

Statement of Basis for the Air Operating Permit — DRAFT

Pacific Woodtech Corporation

Burlington, Washington

10/10/2024



Serving Island, Skagit & Whatcom Counties

PERMIT INFORMATION

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NAICS: 321213

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1 INTRODUCTION

The Pacific Woodtech Corporation (identified subsequently as the permittee, the facility or PWC) is required to obtain an air operating permit (AOP or permit) because the facility has the potential to emit greater than:

- 10 tons per year of methanol, a hazardous air pollutant.

As noted in the potential-to-emit Table 2-4, emissions of all other air pollutants are below the levels at which an AOP would be required.

The purpose of this Statement of Basis is to set forth the legal and factual basis for the conditions of the AOP issued to PWC under the authority of the Washington Clean Air Act, Chapter 70A.15 Revised Code of Washington (RCW), Chapter 173-401 of the Washington Administrative Code Act (WAC), and Northwest Clean Air Agency Regulation Section 322. This Statement of Basis is not a legally enforceable document. It includes references to the applicable statutory or regulatory provisions that relate to PWC's air emissions and provides background information to facilitate review of the permit by interested parties.

Note that terms "AOP" and "Title V permit" are used interchangeably throughout this document. The AOP is authorized through Title V of the Federal Clean Air Act, so the use of either term is appropriate.

1.1 AOP Changes Made in the Second Renewal

The NWCAA received the application for the third renewal of the PWC AOP on August 14, 2023. The following changes have been made to the AOP during the third renewal:

- Regulatory citations in the permit were revised to reflect new or modified regulations and updated revision/promulgation dates.
- 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.
- AOP Section 2 (Standard Terms and Conditions) and 3 (Standard Terms and Conditions for NESHAP) have been updated with the latest NWCAA standard versions, containing any new or modified regulations and updated reference dates.
 - Updated NESHAP requirements (performance tests, Recordkeeping, Reports) that have been removed from the general requirements and now are included in each specific source NESHAP.
 - WAC 173-442 GHG Clean Air Rule (CAR) removed. This rule has been replaced by the WA State Climate Commitment Act (CCA). Note that the CCA is not included in the Title V permit as it is not an "applicable requirement" as defined in WAC 173-401-200(4), which specifies which requirements must be included in the Title V permit.
 - Updated changes to Startup, shutdown, malfunction (SSM) requirements that have changed in applicable NESHAPS
- AOP Section 4 primarily lists NWCAA and Washington Administrative Code (WAC) regulations with additional gap-filling monitoring, recordkeeping and recording (MR&R) provisions for the purpose of compliance determination. This section has been updated to reflect modified revision/promulgation dates for applicable citations. No major changes to descriptions and MR&R requirements.

- Added WAC rule citations WAC 173-401-615(1)(b)&(c) around monitoring to match AOP template.
- AOP 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. Updates include:
 - Added verbiage in the Tune-Up Requirements for boiler/heater with capacity greater than 5 MMBtu/hr but less than 10 MMBtu/hr for the option to conduct a tune-up every five years if the heater is equipped with an oxygen trim system.
 - Updated capacity for LVL Press Thermal Oil Heaters to 9.9 MMbtu/hr and I-line Hot House heater to 3.7 MMBtu/hr
 - Updated regulatory citations and promulgation dates
 - Repeated citations referencing the applicable CAM regulations were removed from the table under “Regulatory Citation” in Section 5. Instead, the applicable CAM regulations are referenced at the beginning of Section 5 and apply to each term with an applicable CAM.
 - Added WAC rule citations where gap-filling and/or sufficiency monitoring were used in the directly enforceable Monitoring Reporting and Recordkeeping requirements: WAC 173-401-615(1)(b) & (c) and/or WAC 173-401-630(1)
- The Statement of Basis was revised and updated with information to clarify and/or correct for current operation.

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 1-2 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.

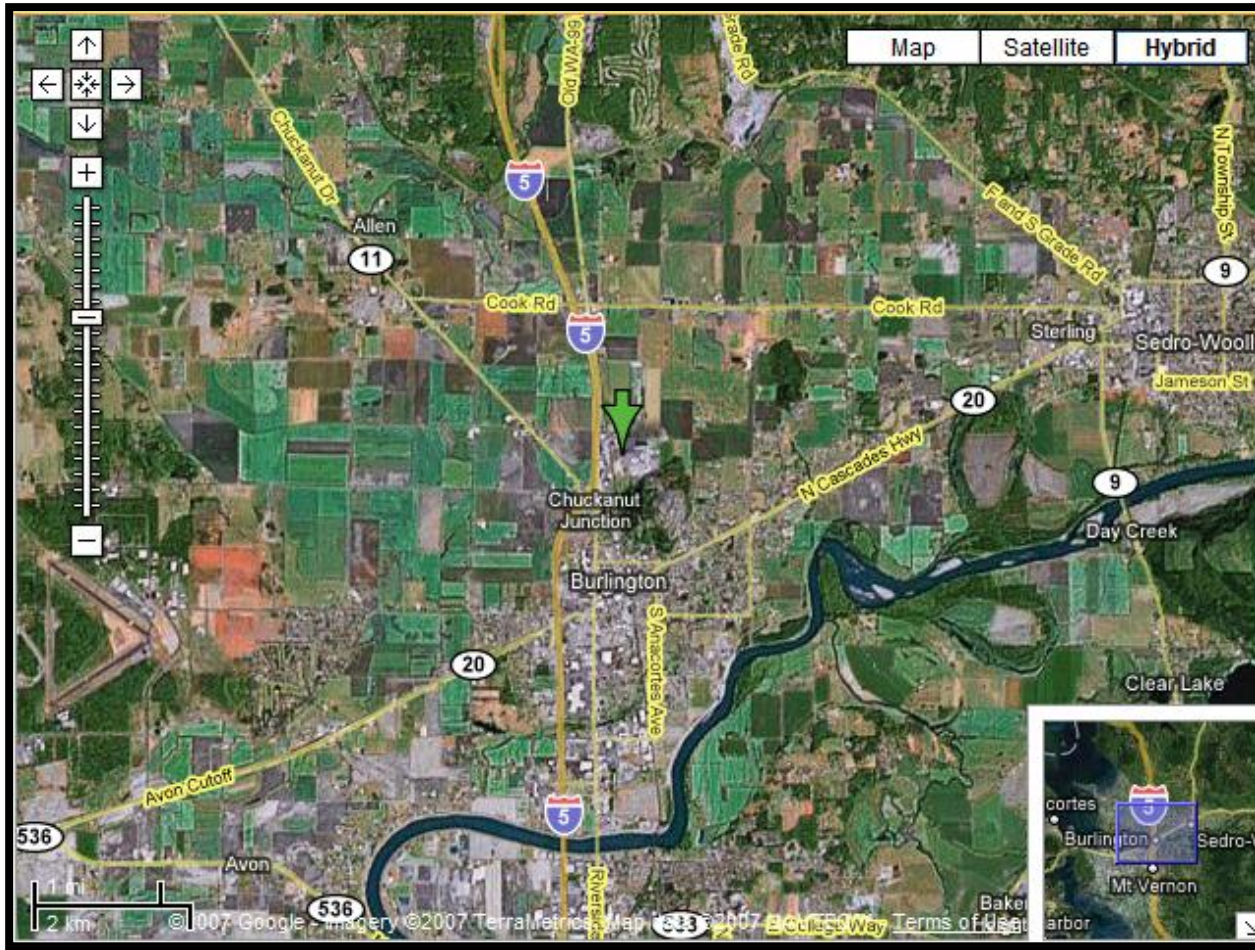


Figure 2-1 Location of Pacific Woodtech Corporation

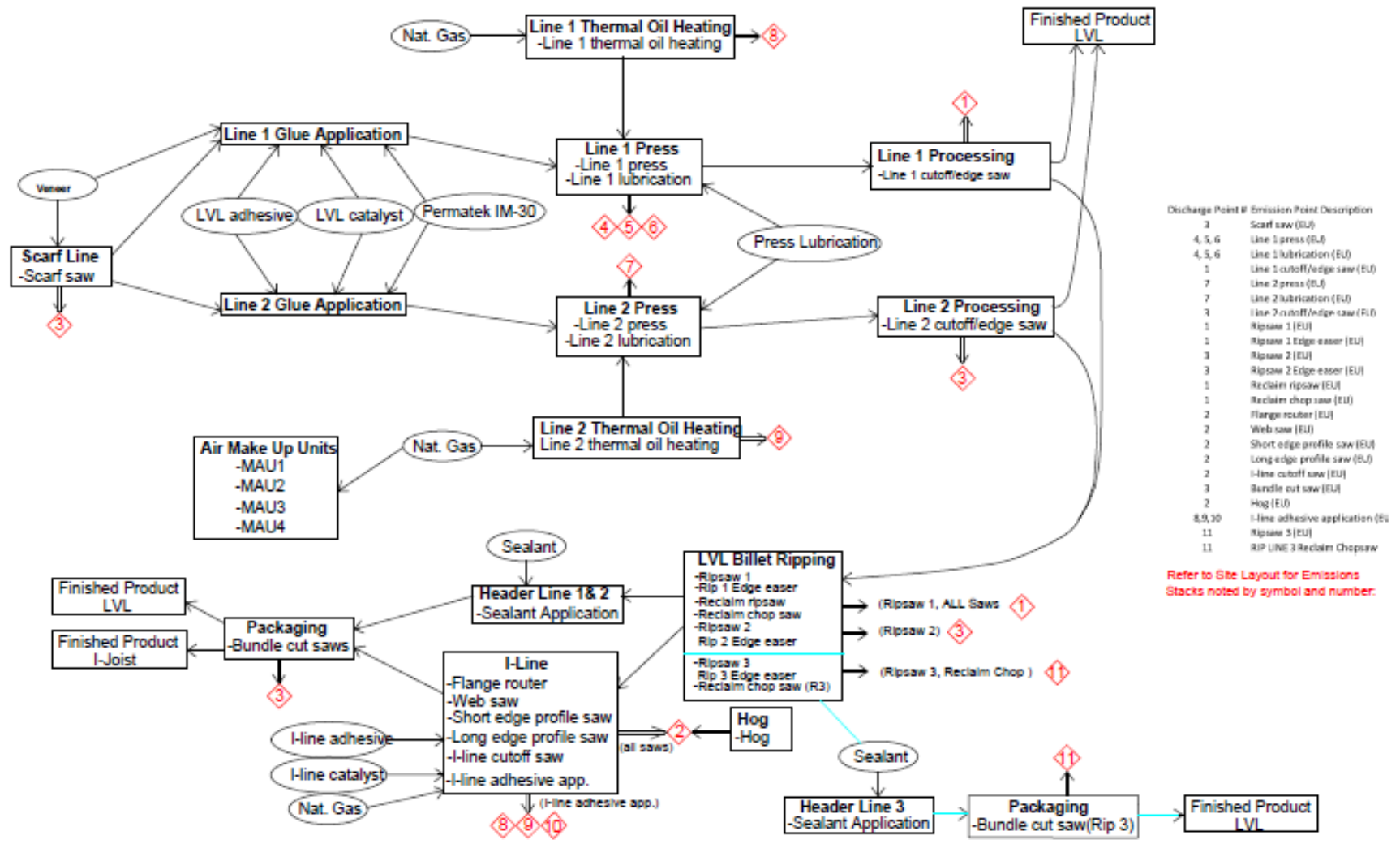


Figure 2-2 Process flow diagram

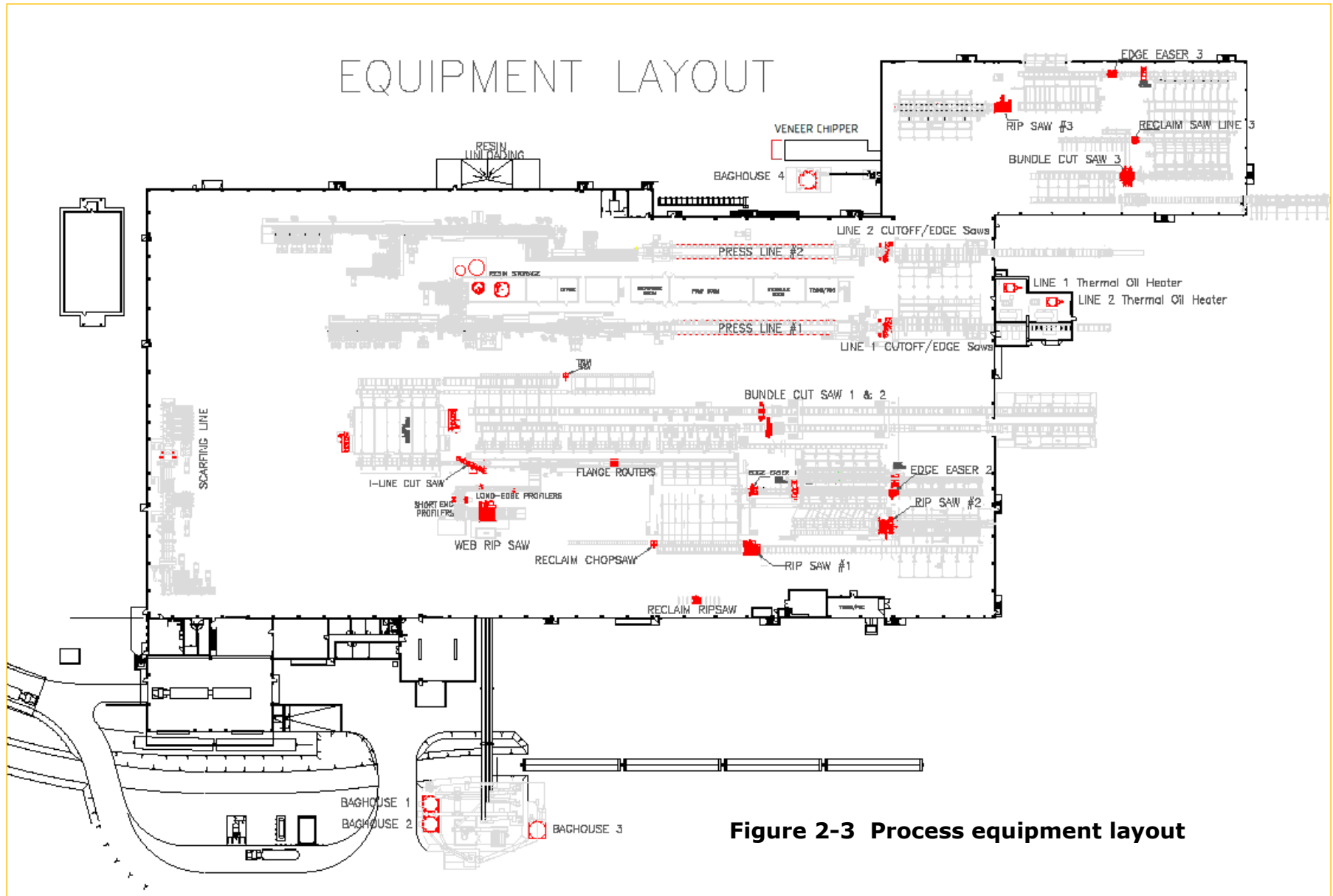


Figure 2-3 Process equipment layout

SITE LAYOUT NOTING EMISSIONS POINTS

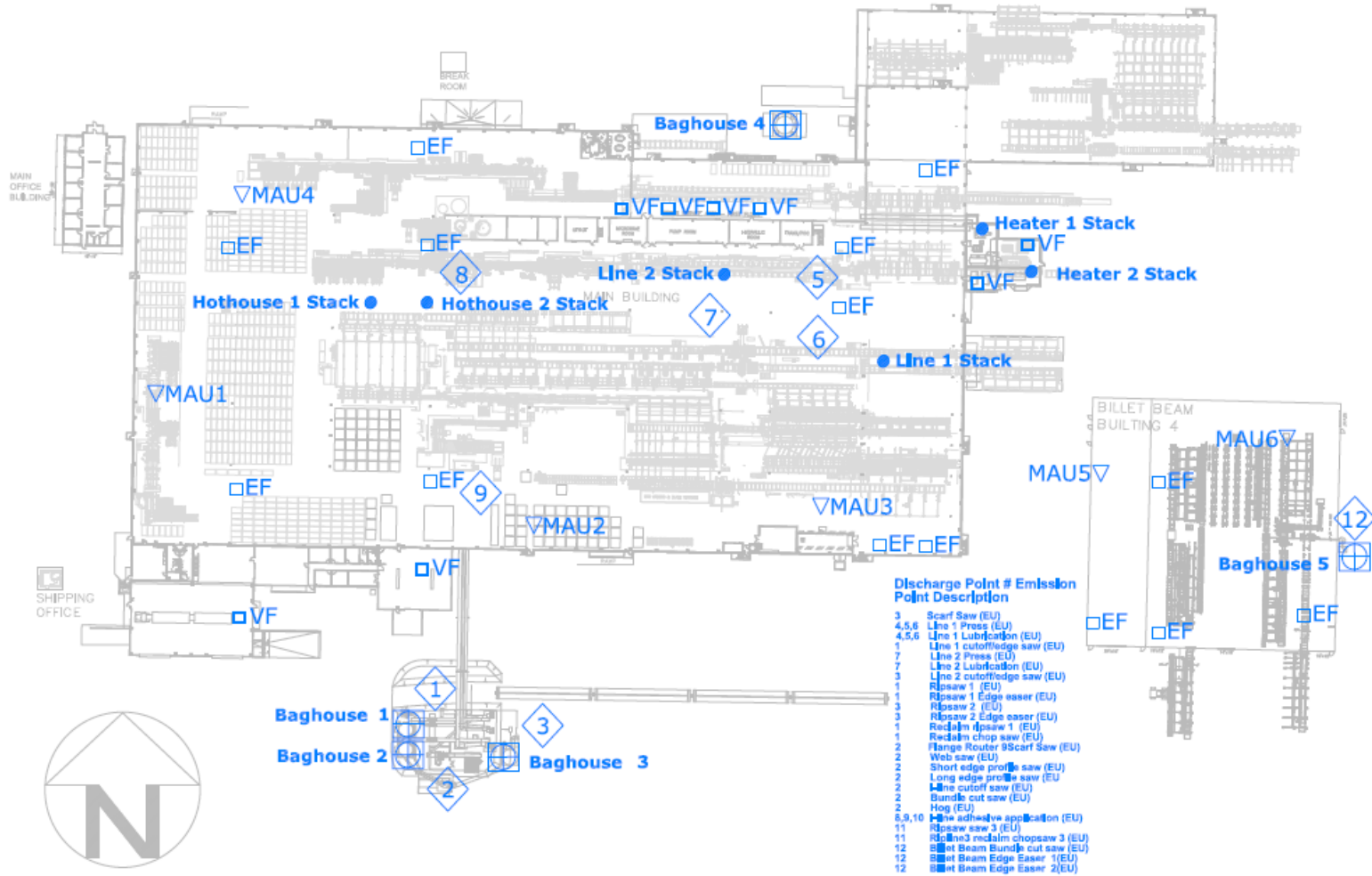


Figure 2-4 Discharge (stack) locations on roof

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 Microwave

On Line 1, after resin application, the layers of veneer are heated by passing through a microwave dryer prior to being fed into the Line 1 continuous press.

Line 1 Press

On Line 1, alternating layers of veneer are fed into 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 Microwave

On Line 2, after resin application, the layers of veneer are heated by passing through a microwave dryer prior to being fed into the Line 2 continuous press.

Line 2 Press

On Line 2, alternating layers of veneer and resin are fed into 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 ripaws to be cut into smaller widths for use as headers or I-joint 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 (baghouse #5).

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.

Hot House Heater

The wood I-joists are cured using circulating convective air flow from the Hot House Heater. The hot house heater has two natural gas fired burners, each with a heat input capacity of 3.7 MMBtu/hr. There is one burner located on the east end of the Hot House and one burner on the west end of the Hot House. Part of the exhaust from the Hot House exits into the building interior through the fabric panels along the north and south sides of the Hot House. There is also a stack that vents to atmosphere above each of the burners.

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 9.9 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 1 stack. This heater has an air/fuel ratio control system that automatically adjusts the necessary air and fuel to maintain a desired process outlet temperature and stack O₂ concentration.

Line 2 Thermal Oil Heating

Thermal oil is used to heat the Line 2 Press and is itself heated by a 9.9 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. This heater has an air/fuel ratio control system that automatically adjusts the necessary air and fuel to maintain a desired process outlet temperature and stack O₂ concentration.

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.

Dust System

Table 2-1 provides a summary of the dust collection system and baghouse routing for Line 1, Line 2, and the I-line. Note that LVL billet beam processing is in a segregated building with its own independent baghouse (baghouse #5).

Table 2-1 Dust Collection System

System 1	System 2	System 3	System 4	System 5
Baghouse #1		Baghouse #2	Baghouse #3	Baghouse #4
Trim Fan #1	Trin Fan #2	Trin Fan #3	Trin Fan #5	Main Exhaust Fan
Relay Fan - Baghouse 1&2	Relay Fan - Baghouse 1&2	Relay Fan - Baghouse 1&2	Relay Fan - Baghouse 3	Rip Saw #3
Press #1 Hog Saw	Rip Saw #1	Flange Molder	Press #2 Hog Saws	Bundle Cut Saw #3
Press #1 Diagonal Saw	Header Reman Trim Saw	Web Rip Saw	Rip Saw #2	
	Reject Sample Trim Saw	Web Short/Long Edge Profiler	Bundle Cut Saws #1 & #2	
		I-Beam Diagonal Saw	Scarf Saws	
		Outside Hog		

2.3 Emissions Inventory

Each year major sources are required to submit an air pollution emissions inventory upon request to NWCAA. Table 2-2 and Table 2-3 show the last five years of available data PWC reported to NWCAA, from 2019 through 2023. Table 2-2 lists the criteria pollutant emissions in tons per year, and Table 2-3 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 2-2 Annual Emissions Inventory, criteria pollutants

Pollutant, ton/yr	2019	2020	2021	2022	2023
Total suspended particles (TSP)	5	2	2	2	2
PM ₁₀	2	1	1	1	1
PM _{2.5}	1	0	0	1	0
SO ₂	0	0	0	0	0
CO	3	2	2	2	1
NO _x	2	2	2	2	1
VOC	40	43	41	51	40

Table 2-3 Annual Emissions Inventory, toxic air pollutants

Pollutant, lb/yr	2019	2020	2021	2022	2023
4,4-Diphenyl-methane Diisocyanate	1.9	1.5	1.8	1.8	0.2
Acetaldehyde	2,149	1,935	2,149	2,454	1,939
Acetone	8,153	7,342	8,153	9,306	7,355
Formaldehyde	3,427	3,554	3,427	4,058	3,194
Methanol	33,001	34,217	33,001	39,076	30,755
Toluene	1,643	1,582	1,789	1,782	771

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. While the safety data sheet for the formaldehyde solution of the phenol-formaldehyde resin does not list methanol as a component, it should be noted that correspondence from Hexion (resin supplier) during the original permitting process indicated there is significant methanol present as a byproduct. Per documentation in OAC 933, Hexion (resin supplier) representatives identified that all methanol contained in the adhesive is expected to be emitted during pressing, billet processing, or storage. Based on this, methanol emissions are estimated based on a function of the amount of resin used. For formaldehyde emissions, Hexion’s manufacturer specifications assume 15% of the formaldehyde in the adhesive is unreacted and emitted. Per this data from Hexion, the following emission rates for Formaldehyde and Methanol based on adhesive use have been used to estimate methanol and formaldehyde emissions:

Formaldehyde 1.35E-04 lb/lb adhesive use

Methanol 1.30E-03 lb/lb adhesive use

The emission estimates from PWC do not include VOC emissions from drying since the veneer feed is already pre-dried as the facility has a low moisture content requirement for their process and monitors the feed moisture for press reliability. Prior to the press, the veneer passes through a microwave and there are currently no identified emission factors available for wood based VOC emissions from pre-dried veneer microwaves^{1,2}. PWC utilizes a hot-house heater to cure the resin adhesive as part of the I-line process. This product has already been dried and pressed and therefore emissions from this process are expected to be primarily from resin rather than emissions of VOC in the wood.

Table 2-4 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; accounting for planned annual maintenance shutdowns.

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 2-4 Annual potential to emit

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

¹ Midwest Research Institute. (2002). *Baseline Emissions Estimates for the Plywood and Composite Wood Products Industry*.

² US EPA. (2003). *Emission Factor Documentation for AP-42 Chapter 10 Plywood and Composite Wood Products*. RTI International.

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 ($\mu\text{g}/\text{m}^3$). The source test took place in 2002. The results of the test indicate emissions were below $0.077 \mu\text{g}/\text{m}^3$ (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 natural gas-fired thermal oil heater, two make-up air heaters, 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 AOP requirements. In the last 5 years since this AOP renewal, PWC has had the following NOV:

- NOV 4375 was issued on August 9, 2019 for failure to test the billet beam baghouse within 90 days of startup. A penalty of \$1,000.00 was assessed and paid on November 12, 2019 resolving the violation.
- NOV 4464 was issued on March 25, 2021 for failure to submit the second half semiannual compliance certification. A penalty of \$4,500.00 was assessed. The penalty was paid on March 1, 2022, resolving the violation.
- NOV 4504 was issued on August 3, 2021 for failure to submit the 2020 annual emission inventory. A penalty of \$3,000.00 was assessed. The penalty was paid on March 1, 2022, resolving the violation.
- NOV 4506 was issued on August 3, 2021 for failure to submit an NOC application and notification for the burner replacement on the Line 1 Press Thermal Oil Heater. This NOV was rescinded on December 17, 2021.
- NOV 4507 was issued August 4, 2021 for failure to conduct required monitoring, recordkeeping, and reporting associated with baghouse visible emissions and pressure drop.

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 1A and 1B of 40 CFR 63 Subpart DDDD (7/30/04) lists process units subject to production-based compliance limits and add-on control options. The tables include requirements for dryers, ovens, and presses. PWC has microwaves, the Hot House heaters used for curing I-joints manufactured in the I-line, and three presses. However, these are excluded from the compliance limits and add-on control requirements in Table 1A and 1B because of the type of dryers and presses.

- LVL Line 1 & 2 Presses and Billet Beam Cold Press

PWC employs engineered wood product (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.

Both new and existing EWP presses are excluded from compliance limits and add-on control requirements established by this rule in Table 1A and 1B.

- I-joists curing Hot House

The Hot House at PWC is used to cure I-joists after bonding with resin using the convective exhaust from two gas-fired heaters. This is a batch process where the I-joists are conveyed into the Hot House and remain until curing is complete. The hot house is used for curing (as opposed to drying for moisture) because the moisture content of the I-joists is low since the OSB and LVL flanges have already been dried and pressed prior to feeding this process line. Curing chambers such as this hot house are excluded from the list of dryers that are included in Table 1A and Table 1B because the definition of included dryers

either refer to drying of materials with higher moisture content prior to pressing (such as veneer, fiberboard, hardboard, etc.), or exclude batch dryers.

- Microwaves

PWC employs microwaves to heat the sheets of veneer after resin application and prior to pressing. These are excluded from the compliance limits and add-on control requirements established by this rule in Table 1A and 1B based on veneer dryer definition exclusions for microwaves (40 CFR 63.2292).

Softwood Veneer Dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium, generally on rollers, belts, cables, or wire mesh. Softwood veneer dryers are used to dry veneer with greater than or equal to 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be softwood veneer dryers. A softwood veneer dryer is a process unit.

While there is no exclusion for microwaves in the definition of press pre-dryers, the requirements in both Table 1A and Table 1B apply to “new affected sources only” for this 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 63.2252³ 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.

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 9.9 MMBtu/hr Line 1 Press and Line 2 press thermal oil heaters and to the two 3.6 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 5 years (for boilers less than 5 MMBtu/hr or boilers less than 10 MMBtu/hr with a continuous oxygen trim system that maintains and air to fuel ratio), recordkeeping, and periodic reports. The compliance deadline for these existing units, as defined in the Boiler MACT, was January 31, 2016. See Section 5.5 for results.

³ 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).

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 only to emission units equipped with add-on control devices. The only add-on 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 below. According to Chapter 1 of EPA’s CAM Technical Guidance Document⁴, 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 and are therefore subject to CAM. See Table 3-1 for details.

⁴ 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 document⁵. 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) 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 attainment⁶ area;
- Nonattainment NSR permits, which are required for new major sources or major sources making a major modification in a nonattainment area; 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

⁵ www.epa.gov/ttn/emc/cam/camfaq1r1004.pdf

⁶ 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)).

compliance with air pollutant limits. Some limits in the permit may be specified at the request 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 may also issue 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 Nonattainment New Source Review

Pacific Woodtech is located in an attainment area 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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). "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 CO₂ equivalents⁷ (CO₂e) 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.

In the 2024 AOP renewal, the GHG Clean Air Rule (CAR), WAC 173-442 was removed. This rule has been replaced by the WA State Climate Commitment Act (CCA). Note that the CCA is

⁷ CO₂e is the sum of metric tons per year of each greenhouse gas multiplied by the global warming potential (GWP) of the gas. For example, CO₂ has a GWP of 1, and methane has a GWP of 21. Then 100 tons of CO₂ and 10 tons of methane have a CO₂e of: 100*1 + 10*21 = 100 + 210 = 310.

not included in the Title V permit as it is not an “applicable requirement” as defined in WAC 173-401-200(4), which specifies which requirements must be included in the Title V permit

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

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 CO₂e reporting threshold. Should GHG emissions from the facility exceed 25,000 metric tons CO₂e, 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 CO₂e. This regulation is implemented in its entirety by Ecology. Greenhouse gas reporting requirements are 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.”

40 CFR Part 70 and WAC 173-401-615 each contain a “gap-filling” provision to address situations where no monitoring is present. 40 CFR Part 70.6(c)(1) and WAC 173-401-630(1) contain authority to address situations where monitoring exists, but is deemed to be

insufficient. NWCAA relied upon these authorities to add legally enforceable monitoring requirements where needed to the AOP.

The majority of cases where monitoring did not exist and needed to be added are older regulations, permits, and NWCAA tank requirements. For example, NWCAA used its gap-filling authority to add monitoring for the 20% visible emission standard, NWCAA 451.1. The phrase “Directly enforceable” is included in each AOP term where NWCAA added gap-filling.

There were also some limited cases where monitoring did exist but was found to be insufficient. NWCAA used its sufficiency monitoring authority (WAC 173-401-630(1)) to add monitoring in those cases. “Directly enforceable” is also included in the AOP term when NWCAA used its authority to supplement insufficient monitoring.

The type and frequency of monitoring added under the authorities in WAC 173-401-615 and WAC 173-401-630(1) were set based on the following factors:

1. Historical Compliance of Similar Emission Units – This information helped inform the decision about monitoring frequency and stringency.
2. Margin of Compliance – The margin of compliance is a measure of whether the facility can easily achieve compliance with a requirement, or whether they operate close to an exceedance. NWCAA considered the facility’s margin of compliance for each underlying requirements in setting monitoring for that requirement.
3. Variability of Process and Emissions – Processes that vary their production rates and/or emissions over time (e.g., batch loading of grain silos, VOC emissions from lumber drying kilns) require different monitoring from steady-state processes. NWCAA considered process and emission variability in setting monitoring.
4. Environmental Impact of a Problem – Exceedances of some permit requirements have greater environmental consequences than others. For example, a problem that causes an exceedance of a refinery sulfur plant limit could have a greater environmental impact than failing to use ultra-low sulfur diesel at an emergency generator. NWCAA considered the environmental impact of a problem in setting monitoring.
5. Clarity and Complexity – The requirements that apply to AOP facilities are numerous, varied, and can be complex. The greater number, variety, and complexity of requirements, the harder it is for a facility to understand and comply. NWCAA’s goal is to write clear, concise permits the facilities can understand. To help achieve this goal, when possible, NWCAA aligned additional monitoring with monitoring that the facility is already performing. This approach required careful thought. NWCAA reviewed the monitoring the facility is already performing to see if it was adequate to stand-in as monitoring for the permit term, and only used it if deemed adequate. For example, an older storage tank may have a NWCAA construction permit that didn’t list monitoring. The same tank may also be subject to 40 CFR 60 Subpart Kb. 60 Subpart Kb monitoring would only be used as the gap-filled (or sufficiency monitoring) if we found it was adequate to show compliance with the construction permit.

SOB Table 4-1 lists where in the AOP NWCAA used its gap-filling monitoring authority; SOB Table 4-2 lists where NWCAA used its sufficiency monitoring authority. Gap-filled terms are also discussed in SOB Section 3 for Agency orders.

Table 4-1: Gap-filled Monitoring (WAC 173-401-615(1)(b) & (c))

AOP Terms	Description	Monitoring
4.3 - 4.11	Nuisance (contaminants, odors, PM, fugitives)	Written air contaminant response plan
4.12 - 4.16	Visible emissions – various equipment	Visible emission observation monitoring and recordkeeping
4.17	Weight/heat rate standard – sulfur compounds	Retain fuel specifications & purchase records (burn only natural gas)
4.18-4.20	Emission of sulfur compounds	Retain fuel specifications & purchase records (burn only natural gas)
4.21	Sulfur in fuel	Retain fuel specifications & purchase records (burn only natural gas)
5.1.1	Operation & maintenance	Monitor, keep records, & report
5.1.2	Odors	Maintain a written air contaminant response plan and visible emission observation monitoring and recordkeeping
5.2.4	Cover liquid HAP Materials	Check containers daily and record checks
5.2.6	Stack sampling & testing facilities	Inspect sampling & testing facilities 60 days prior to testing, record results, and maintain records.
5.3.2	Baghouse fines collection hopper exhaust emissions	Check exhaust daily for visible emissions. Maintain records of observations and corrective actions taken
5.4.2	Baghouse vent vertically through exhaust stack at least 43’10” above grade	Maintain stack as-built drawings
5.4.3	Rout saw and veneer chipper emissions through baghouse	Visible emission observation monitoring and recordkeeping. Maintain operating instruction and maintenance manual records.
5.4.7	Baghouse 4 fugitive dust	Maintain a written air contaminant response plan and visible emission observation monitoring and recordkeeping

AOP Terms	Description	Monitoring
5.6.1	Burn only natural gas in heaters	Maintain fuel consumption records

Table 4-2: Sufficiency Monitoring (WAC 173-401-630(1))

AOP Terms	Description	Monitoring
4.1	Required monitoring reports	Reporting periods identified
4.2	Operation & maintenance	Monitor, keep records, & report
5.2.3	Change in Materials	Notify in writing and include copy of SDS and an evaluation of emissions. Maintain SDS.
5.2.5	Exhaust stack opacity	Monitor & record daily visible emissions
5.4.6	Baghouse 4 visible emissions	Record visible emissions observations

4.4 Future Requirements

Applicable requirements promulgated with future effective compliance dates may be included as applicable requirements within 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.

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.

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 DDDD

40 CFR 63 Subpart DDDD applies to the two 9.9 MMBtu/hr Line 1 Press and Line 2 press thermal oil heaters and to the two 3.7 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 and Tune Up Reports.

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 AOP 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 AOP 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), 10/17/2002". 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. See SOB Section 4.3 for a further discussion of gap filling.

6.5 AOP 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 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 - 4.11):

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.

PWC must maintain records of complaints and corrective actions taken.

6.7.3 Opacity and Particulate Matter Standards (Permit Terms 4.12 - 4.16):

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. If visible emissions are seen, PWC is required to take corrective actions within 24 hours to return to a state of no visible emissions, or shut down the unit until corrective action is taken, or observe VE in accordance with EPA Method 9. If a certified observer determines opacity is within the VE limits, but visible emissions continue, opacity readings must be repeated on a daily basis. PWC must 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.

The facility-wide MRR in Section 4 is in addition to the Section 5 MRR requirements that apply to specific emission units. Both Section 4 and Section 5 include visible emission observations as MRR. The visible emission observations in Section 4 are eligible for reduced monitoring frequency if no visible emissions are seen for 6 months. However, there is no reduction in frequency available for the MRR requirements in Section 5.

6.7.4 Sulfur Dioxide and Fuel-bound Sulfur (Permit Terms 4.17 - 4.22)

6.7.4.1 Sulfur Dioxide, Stack Emissions (Permit Terms 4.18, 4.19, and 4.20):

SO₂ emissions are not to exceed 1,000 parts per million on a dry, volumetric basis⁸ (ppm) according to AOP terms 4.18, 4.19, and 4.20.

The heaters and other fuel-consuming sources at PWC are required to burn only natural gas. 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 3.21×10^{-4} cubic foot of sulfur (from section 6.7.4.2), each cubic foot of stack exhaust will contain approximately:

⁸ “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 SO₂ standard, you would have 1,000 cubic feet of SO₂ for every million cubic feet of dry stack gas. You would also have 1,000 cubic feet of SO₂ 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.

$$3.21 \times 10^{-4} \frac{ft^3 S}{ft^3 nat. gas} \times \frac{1 ft^3 SO_2}{1 ft^3 S} \times \frac{1 ft^3 nat. gas}{11 ft^3 stack exhaust} = 2.92 \times 10^{-5} \frac{ft^3 SO_2}{ft^3 stack exhaust}$$

This is equivalent to 29.2 ppmdv SO₂. Note that this estimated value is about three percent of the 1,000 ppm SO₂ standard. Therefore, it is reasonable to assume that combustion units that are fired on natural gas cannot exceed the 1,000 ppm SO₂ limit.

PWC demonstrates compliance with this requirement by burning only natural gas as required in Term 5.6.1.

6.7.4.2 Fuel Sulfur Content (Permit Term 4.21):

Natural gas is used in the Line 1 and 2 press thermal oil heaters, I-line hot house heaters, and various room air heaters. Natural gas is the only fuel burned in these heaters 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:

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

Note:

A “lb-mole” of a pure gas weighs the molecular weight of that gas in pounds and occupies 359 ft³ at 32° F and 1 atmosphere pressure. A “lb-mole” of sulfur (S) weighs 32 lb and reacts with a lb-mole of oxygen (O₂) which also weighs 32 lb to form a lb-mole of sulfur dioxide, which weighs 64 lb. Therefore, 2 lb of SO₂ 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 5.6.1.

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 and CAM that apply specifically to the three original baghouses. PWC must periodically monitor the baghouses and fines collection hopper for visible emissions.. Daily, PWC must observe each baghouse stack for visible emissions and check each baghouse’s differential pressure gauge to ensure it’s operating within the pre-set acceptable range. If PWC observes visible emissions or the pressure drop is outside of the acceptable range, PWC must take immediate corrective action or shut down the process until the problem is corrected.

6.8.4 Table 5-4 – Baghouse 4

Conditions established in OAC 1151a 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 9.9 MMBtu/hr thermal oil heaters that provide heat to the two LVL presses and the two 3.7 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 did not request 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 _x	Oxides of Nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
NWCAA	Northwest Clean Air Agency
O ₂	Oxygen
OAC	Order of Approval to Construct
PM	Particulate Matter
PM ₁₀	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 ₂	sulfur dioxide
VOC	Volatile Organic Compounds
WAC	Washington Administrative Code

10 PUBLIC DOCKET

During the public comment period, copies of PWC's air operating permit, the supporting statement of basis permit application, and additional technical support documents are available for download on NWCAA's website at <https://nwcleanairwa.gov/>. Copies may also be obtained by contacting NWCAA:

Northwest Clean Air Agency
1600 South Second Street
Mount Vernon, WA 98273-5202
Phone: 360-428-1617

Following the conclusion of the public comment period, a copy of PWC's air operating permit and the supporting statement of basis will be 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 018R2

11.1.1 Overall

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.

11.1.2 General Information and Attest

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.

11.1.3 AOP Section 1 Emission Unit Identification

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.

11.1.4 AOP Section 2 Standard Terms and Conditions

Updated with the latest NWCAA standard versions, containing any new or modified regulations and updated reference dates.

11.1.5 AOP Section 3 Standard Terms and Conditions

Updated with the latest NWCAA standard versions, containing any new or modified regulations and updated reference dates.

11.1.6 AOP Section 4 and 5 Generally Applicable Requirements

Regulatory citations were revised to reflect new or modified regulations and updated revision/promulgation dates.

11.1.7 AOP Section 4 and 5 Specifically Applicable Requirements

Regulatory citations were revised to reflect new or modified regulations and updated revision/promulgation dates.

Conditions of OAC 1151a, issued on 11/12/2015, replace conditions in OAC 1151 in Section 5 of the AOP.

Conditions of OAC 1285, issued on 09/12/2017 have been added in Section 5 of the AOP.

11.2 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.

11.2.1 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.

11.2.2 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.

11.2.3 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.

11.2.4 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.

11.2.5 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.

11.2.6 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 9.9 MMBtu/hr thermal oil heaters that provide heat for the LVL presses and the two 3.7 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.

12 ATTACHMENTS

12.1 CAM Plan

12.1.1 **Baghouse #1 (Dust Collection System 1)**

COMPLIANCE ASSURANCE MONITORING PLAN: DUST COLLECTION SYSTEM #1, CONTROL DEVICE BAGHOUSE #1

I. Background

A. Emissions Units:

I-Line Reclaim Chop Saw, Press #1 Cut-off Saw, Edge Hogs

Identification: P1, I-Line Reclaim

Facility: Pacific Woodtech Corp. Burlington, WA.

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: **AOP 018R1, permit**

Terms that are generally applicable to all emission units at the facility:

4.13 – 0.10 gr/dscf PM limit (no averaging period).

4.14 – 0.1 gr/dscf PM limit (no averaging period).

Terms that are specifically applicable to Baghouses 1, 2, & 3:

5.3.1 – Visible emissions from the baghouses shall not exceed 5% opacity for more than three minutes in any one-hour period, as measured by Washington State Department of Ecology Source Test Method 9A (Washington Department of Ecology Source Test Method 9A – Visual determination of opacity for a three-minute standard (Revised July 12, 1990))

5.3.3 – A differential pressure gauge shall be installed on each baghouse to assist in monitoring performance. The acceptable differential pressure range, as established by the manufacturer or through engineering judgment, shall be written on or near the gauge and included in the facility's operation and maintenance plan. Once per operating day, each baghouse pressure differential gauge shall be checked to ensure that each baghouse is operating within the established range. If the unit is not operating within the acceptable range, the affected equipment shall be shut down immediately and operation shall not resume until the problem has been identified and corrected.

5.3.4 – A written log of the differential pressure gauge readings shall be maintained at the facility. The log of differential pressure gauge readings shall include any bag failures or repairs, the time and date that the inspection or repair was conducted, and the initials of the individual performing the inspection or repair.

C. Control Technology:

Pulse-jet baghouse operated under positive pressure.

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Visible emissions will be used as an indicator.
2. DP gage reading

B. Measurement Approach

Visible emissions from the baghouse exhaust will be monitored daily using EPA Reference Method 22-like procedures.

C. Indicator Range

The indicator level is no visible emissions.

DP gage readings within specified band posted at each gage and on Daily Check Sheet

D. QIP Threshold

The QIP threshold is five excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness: Measurements are being made at the emission point.

Verification of Operational Status: DP gage verifies system operational status.

QA / QC Practices and Criteria: The observer will be a Method 22 trained observer and follow Method 22-like procedures.

III. Justification

A. Background

This facility manufactures LVL boards. The pollutant-specific emission units are the Line No.1 Press Cut off Saw and edge Hogs, which are used to cut Laminated Veneer Lumber (LVL) to the customer's desired length and widths. The I-Line Reclaim Chop saw is used to cut defect sections from I-Joists for reclaim or

waste hog. They are controlled by an Air Cure pulse-jet Baghouse with 376 bags, which filters approximately 7181 CFM of air from these devices.

NOTE: Baghouse #1 has dual inlet from system 2 combined airflow is actually 17675 CFM

B. Rationale for Selection of Performance Indicator

Visible emissions was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. When the baghouse is operating properly, there will not be any visible emissions from the exhaust.

Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

The DP gage as second indicator is to enable positive verification of baghouse function. If gage is below range there is possible bag failure/Fan failure or duct failure upstream of the baghouse. Above range indicates plugged bags and probable failure of control system imminent.

C. Rationale for Selection of Indicator Levels

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired. Although RM 22 applies to fugitive sources, the visible/no visible emissions observation technique of RM-22 can be applied to ducted emissions; i.e., Method 22-like observations.

The differential pressure gages provide visible indication that the baghouse is in operational state. The baghouse area is remote from the equipment and is a high noise area. Ducting is closed and guarded, it is not easy for non technical operations personnel to discern system operational status without using this key indicator.

The selected QIP threshold for baghouse visible emissions is 5 excursions in a 6-month reporting period. This level is 3 percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

12.1.2 Baghouse #1 (Dust Collection System 2)

COMPLIANCE ASSURANCE MONITORING PLAN: DUST COLLECTION SYSTEM #2 CONTROL DEVICE BAGHOUSE #1

I. Background

A. Emissions Units:

RIP Saw #1, Edge Easer Saws for Rip Line #1, QC Mini Rip Saw, Reclaim Chop Saw

Identification: RIP1, REMAN, QC

Facility: Pacific Woodtech Corp. Burlington, WA.

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: **AOP 018R1, permit**

Terms that are generally applicable to all emission units at the facility:

4.13 – 0.10 gr/dscf PM limit (no averaging period).

4.14 – 0.1 gr/dscf PM limit (no averaging period).

Terms that are specifically applicable to Baghouses 1, 2, & 3:

5.3.1 – Visible emissions from the baghouses shall not exceed 5% opacity for more than three minutes in any one-hour period, as measured by Washington State Department of Ecology Source Test Method 9A (Washington Department of Ecology Source Test Method 9A – Visual determination of opacity for a three-minute standard (Revised July 12, 1990))

5.3.3 – A differential pressure gauge shall be installed on each baghouse to assist in monitoring performance. The acceptable differential pressure range, as established by the manufacturer or through engineering judgment, shall be written on or near the gauge and included in the facility's operation and maintenance plan. Once per operating day, each baghouse pressure differential gauge shall be checked to ensure that each baghouse is operating within the established range. If the unit is not operating within the acceptable range, the affected equipment shall be shut down immediately and operation shall not resume until the problem has been identified and corrected.

5.3.4 – A written log of the differential pressure gauge readings shall be maintained at the facility. The log of differential pressure gauge readings shall include any bag failures or repairs, the time and date that the inspection or repair was conducted, and the initials of the individual performing the inspection or repair.

C. Control Technology:

Pulse-jet baghouse operated under positive pressure.

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Visible emissions will be used as an indicator.
2. DP gage reading

B. Measurement Approach

Visible emissions from the baghouse exhaust will be monitored daily using EPA Reference Method 22-like procedures.

C. Indicator Range

The indicator level is no visible emissions.

DP gage readings within specified band posted at each gage and on Daily Check Sheet

D. QIP Threshold

The QIP threshold is five excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness: Measurements are being made at the emission point.

Verification of Operational Status: DP gage verifies system operational status.

QA / QC Practices and Criteria: The observer will be a Method 22 trained observer and follow Method 22-like procedures.

Collection Procedure: daily.

III. Justification

A. Background

This facility manufactures LVL boards. The pollutant-specific emission unit are the Rip saw #1 which rips billets from the press into various width boards or flanges for use on I-Joist it can cut up to 39 pieces from a billet. The edge easers trim the long edges of boards prior to marking coating and stacking operations. The Reman Chop saw cuts defects from boards from both rip saws. It is a cross cut to length operation. The QC “mini rip” is used to cut 10’ billets from the presses taken at random periods into narrow strips for testing in the lab. Suction for this system is from Fan #2 at 10495 CFM to Baghouse #1

NOTE: Baghouse #1 has dual inlet from system 1 combined airflow is actually 17675 CFM

B. Rationale for Selection of Performance Indicator

Visible emissions was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. When the baghouse is operating properly, there will not be any visible emissions from the exhaust.

Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

The DP gage as second indicator is to enable positive verification of baghouse function. If gage is below range there is possible bag failure or duct failure upstream of the baghouse. Above range indicates plugged bags and probable failure of control system imminent.

C. Rationale for Selection of Indicator Levels

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired.

Although RM 22 applies to fugitive sources, the visible/no visible emissions observation technique of RM-22 can be applied to ducted emissions; i.e., Method 22-like observations.

The differential pressure gages provide visible indication that the baghouse is in operational state. The baghouse area is remote from the equipment and is a high noise area. Ducting is closed and guarded, it is not easy for non technical operations personnel to discern system operational status without using this key indicator.

The selected QIP threshold for baghouse visible emissions is 5 excursions in a 6-month reporting period. This level is 3 percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

12.1.3 Baghouse #2 (Dust Collection System 3)

COMPLIANCE ASSURANCE MONITORING PLAN: DUST COLLECTION SYSTEM #3 CONTROL DEVICE BAGHOUSE #2

I. Background

A. Emissions Units:

I-Line Routers, Flange Easers, Web Saw, Long and Short Edge profilers, I-Line Flying Cut off saw, Waste Hog

Identification: I-Line, Hog

Facility: Pacific Woodtech Corp. Burlington, WA.

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: **AOP 018R1, permit**

Terms that are generally applicable to all emission units at the facility:

4.15 – 0.10 gr/dscf PM limit (no averaging period).

4.16 – 0.1 gr/dscf PM limit (no averaging period).

Terms that are specifically applicable to Baghouses 1, 2, & 3:

5.3.1 – Visible emissions from the baghouses shall not exceed 5% opacity for more than three minutes in any one-hour period, as measured by Washington State Department of Ecology Source Test Method 9A (Washington Department of Ecology Source Test Method 9A – Visual determination of opacity for a three-minute standard (Revised July 12, 1990))

5.3.5 – A differential pressure gauge shall be installed on each baghouse to assist in monitoring performance. The acceptable differential pressure range, as established by the manufacturer or through engineering judgment, shall be written on or near the gauge and included in the facility's operation and maintenance plan. Once per operating day, each baghouse pressure differential gauge shall be checked to ensure that each baghouse is operating within the established range. If the unit is not operating within the acceptable range, the affected equipment shall be shut down immediately and operation shall not resume until the problem has been identified and corrected.

5.3.6 – A written log of the differential pressure gauge readings shall be maintained at the facility. The log of differential pressure gauge readings shall include any bag failures or repairs, the time and date that the inspection or repair was conducted, and the initials of the individual performing the inspection or repair.

C. Control Technology:

Pulse-jet baghouse operated under positive pressure.

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Visible emissions will be used as an indicator.
2. DP gage reading

B. Measurement Approach

Visible emissions from the baghouse exhaust will be monitored daily using EPA Reference Method 22-like procedures.

C. Indicator Range

The indicator level is no visible emissions.

DP gage readings within specified band posted at each gage and on Daily Check Sheet

D. QIP Threshold

The QIP threshold is five excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness: Measurements are being made at the emission point.

Verification of Operational Status: DP gage verifies system operational status.

QA / QC Practices and Criteria: The observer will be a Method 22 trained observer and follow Method 22-like procedures.

Collection Procedure: daily.

III. Justification

A. Background

This facility manufactures LVL boards and I-Joists. The pollutant-specific emission units are: I-line flange routers and easers, Web saw and profilers, flying cut off saw and the outside Waste Hog. Suction for this is from Fan #3 at 22917 CFM to Baghouse #2

NOTE: Baghouse #2 has interlocked damper inlet from I-line or Waste Hog. Only one machine center can be operating to this control device at any time.

B. Rationale for Selection of Performance Indicator

Visible emissions was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. When the baghouse is operating properly, there will not be any visible emissions from the exhaust.

Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

The DP gage as second indicator is to enable positive verification of baghouse function. If gage is below range there is possible bag failure or duct failure upstream of the baghouse. Above range indicates plugged bags and probable failure of control system imminent.

C. Rationale for Selection of Indicator Levels

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired.

Although RM 22 applies to fugitive sources, the visible/no visible emissions observation technique of RM-22 can be applied to ducted emissions; i.e., Method 22-like observations.

The differential pressure gages provide visible indication that the baghouse is in operational state. The baghouse area is remote from the equipment and is a high noise area. Ducting is closed and guarded, it is not easy for non technical operations personnel to discern system operational status without using this key indicator.

The selected QIP threshold for baghouse visible emissions is 5 excursions in a 6-month reporting period. This level is 3 percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

12.1.4 Baghouse #3 (Dust Collection System 4)

COMPLIANCE ASSURANCE MONITORING PLAN: DUST COLLECTION SYSTEM #4 CONTROL DEVICE BAGHOUSE #3

I. Background

A. Emissions Units:

Press 2 Cut Off Saw and Edge Hogs, Rip Saw #2 and Edge easers, Bundle cut saw #1 and #2,
Veneer SCARF and Butt saws

Identification: P2, RIP2, PACKAGING, SCARF Facility:

Pacific Woodtech Corp. Burlington, WA.

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: **AOP 018R1, permit**

Terms that are generally applicable to all emission units at the facility:

4.17 – 0.10 gr/dscf PM limit (no averaging period).

4.18 – 0.1 gr/dscf PM limit (no averaging period).

Terms that are specifically applicable to Baghouses 1, 2, & 3:

5.3.1 – Visible emissions from the baghouses shall not exceed 5% opacity for more than three minutes in any one-hour period, as measured by Washington State Department of Ecology Source Test Method 9A (Washington Department of Ecology Source Test Method 9A – Visual determination of opacity for a three-minute standard (Revised July 12, 1990))

5.3.7 – A differential pressure gauge shall be installed on each baghouse to assist in monitoring performance. The acceptable differential pressure range, as established by the manufacturer or through engineering judgment, shall be written on or near the gauge and included in the facility's operation and maintenance plan. Once per operating day, each baghouse pressure differential gauge shall be checked to ensure that each baghouse is operating within the established range. If the unit is not operating within the acceptable range, the affected equipment shall be shut down immediately and operation shall not resume until the problem has been identified and corrected.

5.3.8 – A written log of the differential pressure gauge readings shall be maintained at the facility. The log of differential pressure gauge readings shall include any bag failures or repairs, the time and date that the inspection or repair was conducted, and the initials of the individual performing the inspection or repair.

C. Control Technology:

Pulse-jet baghouse operated under positive pressure.

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Visible emissions will be used as an indicator.
2. DP gage reading

B. Measurement Approach

Visible emissions from the baghouse exhaust will be monitored daily using EPA Reference Method 22-like procedures.

C. Indicator Range

The indicator level is no visible emissions.

DP gage readings within specified band posted at each gage and on Daily Check Sheet

D. QIP Threshold

The QIP threshold is five excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness: Measurements are being made at the emission point.

Verification of Operational Status: DP gage verifies system operational status.

QA / QC Practices and Criteria: The observer will be a Method 22 trained observer and follow Method 22-like procedures.

Collection Procedure: daily.

III. Justification

A. Background

This facility manufactures LVL boards and I-Joists. The pollutant-specific emission units are: Press 2 cut off saw and billet edge hog saws, Rip saw #2 and edge easers, Bundle cut line 1&2 band saws and the Veneer regrade and SCARF line saws. Suction for this is from Fan #4 at 20616 CFM to Baghouse #3

B. Rationale for Selection of Performance Indicator

Visible emissions was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. When the baghouse is operating properly, there will not be any visible emissions from the exhaust.

Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

The DP gage as second indicator is to enable positive verification of baghouse function. If gage is below range there is possible bag failure or duct failure upstream of the baghouse. Above range indicates plugged bags and probable failure of control system imminent.

C. Rationale for Selection of Indicator Levels

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired. Although RM 22 applies to fugitive sources, the visible/no visible emissions observation technique of RM-22 can be applied to ducted emissions; i.e., Method 22-like observations.

The differential pressure gages provide visible indication that the baghouse is in operational state. The baghouse area is remote from the equipment and is a high noise area. Ducting is closed and guarded, it is not easy for non technical operations personnel to discern system operational status without using this key indicator.

The selected QIP threshold for baghouse visible emissions is 5 excursions in a 6-month reporting period. This level is 3 percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

12.1.5 Baghouse #4 (Dust Collection System 5)

COMPLIANCE ASSURANCE MONITORING PLAN:
DUST COLLECTION SYSTEM #5, CONTROL DEVICE
BAGHOUSE #4

I. Background

A. Emissions Units:

Rip Saw #3 and Edge easers, Bundle cut saw #3, Reman saw #2

Identification: RIP3

Facility: Pacific Woodtech Corp. Burlington, WA.

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: **AOP 018R1, permit**

Terms that are specifically applicable to Baghouse 4:

5.4.1 – Total particulate emissions from the baghouse shall not exceed 0.005 grains per dry standard cubic foot (gr/dscf) (no averaging period).

5.4.4 – A differential pressure gauge shall be installed on the baghouse that continuously measures the differential pressure drop across the fabric filtration system. An acceptable differential pressure range shall be established for the baghouse that is based on the manufacturer’s recommendations and/or good engineering judgment. The acceptable differential pressure range shall be posted on or near the gauge, and the baghouse shall be operated within this range. Once per operating day, the differential pressure of the baghouse shall be checked and recorded. If the baghouse is operating outside of the acceptable range, the baghouse and all equipment routed to the baghouse shall be shut down immediately and operation shall not resume until the problem has been identified and corrected. Records shall be kept onsite for no less than five years from the date of generation and shall be readily available for review by the NWCAA.

5.4.6 – Visible emissions from the baghouse shall not exceed 5% opacity for a period or periods aggregating more than 3 minutes in any 60 minute period as determined by the Washington Department of Ecology Method 9A.

C. Control Technology:

Pulse-jet baghouse operated under positive pressure.

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Visible emissions will be used as an indicator.
2. DP gage reading

B. Measurement Approach

Visible emissions from the baghouse exhaust will be monitored daily using EPA Reference Method 22-like procedures.

C. Indicator Range

The indicator level is no visible emissions.

DP gage readings within specified band posted at each gage and on Daily Check Sheet

D. QIP Threshold

The QIP threshold is five excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness: Measurements are being made at the emission point.

Verification of Operational Status: DP gage verifies system operational status.

QA / QC Practices and Criteria: The observer will be a Method 22 trained observer and follow Method 22-like procedures.

Collection Procedure: daily.

III. Justification

A. Background

This facility manufactures LVL boards and I-Joists. The pollutant-specific emission units are: Rip saw #3 and edge easers, Bundle cut line #3 band saw and the Reman Cross cut #2. Suction for this is from Fan #5 at 18000 CFM to Baghouse #4

B. Rationale for Selection of Performance Indicator

Visible emissions was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. When the baghouse is operating properly, there will not be any visible emissions from the exhaust.

Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

The DP gage as second indicator is to enable positive verification of baghouse function. If gage is below range there is possible bag failure or duct failure upstream of the baghouse. Above range indicates plugged bags and probable failure of control system imminent.

C. Rationale for Selection of Indicator Levels

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of no visible emissions was selected because: (1) an increase in visible emissions is indicative of an increase in particulate emissions; and (2) a monitoring technique which does not require a Method 9 certified observer is desired.

Although RM 22 applies to fugitive sources, the visible/no visible emissions observation technique of RM-22 can be applied to ducted emissions; i.e., Method 22-like observations.

The differential pressure gages provide visible indication that the baghouse is in operational state. The baghouse area is remote from the equipment and is a high noise area. Ducting is closed and guarded, it is not easy for non-technical operations personnel to discern system operational status without using this key indicator.

The selected QIP threshold for baghouse visible emissions is 5 excursions in a 6-month reporting period. This level is 3 percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.