

**Hampton Lumber Mills, Washington Inc.**

**Randle Facility**

**FINAL Title V Basis Statement**

Southwest Clean Air Agency  
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PERMIT #: SW97-4-R3

FINAL ISSUED: June 12, 2018

PREPARED FOR: Hampton Lumber Mills, Washington Inc.  
Randle Facility  
10166 US Hwy 12  
Randle, WA 98377

PLANT SITE: Randle Facility  
10166 US Hwy 12  
Randle, WA 98377

PERMIT ENGINEER: Vannessa McClelland, Air Quality Engineer *VM*

REVIEWED BY: Paul T. Mairose, Chief Engineer

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**I. GENERAL INFORMATION AND CERTIFICATION**

1. Company Name: Hampton Lumber Mills, Washington Inc.
2. Facility Name: Hampton Lumber Mills, Washington Inc.  
– Randle Facility
3. Responsible Official: Ken Rankin, Randle Mill Manager
4. Facility Contact Person: Rich French / Ken Rankin
5. Unified Business Identification Number: 219-001-738
6. SIC Code/NAICS Number: 2421/321113

## 7. Basis for Title V Applicability:

Hampton Lumber Mills, Washington Inc. - Randle facility (Hampton Lumber Randle) has potential emissions in excess of 100 tpy of nitrogen oxides, carbon monoxide and volatile organic compounds which are regulated criteria pollutants under the Federal Clean Air Act. None of the actual emissions for criteria pollutants exceeds 100 tpy. The facility also has the potential to emit more than 10 tons per year of acetaldehyde and methanol, and over 25 tons per year of all hazardous air pollutants combined.

The maximum facilitywide potential to emit (PTE) of these air pollutants has been determined below:

<b>Pollutant</b>	<b>PTE (tpy)</b>
NO <sub>x</sub>	108.70
CO	181.32
VOC	161.20
SO <sub>2</sub>	18.06
PM	77.63
PM <sub>10</sub>	55.37
PM <sub>2.5</sub>	30.80
Acetaldehyde	15.12
Methanol	15.70
All HAPs	45.24

## 8. Current Permitting Action:

This is a renewal Title V Permit. Also, this Permit incorporates Air Discharge Permit (ADP) 06-2691R2, which was issued since the last Title V Permit was issued. ADP 06-2691R2 was issued to replace an existing sawdust cyclone.

## 9. Attainment Area:

Hampton Lumber Randle is located in an area which is in attainment for all criteria pollutants.

## 10. Facility Description:

Hampton Lumber Randle is a manufacturer of finished dimensional lumber products primarily for the construction industry.

Hampton Lumber Randle has a sawmill located at 10166 US Highway 12 in Randle, Lewis County, Washington. The products manufactured by Hampton Lumber Randle are primarily used in the construction industry. Dimensional lumber produced at the Randle facility is shipped both kiln dried and green. The green lumber is treated with anti-stain. The equipment includes a Wellons hog fuel boiler, bunkers, dry kilns, pneumatic conveyors, plant vehicle traffic, and debarking and saw equipment. Hampton Lumber Randle's equipment is divided into five emission units designated as EU-1 through EU-5. All emission units are either directly or indirectly involved in lumber production.

Hampton Lumber Mills typically operates two shifts per day at the sawmill and planer mill. Occasionally this schedule is extended to a third shift when demand is exceptionally high. Days of operation range from five to six days per week, depending on seasonal demand and delivery schedules. The process boiler and dry kilns operate twenty-four hours per day, seven days per week.

## 11. SWCAA Air Discharge Permits:

The following table lists each Air Discharge Permit issued for this facility. Permits in bold contain no active requirements. The requirements may have been superseded, may have been of limited duration, or the equipment may have been removed.

Permit	Permit Application	Date Issued	Description
<b>77-204</b>	L-89	October 26, 1977	Approved installation of a baghouse filtration system in the sawmill. This Permit was superseded by SWCAA 02-2414.
<b>78-338</b>	L-94	May 4, 1978	Approved installation of a wet scrubber for the boiler. This Permit was superseded by SWCAA 97-2033.
<b>78-380 and 78-381</b>		August 29, 1978	Order of Consent to discontinue the use of the wood waste incinerator. Closed.
<b>88-1033</b>	L-180	January 16, 1989	Approved installation of a new planer and baghouse for the sawmill. This Permit was superseded by SWCAA 96-1962.
<b>90-1209</b>	L-223	May 21, 1990	Approved installation of a small log processing system and other lumber production equipment for the sawmill. This Permit was superseded by SWCAA 96-1962.
<b>91-1342</b>	L-254	June 24, 1991	Approved a new chipper, bucksaw and associated equipment for the sawmill. This Permit was superseded by SWCAA 06-2691.
<b>93-1495</b>	L-291	July 12, 1993	Approved installation of a new fingerjointer and baghouse for Remanufacturing Plant #1. This Permit was superseded by SWCAA 94-1608.

Permit	Permit Application	Date Issued	Description
94-1608	L-251, L-293, L-304	May 16, 1994	Approved expansion of Remanufacturing Plant #1 and installation of Remanufacturing Plant #2. New control equipment includes a Carter-Day baghouse in Remanufacturing Plant #1 and a new H&R Mechanical Systems baghouse in Remanufacturing Plant #2. This Permit was superseded by SWCAA 96-1962 with the exception of the VOC limit. This Permit was entirely superseded by SWCAA 01-2399.
95-1835	L-290	December 13, 1995	Approved installation of new knock-out boxes for the filing room. This Permit was superseded by SWCAA 96-1962.
96-1953	L-371	December 2, 1996	Approved the installation of one new dry kiln and four new vent changers. This Permit was superseded by SWCAA 02-2414.
96-1962	L-340	January 1, 1992	Approved modification of existing PM emissions limits for the baghouses, sawdust cyclones, and knock-out boxes. This Permit superseded SWCAA 88-1033, 90-1209, 93-1495, 94-1608, and 95-1835. This Permit was superseded by SWCAA 01-2399.
97-2033	L-385	September 5, 1997	Approved modifications of existing emissions limits for the wood fired boiler. This Permit superseded SWCAA 78-338. This Permit was superseded by SWCAA 02-2414.
00-2263	L-456	April 19, 2000	Approved installation of a new Spray Technologies sap stain spray system. This Permit was superseded by SWCAA 06-2691.
01-2399	L-487	December 17, 2001	Removed requirements for equipment that is no longer at the facility. This Permit superseded SWCAA 94-1608 and 96-1962. This Permit was superseded by SWCAA 06-2691.
02-2414	L-440	June 17, 2002	Modification of existing requirements and scrubber flow. This Permit superseded SWCAA 77-204, 96-1953, and 97-2033. This Permit was superseded by SWCAA 06-2691.
06-2691	L-577	October 8, 2006	Replacement of the hog fuel boiler and wet scrubber with a new hog fuel boiler, ESP and SNCR and the installation of four new dry kilns. This Permit superseded SWCAA 91-1342, 00-2263, 01-2399, and 02-2414. This permit was superseded by 06-2691R1.
08-2801		August 12, 2008	Consent Order for spiking CO emissions. Closed.

Permit	Permit Application	Date Issued	Description
06-2691R1	L-607	July 20, 2010	Modification of existing requirements to the boiler operation temperature, gaseous emissions averaging times, bin unloading throughput calculations, and dry kiln emission factors. This permit was superseded by 06-2691R2.
06-2691R2	L-676	December 11, 2014	Replacement of the existing sawdust cyclone with a replica manufactured by Clarke's Pneumatic Conveying System. This Permit superseded 06-2961R1.

## II. EMISSION UNIT IDENTIFICATION

ID #	Generating Equipment/Activity	Emission Control
EU-1	Log Yard	Wet suppression/water truck/street sweeper
EU-2	Sawmill - Planer, Bunkers, Filing Room	Total enclosure, cyclone (Clarke's Pneumatic Conveying System), baghouse (Clarke's Sheet Metal, Inc), partial enclosure/wind screens/wet suppression, knock-out boxes
EU-3	Wellons Hog Fuel Boiler	One multiclone followed by a two-field ESP and SNCR
EU-4	Dry Kilns	Process temperature limit
EU-5	Anti-Stain Treatment	Mist eliminator

### EU-1 Log Yard

The log yard consists of all outdoor areas on the south side of the facility used for the handling and storage of raw logs. Raw logs are received by trucks, and stacked until needed for the sawmill. Access roads to the log yard from US Highway 12 are completely paved, but the yard area itself is packed earth. Haul road and fugitive dust emissions are controlled by water suppression and a street sweeper as necessary to minimize emissions.

The following individual pieces of equipment are associated with EU-1:

#### Equipment

- One water/sweeper truck
- One sweeper truck
- Various log trucks
- Various log loaders and transports

**EU-2 Saw and Planer Mills**

The sawmill consists of an enclosed building and associated equipment used to produce green dimensional lumber. The sawmill is arranged in a linear configuration. Raw logs are debarked and sent through the merchandizer. This equipment is outside but equipped with sawdust guards to reduce fugitive emissions. The remaining equipment for the sawmill is enclosed within a building. Processed logs are cut down to standard dimensional lumber sizes through various stages of trimming, edging, and resawing. Green sawdust from sawing operations is collected by drag chains, and pneumatically conveyed to exterior storage bins by the Clarke's Pneumatic Conveying System sawdust cyclone.

In the planer mill, the dried boards are trimmed prior to the planer and the trim blocks are sent to the chipper. Selected pieces of equipment, such as the planers and the fractionator, are connected to the Clarke's Sheet Metal, Inc. "Pneu-Aire" baghouse and cyclone in series.

Emissions consist of fugitive particulate matter emissions from process operations as well as non-fugitive particulate matter emissions from the Clarke's Sheet Metal cyclone and baghouse. Particulate matter collected in the Clarke's Sheet Metal cyclone and baghouse is reduced in size by the fractionating system and eventually conveyed to storage bins. Bark and other streams of byproduct material are conveyed to a hogger unit and stored in an exterior bin. Other streams of unusable wood are mechanically conveyed to multiple chippers. Wood chips are mechanically conveyed to exterior storage bins prior to shipment off site.

The filing room consists of an enclosed building and associated equipment used to sharpen and maintain saw blades and other cutting equipment used at the facility. Metal shavings from grinding and sharpening operations are controlled with two knock-out boxes which exhaust to the ambient atmosphere. Collected metal shavings are stored in barrels prior to disposal.

The following individual pieces of equipment are associated with EU-2:

Equipment

- One bucksaws
- One debarker (IEU)
- One Stenner saw
- One fuel hog (IEU)
- Three chippers
- Various conveyors
- Various chop saws, trim saws
- Various edgers
- Five chip bins
- One shavings bin
- One sawdust bin
- One hog fuel bin

- One planer
- One fractionator
- One Western Pneumatics 7' cyclone rated at 10,000 cfm (Fractionator Cyclone)
- One Clarke's Pneumatic Conveying System green sawdust cyclone rated at 1,630 acfm (Sawdust Cyclone)
- One Clarke's Sheet Metal "Pneu-Aire" cyclone/baghouse combination (Baghouse #1) rated at 42,200 acfm, model 100-20-G2
- Various grinders
- Various files
- Two knock-out boxes with a combined airflow of 4,960 dscfm

### **EU-3 Hog Fuel Boiler**

The Wellons Inc. hog fuel boiler was manufactured in 2006. The boiler is used to generate steam for the lumber dry kilns on-site and is fired solely on wood byproducts from facility operations with the potential to buy additional hog fuel from other facilities on an as-needed basis. Most of the boiler's fuel is hog fuel, bark and chips from the sawmill. However, chips, planer shavings, sawdust, and scrap wood are all fired in the boiler depending on required fuel characteristics. Exhaust from the boiler's furnace passes through a selective noncatalytic reduction (SNCR) system to reduce oxides of nitrogen (NO<sub>x</sub>) concentrations and then through a multiclone followed by a two-field ESP to remove particulate matter (PM).

The Wellons hog fuel boiler is subject to the NSPS standard 40 CFR 60.40b et seq. (Subpart Db) "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units" for units greater than 100 MMBtu/hr.

The Wellons hog fuel boiler is subject to 40 CFR 63 Subpart DDDDD (Boiler MACT). The initial notification was submitted September 15, 2011.

Opacity, NO<sub>x</sub> and CO emissions are continuously monitored using continuous emission/opacity monitors.

The following individual pieces of equipment are associated with EU-3:

#### Equipment

- Wellons hog fuel boiler, model 2D2C9.0A, serial #2606-0501, rated at 120,000 pounds of saturated steam per hour and 164.9 MMBtu with an airflow of 78,090 acfm (approximately 44,000 dscfm). The unit has water cooled grates, where the water from the grates pre-heats the incoming water to the boiler and a heat exchange to pre-heat incoming boiler combustion air. The exhaust stack is 80 feet 5 13/16 inches tall with a diameter of 7 feet 1/8 inches.
- One SNCR system to reduce post combustion NO<sub>x</sub> concentrations using urea. The unit can achieve a control efficiency of approximately 50%. The system includes a urea tank, approximately 6,100 gallons in capacity, with redundant urea and water pumps rated at 18 gpm.



- One multiclone and one two-field ESP model number 2W-092-2922, serial number B2606-2425 in series to reduce PM emissions.

Wellons guaranteed an emission level of 90 ppm for NO<sub>x</sub>, 225 ppm for CO, 0.01 gr/dscf for PM, and 25 ppm for urea corrected to 7% O<sub>2</sub>.

#### **EU-4 Dry Kilns**

Eight dry kilns are used to dry green lumber from the sawmill. The kilns are powered exclusively with steam from the facility's hog fuel boiler. Rough sawn lumber, almost exclusively Douglas fir and hemlock, but also minor amounts of pine, spruce and other woods, is stacked on carts and rolled into the kilns. After drying, lumber is removed from the kilns and sent to the planer.

The facility is subject to 40 CFR 63 Subpart DDDD (Plywood and Composite Wood Products MACT). The facility is required to comply with the initial notification requirement and that initial notification was submitted July 15, 2009.

The following individual pieces of equipment are associated with EU-4:

##### Equipment

- Four American Wood Dryers, Inc. model 1156 steam heated dry kilns with added heat exchangers.
- Four Wellons, Inc. steam heated dry kilns, 104 foot double track kilns. These kilns hold approximately 50 MMBF/yr each, totaling 200 MMBF/yr.

#### **EU-5 Anti-Stain System**

The facility applies anti-stain to green lumber using a Spray Technologies anti-stain/sap stain spray system. This system includes a Spray Technologies Linear SS 100 spray booth with an airflow of 500 acfm and a Spray Technologies model CT-12012 mist eliminator. Emissions from the spray enclosure are collected and vented to the mist eliminator. The mist eliminator consists of internal baffles that collect the anti-stain droplets and route them back into circulation. The mist eliminator is estimated to eliminate 98% of all spray particles 12 microns or larger. The current anti-stain is Workhorse II / End Shield Gold.

The following individual pieces of equipment are associated with EU-5:

##### Equipment

Spray Technologies sap stain spray system, including a Spray Technologies Linear SS 100 spray booth with an airflow of 500 acfm and a Spray Technologies model CT-12012 mist eliminator.

### III. EXPLANATION OF INSIGNIFICANT EMISSION UNIT DETERMINATIONS

Each emission unit listed as insignificant in the permit application has been reviewed by SWCAA to confirm its status. Emission units determined to be insignificant by SWCAA are described as follows:

#### IEU-1 **Welding** WAC 173-401-532(12)

The permittee performs a variety of maintenance and repair activities on-site that involve metal fabrication and welding. These activities consume far less than one ton of welding rod per day, and are deemed insignificant in accordance with WAC 173-401-532(12).

#### IEU-2 **Debarker and Hog** WAC 173-401-532(112 and 113)

The permittee performs chipping and debarking activities on raw timber. These activities are deemed insignificant in accordance with WAC 173-401-532(112 and 113).

### IV. EXPLANATION OF SELECTED PERMIT PROVISIONS AND GENERAL TERMS AND CONDITIONS

#### Previous Provisions

“Emergency Provision” [WAC 173-401-645] has been removed because new startup, shutdown and malfunction procedures are being established by Washington Department of Ecology.

#### P12. **Excess Emissions**

[SWCAA 400-107]

SWCAA 400-107 establishes criteria and procedures for determining when excess emissions are considered unavoidable. Emissions that meet the requirements to be classified as unavoidable are still considered excess emissions and are reportable but are excused and not subject to penalty. Notification of excess emissions is required as soon as possible and must occur by the next business day following the excess emissions event. Excess emissions due to startup or shutdown conditions are considered unavoidable if the Permittee adequately demonstrates the excess emissions could not have been prevented through careful planning and design. Upset excess emissions are considered unavoidable if the Permittee adequately demonstrates the upset event was not caused by poor or inadequate design, operation, maintenance, or other reasonably preventable condition, and the Permittee takes appropriate corrective action that minimizes emissions during the event, taking into account the total emissions impact of that corrective action.

In accordance with SWCAA 400-070(2), visible emissions from the hog fuel boiler may exceed the operational opacity limit of 10% and the general standard of 20% during periods of soot blowing and/or grate cleaning. These periods are limited to not more than

15 minutes once in any 8 consecutive hours. A grate cleaning schedule is required to be submitted to SWCAA annually.

SWCAA 400-040(1)(a) approves the soot blowing and grate cleaning as necessary to the proper and efficient operation of the boiler facilities. This practice, except for testing and trouble shooting, is to be scheduled for the same approximate times each day and the Agency must be advised of the schedule.

**G8. New Source Review**

[WAC 173-400-117, WAC 173-400-700  
WAC 173-460 (effective 2/14/94)  
SWCAA 400-109, SWCAA 400-110  
SWCAA 400-111, SWCAA 400-141]

Construction or modification of an air pollution source is subject to review to ensure that applicable emission standards are met and appropriate control technology is employed. The program under which a new source or modification is reviewed depends on the type and quantity of potential air emissions associated with the project. New sources or modifications that meet the definition of a 'major stationary source' are subject to review under the Prevention of Significant Deterioration (PSD) program, which is administered by the Department of Ecology. Sources that are too small to be a major source (minor sources) are subject to review under SWCAA's new source review program. New sources or modifications that increase the emission of toxic air pollutants are subject to review under SWCAA's toxic air pollutant program, which implements the 2/14/94 version of WAC 173-460.

**G10. Portable Sources**

[SWCAA 400-110(6)]

SWCAA 400-110(6) establishes procedures for approving the operation of portable sources of air emissions that locate temporarily at project sites. These requirements are general statewide standards, and apply to all portable sources of air contaminants. Common equipment subject to these conditions include emergency generators, engine-powered pumps, rock crushers, concrete batch plants, and hot mix asphalt plants that operate for a short time period at a site to fulfill the needs of a specific contract. Portable sources exempt from registration under SWCAA 400-101 are exempt from SWCAA 400-110 and not subject to the portable sources requirements. Among those categories listed in SWCAA 400-101 that are exempt, are operations with potential to emit less than 1 ton/yr of all criteria pollutants plus volatile organic compounds, combined.

**V. EXPLANATION OF OPERATING TERMS AND CONDITIONS**

**Reqs. 1-8 General Standards for Maximum Emissions**

[SWCAA 400-040]

SWCAA 400-040 establishes maximum emission standards for various air contaminants. These requirements apply to all emission units at the source, both EU and IEU. Pursuant

to WAC 173-401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for IEUs except those specifically identified by the underlying requirements.

Req. 7 prohibits any concealment or masking. At present, the Permittee does not operate any equipment capable of masking emissions, therefore monitoring is limited to the semiannual compliance certification.

### **Req. 9 Emission Standards for Combustion and Incineration Units**

[SWCAA 400-050]

SWCAA 400-050 establishes maximum emission standards for selected emissions from combustion and incineration units. These requirements apply to all combustion and incineration units at the source, both EUs and IEUs. Pursuant to WAC 173-401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for IEUs except those specifically identified by the underlying requirements.

### **Req. 10 Emission Standards for General Process Units**

[SWCAA 400-060]

SWCAA 400-060 establishes maximum PM emission standards for general process units. These requirements apply to all general process units at the source, both EUs and IEUs. Pursuant to WAC 173-401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for IEUs except those specifically identified by the underlying requirements.

### **Req. 11-30 Air Discharge Permit for Installation of a Replacement Sawdust Cyclone**

[SWCAA 06-2691R2]

Air Discharge Permit 06-2691R1, issued for Permit application L-6676 on December 11, 2014, approved the replacement of the Sawdust Cyclone. This is the only valid Air Discharge Permit for the facility.

Req-19 limits emissions from the Wellons hog fuel boiler to the following:

NO <sub>x</sub>	108.70 tpy, 90 ppmvd (24-hr avg)
CO	181.32 tpy, 225 ppmvd (24-hr avg)
PM/PM <sub>10</sub>	16.52 tpy, 0.01 gr/dscf (1-hr avg) (filterable only)
Ammonia	10.83 tpy, 25 ppm (24-hr avg)
Acetaldehyde	0.12 tpy
Acrolein	0.02 tpy
Formaldehyde	1.24 tpy

The limits are established based on manufacturer's guarantees.

Req-20 limits emissions from the lumber drying operations to the following:

VOC	135.00 tpy
PM/PM <sub>10</sub>	6.80 tpy
Acetaldehyde	15.00 tpy

Acrolein	0.25 tpy
Formaldehyde	0.35 tpy
Methanol	15.70 tpy

The limits are established based on actual type and quantity of lumber dried and emission factors.

Req-21 limits emissions from Baghouse #1 to the following:

PM/PM <sub>10</sub> /PM <sub>2.5</sub>	7.92 tpy, 0.005 gr/dscf (1-hr avg)
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Req-22 limits emissions from the Sawdust Cyclone to the following:

PM/PM <sub>10</sub>	1.84 tpy, 0.030 gr/dscf (1-hr avg)
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Req-23 limits emissions from the knock-out boxes to the following:

PM/PM <sub>10</sub>	1.86 tpy, 0.010 gr/dscf (1-hr avg)
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Req-24 limits emissions from the bin unloading operations to the following:

PM	30.43 tpy
PM <sub>10</sub>	18.09 tpy
PM <sub>2.5</sub>	7.00 tpy

Req-25 limits emissions from anti-stain to the following:

VOC	4.74 tpy
Dipropylene glycol methyl ether	1.73 tpy

(NOTE: the product that contains the dipropylene glycol methyl ether is no longer used.)

Req-26 limits opacity from the Wellons hog fuel boiler to ten percent. This limit was set as part of the BACT evaluation of this source. Data from the boiler source tests has shown that while under proper operation the opacity can be maintained at 10% or below (not to be exceeded for more than 3 minutes in any one hour).

Req-27 limits opacity from dry kilns to five percent. This limit was set as part of the BACT evaluation of this source. The dry kilns have indicated that while under proper operation the opacity can be maintained at 5% or below (not to be exceeded for more than 3 minutes in any one hour).

Req-28 limits opacity from sawmill operations to zero percent. This limit was set as part of the BACT evaluation of this source. In SWCAA's experience, enclosed sawmill operations of green lumber can easily meet the 0% opacity limit (not to be exceeded for more than 3 minutes in any one hour).

Req-29 requires operations that cause or contribute to a nuisance odor to use recognized good practice and procedures to reduce these odors to a reasonable minimum.

Req-30 requires each pollution control device shall be operated whenever the processing equipment served by that control device is in operation with the exception of the ESP and SNCR during hog fuel boiler start ups.

Req-31 requires exhaust gasses to discharge vertically without any device to obstruct vertical dispersion.

Req-32 requires the Wellons hog fuel boiler to only be fired on wood products. The Permittee shall employ work practices to assure only clean fuel is combusted in the hog fuel boiler, because experience shows rocks, dirt and other detritus within the fuel can cause clinker production. For purposes of this requirement, “clean fuel” is not limited to the subset of clean fuels identified in the Boiler MACT.

Req-33 requires the Wellons hog fuel boiler to be equipped with a flow meter capable of monitoring the urea usage of the SNCR system.

Req-41 requires that Baghouse #1 be equipped with a differential pressure gauge to indicate the pressure differential across the filtering media. The pressure drop across filtration media can be used to gauge baghouse performance and determine the baghouse bag cleaning/replacement schedule. SWCAA uses this data to assess system performance during inspections.

Req-42 limits the lumber approved for drying in the kilns to Douglas fir, western hemlock, Sitka spruce, Engelmann spruce, lodgepole pine, alpine fir, grand fir, silver fir and noble fir. Lumber made of other wood species may be dried provided that the following information is furnished to SWCAA for review prior to the start of drying operations:

- (a) Identification of the wood species to be dried;
- (b) Emission factors for the specified wood species; and
- (c) Expected quantity of lumber of that species to be dried.

Req-43 limits the maximum set point temperature of lumber drying to 200 °F. Studies have shown a significant increase in VOC and some HAP emissions when lumber drying exceeds 200 °F. SWCAA acknowledges that at times the actual temperature will exceed the set point temperature and that this is natural for the nature of the equipment.

Req-44 requires the dry kiln doors to be kept closed at all times during active drying operations.

Req-45 requires wet suppression on the shavings transfer bunkers to be operated at all times during active transfer operations to reduce fugitive particulate emissions.

Req-46 requires all VOC containing materials to be collected in an enclosed container and not allowed to evaporate.

Req-47 and Req-48 requires a street sweeper to be used weekly on paved roads when significant rainfall has not occurred for 15 days or more and a watering truck to be used daily on unpaved roads daily when significant rainfall has not occurred for 15 days or more to minimize fugitive dust.

Req-49 requires periods of start up and shutdown to be limited to a six-hour period. During start up and shutdown, emissions of NO<sub>x</sub>, CO and PM<sub>10</sub> may exceed the short-term emission limit.

Req-50 requires periods of start up and shutdown following refractory work to be limited to a 36-hour period. Following refractory work, the start up period is extended to include curing of the refractory.

### Req. 11, 14-18, 34-40 Boiler MACT Requirements

[40 CFR §63.7500]

Req-11 requires the boilers to operate in a manner consistent with safety and good air pollution control practices to minimize emissions.

Req-14 through Req-18 limit emissions from the Wellons hog fuel boiler to the following, except during periods of startup and shutdown:

Emission	Emission Limit
Filterable PM	2.0E-02 lb per MMBtu of heat input
	5.5E-02 lb per MMBtu of steam output
Total Selected Metals (TSM)	5.8E-03 lb per MMBtu of heat input
	1.6E-02 lb per MMBtu of steam output
CO	1,100 ppm by volume on a dry basis corrected to 3 percent oxygen (3-hr run)
	2.4 lb per MMBtu of steam output
Hydrogen Chloride (HCl)	2.2E-02 lb per MMBtu of heat input
	2.5E-02 lb per MMBtu of steam output
Mercury (Hg)	5.7E-06 lb per MMBtu of heat input
	6.4E-06 lb per MMBtu of steam output

Reference test methods as specified in Table 5 of Subpart DDDDD.

Req-34 requires a one-time energy assessment.

Req-35 requires the Permittee to demonstrate compliance using performance stack testing, fuel analysis, or continuous monitoring system.

Req-36 establishes work practice standards for startup and shutdown for boilers. It establishes different definitions of startup with which the Permittee must comply.

Req-37 establishes operating limits depending on how the facility wishes to demonstrate compliance.

Req-38 requires the Permittee to install, operate and maintain an oxygen analyzer system or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen.

Req-39 requires the Permittee to install, operate and maintain continuous monitoring systems (CMS) to measure the operating load or steam generation.

Req-40 requires the Permittee to install, operate and maintain each CMS according to the procedures in 40 CFR 63.7525(d)(1) through (5).

## **VI. EXPLANATION OF OBSOLETE AND FUTURE REQUIREMENTS**

### **1. Obsolete Air Discharge Permits**

SWCAA has issued a total of eighteen Air Discharge Permits (Orders of Approval) for Hampton Lumber Randle. As identified in Section V, only one of these Permits is still active. The approval conditions in the remaining Permits have been superseded or have become obsolete as described below.

ADP SWCAA 77-204 was issued October 26, 1977 for ADP application L-89. SWCAA 77-204 approved installation of a baghouse filtration system in the Sawmill (EU-2). A visible emission limit of 0% opacity was established for approved operations. SWCAA 77-204 was superseded by SWCAA 02-2414.

ADP SWCAA 78-338 was issued May 4, 1978 for ADP application L-94. SWCAA 78-338 approved installation of a wet scrubber for control of particulate matter emissions from the Power House (EU-3). SWCAA 78-338 was superseded by SWCAA 97-2033.

ADP SWCAA 78-380 was issued August 29, 1978. SWCAA 78-380 required the Permittee to discontinue use of the wood waste incinerator at the Randle facility by June 30, 1979. The permittee complied with the requirements of this ADP in a timely fashion. SWCAA's inspection on April 27, 1983 confirmed that the wood waste incinerator had been dismantled and removed from the facility.

ADP SWCAA 88-1033 was issued January 16, 1989 for ADP application L-180. SWCAA 88-1033 approved installation of a new planer and baghouse for the Sawmill (EU-2). SWCAA 88-1033 was superseded by SWCAA 96-1962.

ADP SWCAA 90-1209 was issued May 21, 1990 for ADP application L-223. SWCAA 90-1209 approved installation of a small log processing system and other lumber production equipment for the Sawmill (EU-2). SWCAA 90-1209 was superseded by SWCAA 96-1962.

ADP SWCAA 93-1495 was issued July 12, 1993 for ADP application L-291. SWCAA 93-1495 approved installation of a new fingerjointer and baghouse for Remanufacturing Plant #1. SWCAA 93-1495 was superseded by SWCAA 94-1608.

ADP SWCAA 94-1608 was issued May 16, 1994 for ADP applications L-251, L-293, and L-304. SWCAA 94-1608 approved expansion of Remanufacturing Plant #1 and installation of Remanufacturing Plant #2. SWCAA 94-1608 established emission limits



for both particulate matter and VOC emissions. SWCAA 94-1608 was superseded by SWCAA 96-1962 with the exception of the VOC limit. SWCAA 94-1608 was entirely superseded by SWCAA 01-2399.

ADP SWCAA 95-1835 was issued December 13, 1995 for ADP application L-290. SWCAA 95-1835 approved installation of new knock-out boxes for the filing room (EU-2). SWCAA 95-1835 was superseded by SWCAA 96-1962.

ADP SWCAA 96-1953 was issued December 2, 1996 for ADP application L-371. SWCAA 96-1953 approved installation of one new dry kiln and four new vent heat exchangers at the Randle facility (EU-4). SWCAA 96-1953 established emission limits for both particulate matter and VOC emissions from dry kilns. SWCAA 96-1953 was superseded by SWCAA 02-2414.

ADP SWCAA 96-1962 was issued January 2, 1996 for ADP application L-340. SWCAA 96-1962 approved modification of existing particulate matter emission limits for the baghouses, sawdust cyclone, and knock-out boxes (EU-2). Prior to the issuance of SWCAA 96-1962, approval conditions for particulate matter control equipment at the Randle facility were drawn from five different ADPs. Each ADP had a different schedule for emission testing, and in some cases a different exhaust concentration limit. The permittee requested that all of the particulate matter control equipment be given a consistent set of approval conditions and a facilitywide testing schedule. SWCAA 96-1962 standardized emissions testing requirements for all baghouses, cyclones, and knock-out boxes at the Randle facility and established other requirements. SWCAA 96-1962 was superseded by SWCAA 01-2339.

ADP SWCAA 97-2033 was issued September 5, 1997 for ADP application L-385. SWCAA 97-2033 approved modification of existing emission limits for the hog fuel boiler at the Randle facility (EU-3). SWCAA 97-2033 established requirements for the boiler and control equipment. SWCAA 97-2033 was superseded by SWCAA 02-2414.

ADP SWCAA 00-2263 was issued April 19, 2000 for ADP application L-456. SWCAA 00-2263 approved the installation of a new Spray Technologies sap stain spray system (EU-5). SWCAA 00-2263 was superseded by SWCAA 06-2691.

ADP SWCAA 01-2399 was issued December 17, 2001 for ADP application L-487. SWCAA 01-2399 removed the requirements for equipment that was no longer at the facility. SWCAA 01-2399 was superseded by SWCAA 06-2691.

ADP SWCAA 02-2414 was issued June 17, 2002 for ADP application L-440. SWCAA 02-2414 modified existing requirements and the scrubber flow. SWCAA 02-2414 was superseded by SWCAA 06-2691.

ADP SWCAA 06-2691 was issued October 8, 2006 for ADP application L-577. SWCAA 06-2691 approved the replacement of the hog fuel boiler and wet scrubber with a new hog fuel boiler, ESP and SNCR and the installation of four new dry kilns. SWCAA 06-2691 was superseded by SWCAA 06-2691R1.

Consent Order 08-2801 was issued August 12, 2008. SWCAA 97-2033 addressed spiking CO issues within the hog fuel boiler.

ADP SWCAA 06-2691R1 was issued July 20, 2010 for ADP application L-607. SWCAA 06-2691R1 approved modification of the averaging times for gaseous emissions, modified boiler temperature monitoring requirements, updated dry kiln emission factors, and updated bin unloading throughputs. SWCAA 06-2691R1 was superseded by SWCAA 06-2691R2.

## **2. Non-Applicable Requirements**

Under the authority of section 112(r) of the Clean Air Act, the Chemical Accident Prevention Provisions require facilities that produce, handle, process, distribute, or store certain chemicals to develop a Risk Management Program, prepare a Risk Management Plan (RMP), and submit the RMP to EPA. Covered facilities were initially required to comply with the rule in 1999, and the rule has been amended on several occasions since then, most recently in 2004. The facility does not produce, handle, process, distribute, or store the chemicals listed in 40 CFR 68.130.

## **3. Future Requirements**

None identified.

## **VII. EXPLANATION OF MONITORING TERMS AND CONDITIONS**

### **M1. Visible Emissions Monitoring**

The applicable requirements cited in this monitoring section are general requirements drawn from SWCAA 400 and SWCAA 06-2691R2. These requirements do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615.

M1 is designed to assure compliance through periodic facility inspections and prompt corrective action. M1 requires a plantwide survey to identify potential visible emissions. If visible emissions are not apparent during the initial survey, it is highly unlikely that the source is in violation with particulate matter or opacity standards and it is unnecessary to perform a formal Method 9 opacity observation. Demonstration of compliance is required in some cases via visible emissions evaluation.

### **M2. Particulate Matter Emission Monitoring**

The applicable requirements cited in this monitoring section are general requirements drawn from SWCAA 400 and SWCAA 06-2691R2. A particulate matter exhaust standard of 0.1 gr/dscf applies to both combustion and non-combustion emission units. These requirements do not directly establish any specific regime of monitoring or recordkeeping for all particulate matter emission sources. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC

173-401-615. The site inspection and visual observation are surrogate methods for assessing the relative emissions from emission units that have demonstrated emissions well below the general standards.

M2 is designed to assure compliance through periodic facility inspections and prompt corrective action. M2 requires a plantwide survey to identify potential excess particulate matter emissions.

### **M3. Fugitive Emissions Monitoring**

The applicable requirements cited in this monitoring section are requirements drawn from SWCAA 400 and SWCAA 06-2691R2. SWCAA 06-2691R2 requires that reasonable precautions shall be taken to prevent and minimize fugitive emissions. These precautions include utilizing equipment such as street sweepers and watering trucks on facility roads, keeping dry kiln doors closed during operation, and venting dry kilns through elevated stacks. The use of the street sweepers and watering trucks shall be recorded when utilized.

M3 requires the permittee to perform monthly inspections of the facility during daylight hours to identify any excess fugitive emissions, including fugitive dust.

### **M4. Complaint Monitoring**

The applicable requirements cited in this monitoring section are general requirements drawn from SWCAA 400 and SWCAA 06-2691R2. SWCAA 06-2691R2 requires that operations that cause or contribute to a nuisance odor shall use recognized good practice and procedures to reduce these odors to a reasonable minimum. These requirements do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615.

M4 is designed to ensure compliance through prompt complaint response and corrective action.

### **M5. Compliance Certification**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 64, SWCAA 400-040(7), and SWCAA 06-2691R2. SWCAA 400-040(7) contains general requirements which do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring and recordkeeping requirements under the "gap filling" provisions of WAC 173-401-615.

SWCAA 400-040(7) prohibits the concealment or masking of emissions which would otherwise violate a general standard. The permittee does not operate any equipment capable of masking emissions so semi-annual certification is deemed sufficient to assure compliance.

SWCAA 06-2691R2 requires the permittee to install specific equipment, and the boiler to be fired on clean hog fuel only. SWCAA has required semi-annual certification that the monitoring equipment is installed and maintained, and the boiler is operated on only clean hog fuel.

**M6. SO<sub>2</sub> Emission Standard**

The applicable requirements cited in this monitoring section are drawn from SWCAA 400-040(6) and SWCAA 06-2691R2. SWCAA 400-040(6) limits the emission of sulfur dioxide from combustion sources to a maximum of 1000 ppm<sub>v</sub> corrected to a specified oxygen percentage. The boiler at this source is only fired with hog fuel and other wood byproducts from facility operations. These fuels have extremely low fuel sulfur contents relative to other petroleum-based fuels. Based on stoichiometric analysis, it is not physically possible for the combustion sources in question to exceed the limit of 1000 ppm<sub>v</sub> sulfur dioxide while firing on these fuels. Monitoring has therefore been limited to certification of fuel type.

**M7. Hog Fuel Boiler Operations Monitoring**

The applicable requirements cited in this monitoring requirement are drawn from SWCAA 06-2691R2. Proper maintenance of the boiler assures clean and efficient operations.

M7 is designed to ensure maximum performance from the boiler, EU-3.

**M8. Lumber Drying Emissions and Monitoring**

The applicable requirements cited in this monitoring requirement are drawn from SWCAA 06-2691R2. Compliance with the specified emission limits are calculated based on lumber throughput and SWCAA Default August 2009 emission factors. A maximum set point temperature is specified for the lumber dry kilns that has been determined to produce lower emissions and/or minimize smoke from partial combustion of exhaust gases.

**Hemlock Drying**

Throughput = 227,500,000 Board Feet  
 Maximum Kiln Temperature = 200 ° F

Emission Factors					
Pollutant	Equation	lb/MMBf	lb/yr	tpy	Emission Factor Source
PM		50.5	11,488.75	5.74	Nov. 1998 by Horizon Engineering at OSU
PM <sub>10</sub>		50.5	11,488.75	5.74	Nov. 1998 by Horizon Engineering at OSU
PM <sub>2.5</sub>		50.5	11,488.75	5.74	Nov. 1998 by Horizon Engineering at OSU
VOC	See discussion	371	84,402.50	42.20	SWCAA Default August 2009
Methanol	2.83*(T) - 457	109.0	24,797.50	12.40	SWCAA Default August 2009
Formaldehyde	0.064*(T) - 10.8	2.00	455.00	0.23	SWCAA Default August 2009
Acetaldehyde		113	25,707.50	12.85	SWCAA Default August 2009
Propionaldehyde		1.2	273.00	0.14	SWCAA Default August 2009
Acrolein		1.75	398.13	0.20	SWCAA Default August 2009
Total TAPs			51,631.13	25.82	
Total HAPs			51,631.13	25.82	

(T) is in units of degrees Fahrenheit in the equations presented in the table above.

**Douglas Fir Drying**

Throughput = 227,500,000 Board Feet  
 Maximum Kiln Temperature = 200 ° F

Emission Factors					
Pollutant	Equation	lb/MMBf	lb/yr	tpy	Emission Factor Source
PM		21	4,777.50	2.39	Nov. 1998 by Horizon Engineering at OSU
PM <sub>10</sub>		21	4,777.50	2.39	Nov. 1998 by Horizon Engineering at OSU
PM <sub>2.5</sub>		21	4,777.50	2.39	Nov. 1998 by Horizon Engineering at OSU
VOC	See discussion	1008	229,320.00	114.66	SWCAA Default August 2009
Methanol	1.45*(T) - 223	67	15,242.50	7.62	SWCAA Default August 2009
Formaldehyde	0.0495*(T) - 7.6	2.3	523.25	0.26	SWCAA Default August 2009
Acetaldehyde		49	11,147.50	5.57	SWCAA Default August 2009
Propionaldehyde		0.53	120.58	0.06	SWCAA Default August 2009
Acrolein		0.73	166.08	0.08	SWCAA Default August 2009
Total TAPs			27,199.90	13.60	
Total HAPs			27,199.90	13.60	

(T) is in units of degrees Fahrenheit in the equations presented in the table above.

The emission factors established for spruce and Engelmann spruce/lodgepole pine (ESLP) are based on a single source test at 180 °F provided by Hampton Lumber Randle. The factors for white fir and ponderosa pine have been scaled to 200 °F. For those species that do not have information on particulate matter emissions, hemlock emission factors should be used. These emission factors are here for future emission inventory determinations not potential to emit establishment since the throughput on these different wood species will be much smaller than the dominate species of Douglas fir and hemlock.

M8 is designed to collect and retain process data which will then be used to calculate emissions for EU-4.

### M9. Material Handling Operations Monitoring

The applicable requirements cited in this monitoring requirement are drawn from SWCAA 06-2691R2. These requirements specify monitoring parameters for the proper operation of the facility's baghouse and bin unloading operations. Compliance with the specified emission limits are calculated based on actual bone dry tons unloaded and annual hours of operation.

Emission factors for PM and PM<sub>10</sub> are based on information from EPA AP-42 Table 10.4-2 (7/79). The original factors provided in Table 10.4-2 have been modified subsequent to engineering review by SWCAA. The modifications are due to variations in material and emission controls. The resulting emission factors applicable to this facility are provided below. An additional emission reduction of 20% has been applied to the base emission factors for sawdust and shavings transfer due to the proposed use of 2-sided shrouding and additional emission reduction of 5% on the shavings due to water spray control. PM<sub>2.5</sub> emissions are estimated to be 23% of PM emissions (EPA PM Calculator Version 2.0 - SCC 30700899).

<u>Material</u>	<u>Throughput</u>	<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>
Shavings	38,160 Bdt	PM	0.49 lb/ton	9.35 tpy
		PM <sub>10</sub>	0.29 lb/ton	5.53 tpy
		PM <sub>2.5</sub>	23% PM	2.15 tpy
Green Sawdust	46,700 Bdt	PM	0.24 lb/ton	5.60 tpy
		PM <sub>10</sub>	0.14 lb/ton	3.27 tpy
		PM <sub>2.5</sub>	23% PM	1.29 tpy
Chip	111,000 Bdt	PM	0.20 lb/ton	11.10 tpy
		PM <sub>10</sub>	0.12 lb/ton	6.66 tpy
		PM <sub>2.5</sub>	23% PM	2.55 tpy
Green Hog/Bark	58,330 Bdt	PM	0.15 lb/ton	4.37 tpy
		PM <sub>10</sub>	0.09 lb/ton	2.62 tpy
		PM <sub>2.5</sub>	23% PM	1.01 tpy
Total		PM		30.42 tpy
		PM <sub>10</sub>		18.09 tpy
		PM <sub>2.5</sub>		7.00 tpy

M9 is designed to collect and retain process data which will then be used to calculate emissions for EU-2.

### M10. Anti-Stain Monitoring

The applicable requirement cited in this monitoring requirement are drawn from SWCAA 06-2691R2. Compliance with the specified emission limits are calculated based on actual anti-stain usage and MSDS information. Prior approval of use of a new material is required to assure applicable ASILs, as defined in WAC 173-460 [effective 2/94], are not exceeded.

M10 is designed to collect and retain process data which will then be used to calculate emissions for EU-5.

**M11. Particulate Matter Emissions Testing**

The applicable requirements cited in this monitoring section are drawn from SWCAA 06-2691R2. A schedule of emission testing to confirm compliance with the requirements is provided. Testing is to be conducted in accordance with SWCAA 06-2691R2, Appendix D which prescribes sampling points, testing protocols, data reduction, and reporting formats.

M11 is designed to determine equipment operation and to assure compliance with emission limits for EU-2.

**M12. Lumber Drying Emission Testing**

The applicable requirement cited in this monitoring section is drawn from SWCAA 06-2691R2. SWCAA 06-2691R2 establishes a schedule of emission testing to gather data to set the emission factors for future permitting actions. The results are not used for compliance determinations. Testing is to be conducted in accordance with SWCAA 06-2691R2, Appendix C. The method prescribes sampling points, testing protocols, data reduction, and reporting formats. It is important to note that the specified test method does not directly test the kilns. Testing is performed on wood samples in a laboratory environment. Lumber drying emissions are calculated based on lumber throughput and an emission factor established in the Air Discharge Permit.

An alternative test method or testing schedule may be requested in writing from SWCAA's Executive Director in advance of the source test's scheduled deadline depending on facility operations and circumstances.

Emission testing has occasionally been delayed due to the unavailability of an emission testing company.

M12 is designed to provide new data to establish future emission factors for this type of process.

**M13. Boiler Emission Testing**

The applicable requirements cited in this monitoring section are drawn from SWCAA 06-2691R2. SWCAA 06-2691R2 establishes a schedule of emission testing to confirm compliance with the requirements. Testing is to be conducted in accordance with SWCAA 06-2691R2, Appendix A which prescribes sampling points, testing protocols, data reduction, and reporting formats.

An alternative test method or testing schedule may be requested in writing from SWCAA's Executive Director in advance of the source test's scheduled deadline depending on facility operations and circumstances.

M13 is designed to demonstrate compliance through periodic testing for EU-3.

**M14. Boiler Continuous Emission Monitoring**

The applicable requirement cited in this monitoring section is drawn from SWCAA 06-2691R2.

A CEMS for NO<sub>x</sub>, CO, and O<sub>2</sub> monitors exhaust concentrations and mass emission rates of these pollutants from the hog fuel boiler. A COMS for measuring the opacity of emissions is also maintained on the boiler exhaust stack.

M14 is designed to demonstrate compliance with the specific pollutant emissions limits and standards for EU-3.

**M15. Boiler Emission Monitoring**

The applicable requirement cited in this monitoring section is drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes a schedule of emission monitoring to confirm compliance with the requirement. Monitoring is to be conducted in accordance with 40 CFR 63 which prescribes a tune-up schedule, sampling points, testing protocols, data reduction, and reporting formats.

M15 is designed to demonstrate compliance with the Boiler MACT through periodic tune-ups for EU-3.

**M16. Ongoing Compliance Demonstration Requirements**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 requires ongoing performance tests and tune-ups, fuel analysis and requirements to introduce new fuels, and startup and shutdown work practice standards.

M16 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M17. Fuel Analyses for Chlorine, Mercury and Total Suspended Metals (TSM)**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. If the Permittee chooses to demonstrate compliance with fuel analysis, 40 CFR 63 establishes fuel analysis procedures, a site-specific fuel monitoring plan and a timeline to demonstrate compliance.

The facility does not have to comply with this monitoring requirement if they choose not to demonstrate compliance with fuel analysis.

M17 is designed to demonstrate compliance with the Boiler MACT for EU-3.



**M18. Boiler Operating Limits**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes site-specific operating limits and requires subsequent performance tests.

M18 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M19. General Operating Requirements for CMS**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes operating, monitoring and recordkeeping practices and procedures for each CMS. The CMS have specific requirements for repair and maintenance, and when the information gathered can be used. It establishes the meaning of a deviation for the CMS down time.

M19 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M20. CMS Performance Evaluations**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes CMS performance evaluation requirements and timeline.

M20 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M21. CO and Oxygen Monitoring**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 requires the permittee to install, operate and maintain an oxygen analyzer system or maintain a CEMS for CO and oxygen. It explains how data should be recorded and reduced. It establishes the meaning of a deviation for the CMS down time.

M21 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M22. Site-specific Stack Test Plan**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes site-specific stack test plan requirements.

M22 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M23. Site-specific Monitoring Plan**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes site-specific monitoring plan requirements.

M23 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**M24. Monitoring Compliance with Operating Limits**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 63 Subpart DDDDD. 40 CFR 63 establishes operating conditions of the point source and control equipment. It requires recording of startup, shutdown, standby and transient flame stabilization times and durations and fuel types and combustion rates.

M24 is designed to demonstrate compliance with the Boiler MACT for EU-3.

**VIII. EXPLANATION OF RECORDKEEPING TERMS AND CONDITIONS****K1. General Recordkeeping**

This recordkeeping section is taken directly from SWCAA 06-2691R2 and WAC 173-401-615(2). Recordkeeping requirements were separated into Sections (a) through (d) to organize the requirements.

K1(d) "Sampling and Emission Testing" applies to source testing reports. SWCAA expects that the only source testing to be performed will be the performance testing of EU-2, EU-3 and EU-4 during the performance demonstration detailed in M11, M12 and M13.

**K2. Continuous Emission Data Recordkeeping**

This recordkeeping section is taken directly from SWCAA 06-2691R2 and WAC 173-401-615(2).

**K3. Boiler Recordkeeping**

This recordkeeping section is taken directly from 40 CFR 63 Subpart DDDDD. Recordkeeping requirements were separated into Sections (a) through (g) to organize the requirements.

**IX. EXPLANATION OF REPORTING TERMS AND CONDITIONS****R1. Deviations from Permit Conditions**

The permittee is required to report all permit deviations. This reporting section is taken directly from WAC 173-401-615(3) and SWCAA 400-107. The permittee is required to report all permit deviations no later than 30 days following the end of the month during

which the deviation is discovered. Permit deviations due to excess emissions shall be reported to SWCAA as soon as possible. SWCAA may request a full report of any deviation if determined necessary. These deviations are also reported in each semi-annual report.

## **R2. Complaint Reports**

The permittee is required to report all complaints to SWCAA within three business days of receipt to ensure prompt complaint response. This reporting section is based on WAC 173-401-615(3).

## **R3. Semi-Annual Reports**

The permittee is required to provide a report on the status of all monitoring records and provide a certification of all reports on a semi-annual basis. Semi-annual reporting and certification of monitoring records is required by WAC 173-401-615(3). A Responsible Official must certify all reports required by the Title V permit.

The semi-annual report provides information on the status of all required monitoring. The actual results (e.g. measured pressure drops, opacity readings, etc.) do not need to be submitted unless specifically required by the permit.

## **R4. Annual Reports**

Annual Compliance Certification: The permittee is required to report and certify compliance with all permit terms and conditions on an annual basis. Annual compliance certification is required by SWCAA 401-630(5). Any deviations from permit conditions or certifications of intermittent compliance need to be accompanied by an explanation.

Annual Report: The contents of the annual report are specified in the Permit. The requirement includes the submission of a boiler grate cleaning schedule. The report is designed to establish a regular schedule for grate cleaning operations.

## **R5. Emission Inventory Reports**

The permittee is required to report an inventory of emissions from the source, and certify compliance with all permit terms and conditions on an annual basis. The annual emissions inventory must be submitted to SWCAA by March 15<sup>th</sup> for the previous calendar year as provided in SWCAA 400-105. A complete emissions inventory includes quantification of emissions from all emission units at the facility.

## **R6. Source Test and RATA Reports**

This reporting section is taken from SWCAA 400-106(1)(g), SWCAA 06-2691R2 and Appendices A, B, C, D. The permittee is required to report test results within 45 days of test completion to allow timely review by SWCAA.

**R7. MACT Records – Plywood MACT (Subpart DDDD)**

40 CFR 63 Subpart DDDD (Plywood and Composite Wood Products MACT) applies to various wood products facility processes, including dry kilns, located at facilities that emit more than 10 tpy of a single HAP or 25 tpy combined HAPs.

The facility is required to comply with the initial notification requirement for Subpart DDDD and that initial notification was submitted July 15, 2009.

**R8. MACT Records – Boiler MACT (Subpart DDDDD)**

40 CFR 63 Subpart DDDDD (Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters MACT) applies to industrial, commercial, or institutional boilers or process heaters located at facilities that emit more than 10 tpy of a single HAP or 25 tpy combined HAPs.

For specific subparts for which SWCAA has not been delegated implementation and enforcement authority by EPA, all monitoring, reporting, or recordkeeping that is required to be sent to the EPA Administrator must be sent to both SWCAA and EPA.

Included are Notifications and Compliance Reports and how to submit via electronic reporting.

The facility is required to comply with the initial notification requirement for Subpart DDDDD and that initial notification was submitted September 16, 2011.

**X. COMPLIANCE HISTORY****Hampton Lumber Mills, Inc. – Randle Facility**

<u>Date</u>	<u>NOV Number</u>	<u>Violation</u>
7/21/2011	3331	Exceeded opacity and NO <sub>x</sub> emission limits.
11/1/2011	3332	Exceeded opacity and CO emission limits.
7/16/2014	5181	Exceeded opacity and CO emission limits.
9/30/2014	5183	Exceeded opacity and CO emission limits.
12/10/2015	5829	Exceeded ammonia emission limit.
10/31/2016	6030	Exceeded opacity and CO emission limits.

**XI. APPENDICES**

- 1 Appendix A - Emission Testing Requirements - Wellons Boiler

Appendix A contains the method by which the Wellons hog fuel boiler should be emission tested to determine compliance. Established in ADP 06-2691R2.

2 Appendix B – Continuous Emission Monitoring Requirements - Wellons Boiler

Appendix B contains the references for how to maintain CEMs. Established in ADP 06-2691R2.

3 Appendix C - Emission Testing Requirements - Lumber Drying

Appendix C contains the method by which the emissions from the lumber drying operations can be quantified. This is not a compliance test. Established in ADP 06-2691R2.

4 Appendix D - Emission Testing Requirements – Baghouse #1 and Sawdust Cyclone

Appendix D contains the method by which Baghouse #1 and Sawdust Cyclone should be emission tested to determine compliance. Established in ADP 06-2691R2.

5 Appendix E – Boiler MACT Emission Testing Requirements – Wellons Boiler

Appendix E contains the method by which the Wellons hog fuel boiler should be emission tested to determine compliance with the Boiler MACT. Established in 40 CFR 63 Subpart DDDDD.

## XII. PERMIT ACTIONS

### Initial Permitting Actions

1.	Initial Permit Application:	June 7, 1995
	Additional Information Submitted:	November 25, 1995
2.	Application Complete:	December 7, 1995
3.	Application Sent to EPA:	September 19, 1997
4.	Draft Permit Issued:	September 19, 1997
5.	Proposed Permit Issued:	November 24, 1997
6.	Final Permit Issued:	December 15, 1997
7.	Administrative Revised Permit Issued:	October 15, 2001

### First Renewal Permitting Actions

1.	Notice to Submit Application for	May 1, 2001
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## Permit Renewal

2. Initial Permit Renewal Application: December 15, 2001
3. Renewal Application Complete: February 14, 2002
4. Draft Permit Issued: April 15, 2004
5. Proposed Permit Issued: November 23, 2004
6. Final Permit Issued: January 10, 2005

Second Renewal Permitting Actions

1. Permit Renewal Application: March 10, 2010
2. Renewal Application Complete: April 19, 2010
3. Draft Permit Issued: September 7, 2010
4. Proposed Permit Issued: October 21, 2010
5. Final Permit Issued: December 15, 2010

Third Renewal Permitting Actions

1. Permit Renewal Application: June 12, 2015
2. Renewal Application Complete: September 2, 2015
3. Draft Permit Issued: February 28, 2018
4. Proposed Permit Issued: April 4, 2018
5. Final Permit Issued: June 12, 2018

APPENDIX A

EPA Startup Variance for Subpart DDDDD

*Hampton Randle*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101-3140

AUG 18 2017

OFFICE OF  
AIR AND WASTE

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9600 SW Barnes Road, Suite 20  
Portland, Oregon 97225

RECEIVED  
AUG 24 2017  
SOUTHWEST CLEAN AIR AGENCY  
*DM*

Re: Request for variance with the “fuel firing plus 1 hour” PM controls requirement in the National Emission Standards for Hazardous Air Pollutants, 40 C.F.R. Part 63 Subpart DDDDD startup work practice 2 for Hampton Lumber Mills Washington, Inc. - Randle Facility, Washington

Dear Mr. Rankin:

This is in response to your March 4, 2016, letter to Ms. Madonna Narvaez, of the US Environmental Protection Agency, where Hampton Lumber Mills Washington, Inc. (Hampton), requested a variance from the work practice standards in the National Emission Standards for Hazardous Pollutants (NESHAPs) for major sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT), 40 C.F.R. Part 63 Subpart DDDDD for its facility in Randle, Washington. At the current time, the Southwest Clean Air Agency (SWCAA) has not been delegated to act on this request so the EPA is responding to your request. Based on the information provided by Hampton for the Randle facility, the EPA grants this variance request to increase the time between start of fresh fuel feed to the boiler and the requirement that particulate control device be on-line as expeditiously as possible, but in no case longer than five hours. The rationale for this decision follows.

Hampton specifically requests a variance allowing it to “increase the allowable time between the start of fuel feed to the boiler as defined by the rule and the closure of the particulate control device (bag filter) bypass valves by an additional three (3) hours for a total of four (4) hours elapsed time between the start of fresh fuel feed (defined as the first addition of new “not clean” fuel) and the requirement that the particulate control device be on-line.”

Under the Boiler NESHAP’s variance provisions at 40 C.F.R. § 63.7555(d)(13), sources complying with the Boiler NESHAP as required for sources that rely on paragraph (2) of the rule’s definition of “startup” may obtain a variance allowing additional time to engage their PM controls during boiler startups if they are able to meet specified requirements. These requirements include, in summary:

1. demonstrating that engaging their PM controls within one hour would cause a “documented manufacturer identified safety issue,”
2. identifying with specificity the details of the manufacturer’s statement of concern;
3. demonstrating that their PM control devices are adequately designed and sized to meet the applicable PM emissions limit; and
4. demonstrating that they will be using manufacturer recommended procedures to alleviate or prevent the identified safety issue.

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Please note that sources which qualify for variances from the Boiler NESHAP's work practice requirements pertaining to PM control during boiler startups are required to continue to comply with all other work practice requirements specified in the Boiler NESHAP, including, but not limited to, data collection, recordkeeping and reporting requirements.

If you have questions about this approval, please contact Madonna Narvaez of my staff at narvaez.madonna@epa.gov or 206.553.2117.



Sincerely,

*Donald Dossett*  
Donald Dossett, Manager  
Stationary Source Unit

- cc: Mr. David Like  
Environmental Manager, Hampton
- Ms. Evonne Pacinda  
Environmental Engineer, Hampton
- Mr. Tom Croneberger  
Boiler Superintendent, Hampton
- Ms. Vanessa McClelland  
Southwest Clean Air Agency





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## Enclosure – Randle Facility

Hampton Mills explains in its request that the Randle facility consists of a biomass boiler with a nominally rated heat input capacity of 169.4 MMBtu/hr in the biomass fuel cell category. The boiler uses an electrostatic precipitator (ESP) to control particulate matter (PM) emissions, which are limited to 0.02 lb/MMBtu. The PM limit applies at all times, except during startup and shutdown, when work practices apply. The Randle Mill has chosen to comply with definition (2) of startup and the associated work practice as described in the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 C.F.R. Part63 Subpart DDDDD (the Boiler MACT).

*Startup means the period of operation of a boiler or process heater is initiated for any purpose. Startup begins with either the first-ever firing of fuel in a boiler or process heater for the purpose of supplying useful thermal energy (such as steam or heat) for heating, cooling or process purposes, or producing electricity, or the firing of fuel in a boiler or process heater for any purpose after a shutdown event. Startup ends four hours after when the boiler or process heater supplies useful thermal energy (such as heat or steam) for heating, cooling, or process purposes, or generates electricity, whichever is earlier. [40 C.F.R. § 63.7575]*

*If you choose to comply using definition (2) of "startup" in 40 C.F.R. § 63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within four hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in 40 C.F.R. § 63.7505(e). [Subpart DDDDD, Table 3].*

Hampton initially starts up its boilers on clean fuel (i.e., clean dry biomass <20 percent moisture that is ignited with a propane torch). Once a fire is established in the cells, the propane burner is removed from the cells and Hampton begins feeding small amounts of non-clean fuel (defined as wet biomass with moisture content up to 50 percent). Hampton continues to feed fuel in a stepwise process that warms up the boiler and the ESP as prescribed by the manufacturer. Once the exhaust temperature reaches approximately 170 degrees F, the ESP is energized following safe operating procedures. Because it can take up to four hours to reach that temperature and ensure that no serious safety risks are created, Hampton has requested a variance from the work practice standard requiring that the ESP be energized within one hour of feeding non-clean fuel.

The Boiler MACT, at 40 C.F.R. § 63.7555(d)(13) allows facilities that cannot safely engage and operate PM controls within one hour of first firing non-clean fuels may submit to the permitting

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authority<sup>1</sup> a request for a variance with the PM controls requirement. As discussed in the document "Response to 2015 Reconsideration Comments for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants" dated October 2015, the EPA recognized that some facilities may not be able to meet the one-hour work practice standard. Based on information submitted by the Council of Industrial Boiler Owners (CIBO), the time needed to reach stable unit operation after coming online, i.e., supplying useful thermal energy, of the best performing units ranged from 1 to 4 hours. Hampton provided confirmation<sup>2</sup> that their facilities would reach stable unit operation as expeditiously as possible, but in no case longer than five hours.

As required by the rule, the variance request needs to contain the following information:

- Evidence of a documented manufacturer-identified safety issue.
- Information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.
- Documentation that:
  - The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate the identified safety issues prior to the combustion of primary fuel;
  - The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and
  - Identifies with specificity the details of the manufacturer's statement of concern.

**Manufacturer-identified Safety Issue**

Hampton has reviewed the EPA, industry and ESP manufacturers literature that state that proper ESP startup procedures are crucial to both performance and safety. In particular, Wellons, the manufacturer of the ESPs used by Hampton in the Randle facility, in its startup manual includes a caution never to energize the ESP with combustible gases present, as a high oxygen level can result in a dangerous explosion, and the manual specifies that the maximum not exceed 100 degrees F per hour. Before the ESP is energized, the gas temperature must be between 250 and 300 degrees F to eliminate free moisture and lessen the possibility of an explosion.

**ESP Design**

The ESP at Randle is a single chambered, rigid discharge precipitator containing two electrical fields, and using two transformers/rectifiers. Each ESP field is composed of 29 gas passages, each 12 inches wide. The Randle Mill has conducted performance testing to demonstrate compliance with the Boiler MACT limit of 0.02 lb/MMBtu and the permit's PM emission limit of 0.1 lb/MMBtu as required under 40 C.F.R. Part 60 Subpart Dc (NSPS). Under NSPS Subpart

<sup>1</sup> In this case, the updated Boiler MACT has not yet been delegated to the appropriate permitting authorities, for that reason, the EPA is addressing this request.

<sup>2</sup> Email, dated September 7, 2016 from David Like to Madonna Narvaez.

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Dc, PM and opacity limit do not apply during periods of startup and shutdown. Testing on October 7-8, 2015, demonstrated a PM emission rate of 4.9E-04 lb/MMBtu<sub>2</sub>, well below the permit limit. Therefore, Hampton has demonstrated that the ESP is properly designed and sized to meet emission limits.

**Site-Specific Startup Procedures**

The manufacturer of the ESP, Wellons, recommends that the ESP not be engaged until the stack gas temperature is between 250 and 300 degrees F. The facility has developed a procedure that energizes the ESP in a stepwise fashion, taking into account the manufacturer's recommendations. The time from ignition of the unit (dry biomass) until the first field can be energized on a typical startup is 4 hours. This time is needed to safely bring up the equipment to temperature and minimize explosive conditions prior to engaging the ESP. Prior to energizing the ESP, the internals act as a settling chamber for any particulate that passes through the multiclone.

Hampton states that the facility is complying with the manufacturer's specifications for startup to address identified safety and operational concerns. In addition, Hampton has made modification to the procedures to reduce emissions impacts and opacity during startup as the design of the fuel cell does not allow for the continuous feeding of dry biomass during startup and there is no gas supply to the unit. The facility is maximizing clean fuel use during startup to the extent allowed by the design of the unit.

The EPA has concluded that Hampton Randle meets the requirements for approval of this variance as long as it follows the startup and shut down plan submitted to PSCAA as part of its Title V permit. This conclusion is based upon the information which Hampton supplied in support of its request, as discussed above.

As the Boiler NESHAP specifies at 40 C.F.R. §63.7555(d)(13)(iv), sources which qualify for variances from the Boiler NESHAP's work practice requirements pertaining to PM control during boiler startups are required to continue to comply with all other work practice requirements specified in the Boiler NESHAP, including but not limited to data collection, recordkeeping and reporting requirements.