis of size or production rate: Space heaters and hot water heaters using natural gas, propane or kerosene and generating less than five million Btu/hr.

## **8 INAPPLICABLE REQUIREMENTS**

WAC 173-401-640 Permit Shield requires the permitting authority to issue a determination regarding the applicability of requirements with which the source must comply upon the source's request. The source must specify in the AOP application the requirements for which a determination is requested. Inapplicable requirements must be listed in the AOP in order for the permit shield to apply. PWC specifically stated in their AOP application that they were not requesting a permit shield against any specific requirements at the time of application, nor has PWC made any requests for an applicability determination since the original AOP application.

## 9 DEFINITIONS AND ACRONYMS

Definitions are assumed to be those found in the underlying regulation. A short list of definitions has been included to cover those not previously defined.

An "applicable requirement" is a provision, standard, condition or requirement in any of the listed regulations or statutes as it applies to an emission unit or facility at a stationary source.

"Ecology" means the Washington State Department of Ecology.

An "emission unit" is any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant.

"PWC" means Pacific Woodtech Corporation.

A "permit" means for the purposes of the air operating permit program an air operating permit issued pursuant to Title 5 of the 1990 Federal Clean Air Act Amendments.

"State" means for the purposes of the air operating permit program NWCAA or the Washington State Department of Ecology.

The following is a list of Acronyms used in the Air Operating Permit and/or Statement of Basis:

AOP	Air Operating Permit
ASIL	Acceptable Source Impact Level
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CFR	Code of Federal Regulations
EF	Exhaust fan
EPA	The United States Environmental Protection Agency
FCAA	Federal Clean Air Act
FR	Federal Register
IEU	Insignificant emission unit
MR&R	Monitoring, Recordkeeping and Reporting
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOC	Notice of Construction
NO <sub>x</sub>	Oxides of Nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
NWCAA	Northwest Clean Air Agency
O <sub>2</sub>	Oxygen
OAC	Order of Approval to Construct
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter less than 10 microns in diameter
ppmdv	(same as ppmvd) parts of pollutant per million parts of dry stack gas on a volumetric basis

PSD	Prevention of Significant Deterioration (federally required program for pre-construction review of sources)
QA/QC	quality assurance/quality control
RCW	Revised Code of Washington
scf	standard cubic foot (cubic foot of gas at standard conditions: 20 °C [68 °F] and 760 mmHg)
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
VOC	Volatile Organic Compounds
WAC	Washington Administrative Code

## **10 PUBLIC DOCKET**

Copies of PWC's air operating permit, permit application, and any technical support documents are available by request at <https://nwcleanairwa.gov/> and at the following location:

Northwest Clean Air Agency  
1600 South Second Street  
Mount Vernon, WA 98273-5202

A copy of PWC's air operating permit and the supporting statement of basis are also posted on the NWCAA website, at <https://nwcleanairwa.gov/permits-and-services/major-sources-of-air-pollution/>.



## **11 CHANGES INCORPORATED IN PREVIOUS AOP REVISIONS**

### **11.1 Changes incorporated in AOP 018R1**

An application for an AOP was submitted by PWC on September 18, 2007; the original AOP was issued on March 17, 2008.

The application for the first AOP renewal was received by Northwest Clean Air Agency (NWCAA) on September 18, 2012. The application was found to be complete on January 1, 2013.

#### **11.1.1 Overall**

The entire air operating permit was reformatted to current Agency standards. Both the AOP and this Statement of Basis were given the new cover page.

#### **11.1.2 General Information and Attest**

The names of the facility responsible official, corporate inspection contact, and the Agency engineer responsible for the preparation of this AOP renewal was updated.

#### **11.1.3 AOP Section 1 Emission Unit Identification**

Table 1-1 was modified based on PWC guidance to better reflect the grouping and organization of emission points at the facility.

#### **11.1.4 AOP Section 2 Standard Terms and Conditions**

Section 2 was updated with current NWCAA standard language, which includes new and modified applicable regulations such as state greenhouse gas reporting requirements and updated citation dates.

#### **11.1.5 AOP Section 3 Standard Terms and Conditions for NSPS**

Section 3 was updated with current NWCAA standard language consistent with the National Emission Standards for Hazardous Air Pollutants (NESHAP) that apply to the PWC facility. New and modified applicable regulations and updated citation dates are included.

#### **11.1.6 AOP Section 4 and 5 Generally and Specifically Applicable Requirements**

Section 4 was reorganized to be consistent with other NWCAA AOPs and was updated to reflect current applicable regulations and effective dates. NWCAA 460 was deleted from Section 4 of the AOP because the regulation does not apply; the aggregate heat input at the PWC facility is less than the applicability threshold of 500 MMBtu/hr.

Section 4 primarily lists NWCAA and Washington Administrative Code (WAC) regulations, which often lack specific methods for compliance determination and require that additional monitoring, recordkeeping and recording (MR&R) provisions be added to the AOP for the purpose of compliance determination. This aspect of Air Operating Permits, known as gap-filling, is discussed further in sec. 0 of this document. Most gap-filled requirements in the AOP Section 4 were modified substantially for this renewal.

In this renewal AOP, the main Section 5 table was divided into five separate tables that list requirements for each set of similar emission points: Plantwide, Line 1 and Line 2 presses, Baghouses 1, 2, & 3, Baghouse 4, and Heaters and Burners. Requirements listed in OAC 1151 for Baghouse 4 were added in this renewal.

Pacific Woodtech is subject to the plywood MACT, 40 CFR 63 Subpart DDDD. The only requirement the facility must meet under this regulation is to submit an initial notification. Pacific Woodtech submitted the required initial notification on December 20, 2007 to EPA Region

10. A copy was provided to the NWCAA on May 27, 2008. Since the initial notification requirement was met, the one-time notification requirement of 40 CFR 63 Subpart DDDD was deleted from Section 5.

Four natural gas-fired process heaters at the PWC facility are subject to the Boiler MACT, 40 CFR 63 Subpart DDDDD: the two 7.5 MMBtu/hr thermal oil heaters that provide heat for the LVL presses and the two 2.8 MMBtu/hr I-line hot house heaters. Boiler MACT requirements applicable to these heaters were incorporated into the renewal AOP. See the discussion on 40 CFR 63 Subpart DDDDD in Section 3.2 of this Statement of Basis for further detail.

A more detailed review of the applicability of 40 CFR 64 Compliance Assurance Monitoring (CAM) to baghouse particulate matter emissions was included in this Statement of Basis. See sec. 3.3 for more detail.

MR&R requirements listed in Section 5 were updated, and gap-filled MR&R requirements were more clearly identified.