

**Hampton Lumber Mills, Inc.**  
**Morton Facility**  
**FINAL Title V Basis Statement**

Southwest Clean Air Agency  
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PERMIT #: SW97-5-R2

FINAL ISSUED: May 17, 2017

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

PLANT SITE: Morton Facility Hampton Drying Company  
302 Morton Road 247 Priest Road  
Morton, WA 98356 Morton, WA 98356

PERMIT ENGINEER: Vanessa McClelland, Air Quality Engineer

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. –  
Morton Facility  
and  
Hampton Drying Company
3. Responsible Official: Tim Johnson, Cowlitz Division  
Mill Manager
4. Facility Contact Person: Tim Johnson / Nathan Morris
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. - Morton facility (Hampton Lumber Morton) and its support facility, Hampton Drying Company, have potential emissions in excess of 100 tpy of carbon monoxide, nitrogen oxides, volatile organic compounds and particulate matter which are regulated criteria pollutants under the Federal Clean Air Act, and potential emissions in excess of 10 tpy for acetaldehyde and methanol which are regulated hazardous air pollutants and greater than 25 tpy for all HAPs combined.

The maximum potential to emit (PTE) from Hampton Lumber Morton and Hampton Drying Company combined for these air pollutants has been determined below:

Pollutant	PTE (tpy)
NO <sub>x</sub>	138.65
CO	134.52
VOC	214.22
SO <sub>2</sub>	8.74
PM	101.11
PM <sub>10</sub>	79.39
PM <sub>2.5</sub>	54.38
Acetaldehyde	13.73
Methanol	13.52
All HAPs	30.73
CO <sub>2e</sub>	54,704

## 8. Current Permitting Action:

This is a renewal Title V Permit. Also, this Permit incorporates Air Discharge Permit (ADP) 15-3151 for Hampton Lumber Morton, and ADP 10-2948 for Hampton Drying Company, which were issued since the last Title V Permit was issued. ADP 15-3151 was issued to replace the existing venturi wet scrubber. ADP 10-2948 removed nonexistent

equipment from the permit, and increased the dry kiln throughput and adjusted the dry kiln emission factors.

9. Attainment Area:

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

10. Facility Description:

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

This permit applies to two lumber mills: one located at 302 Morton Road in Morton, Washington and the other at 247 Priest Road in Morton, Washington. Dimensional lumber manufactured mainly from Douglas fir, but also hemlock, spruce, pine, and other woods, is produced at Hampton Lumber Morton both kiln dried and green and is then shipped offsite. Hampton Lumber Morton's equipment is divided into four emission units designated as EU-1 through EU-6. EU-1 through EU-4 are either directly involved in lumber production. EU-5 and EY-6 are emergency equipment.

Hampton Drying is a support facility for Hampton Lumber Morton. It is located approximately 3 miles from Hampton Lumber Morton. Dimensional lumber manufactured at Hampton Lumber Morton is shipped to Hampton Drying to utilize the dry kilns. All of the lumber dried at Hampton Drying comes from Hampton Lumber Morton. Therefore, Hampton Drying is a support facility for Hampton Lumber Morton. Hampton Drying is divided into two emission units designated as EU-7 and EU-8. All emission units are either directly involved in lumber production.

Hampton Lumber Morton typically operates two 8 hour workshifts per day at the sawmill and planer mill. Occasionally this schedule is extended to a third workshift when demand is exceptionally high. Days of operation range from 5 to 6 days per week, depending on seasonal demand and delivery schedules. The process boiler and dry kilns operate 24 hours per day, 7 days per week.

Hampton Drying has not operated since May 30, 2006. When in operation the facility would operate 24 hours per day, 7 days per week until all of the wood had been dried.

11. SWCAA Air Discharge Permits and Consent Orders:

The following table lists each Air Discharge Permit and Consent Order issued for these facilities. Permits or Orders 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.

**Hampton Lumber Mills - Morton Facility**

Permit	ADP Application	Date Issued	Description
<b>78-300</b>	L-91	1-13-78	Installation of new ABCO Industries hog fuel boiler and associated pollution control equipment. Superseded by SWCAA 97-2034 and 04-2534.
<b>88-1032</b>	L-179	1-19-89	Installation of a "Posi-Con" baghouse. Superseded by SWCAA 04-2534.
<b>95-1817</b>	L-342	1-8-96	Installation of two new dry kilns. Superseded by SWCAA 04-2534.
<b>96-1951</b>	L-289	11-25-96	Installation of a new Nicholson barker unit and Can-Car saw/chipper unit. Superseded by SWCAA 04-2534.
<b>97-2034</b>	L-384	9-5-97	Modification of existing emission limits for the hog fuel boiler. Superseded SWCAA 78-300. Superseded by SWCAA 04-2534.
<b>01-2339</b>	L-478	3-27-01	Installation of one additional Coe Manufacturing dry kiln. Superseded by SWCAA 04-2534.
<b>01-2341</b>		3-1-01	Consent Order for compliance with boiler emission limits.
<b>04-2534</b>	L-439	6-9-04	Update equipment parameters and establish new emission limits for the hog fuel boiler. Superseded SWCAA 78-300, 88-1032, 95-1817, 96-1951, 97-2034, and 01-2339. Superseded by SWCAA 04-2534R1.
<b>04-2534R1</b>	L-546	11-22-04	Replacement of the Carothers Company model 386 baghouse and the H & R Mechanical Systems Posi-Con model 7210 baghouse with a new Western Pneumatics model 542 baghouse. Superseded SWCAA 04-2534.
<b>08-2800</b>		6-16-08	Consent Order for testing and compliance with boiler CO emission limits. The Order's requirements have been met.
<b>04-2534R2</b>	L-643	8-3-10	Approval to increase bin unloading throughput, increase dry kiln throughput and adjust dry kiln emission factors. Superseded 04-2534R1.
<b>15-3151</b>	L-682	8-27-15	Approval to replace the existing wet scrubber with a new wet scrubber. Approves the installation of an external hog. Superseded 04-2534R2.

**Hampton Drying Company**

Permit	ADP Application	Date Issued	Description
76-180	none	6-2-76	Consent Order to abate emissions from boiler and planer cyclone. Superseded by SWCAA 03-2454.
76-204	L-80	8-26-76	Installation of Clark Pneumatic baghouse on planer cyclone. Superseded by SWCAA 03-2454.
03-2454	L-507	6-26-03	Installation of the diesel boiler and facilitywide roll-up. Addresses the dismantling of the hog fuel boiler. Superseded SWCAA 76-180 and 76-204. Superseded by SWCAA 10-2948.
10-2948	L-642	10-14-10	Removed the planer mill and wood waste bunkers from the Permit. Increased the dry kiln throughput and adjusted the emission factors. Superseded SWCAA 03-2454.

**II. EMISSION UNIT IDENTIFICATION**

ID #	Generating Equipment/Activity	Emission Control
EU-1	Log Yard	Water truck
EU-2	Sawmill - Planer, Bunkers, Hog	Building enclosures, Western Pneumatics baghouse Plastic sheeting and wet suppression
EU-3	Hog Fuel Boiler	One multi-clone/Branch Environmental wet venturi scrubber combination One settling pond
EU-4	Dry Kilns	None
EU-5	Office emergency propane engine	Low sulfur fuel, limited hours
EU-6	Fire pump emergency diesel engine	Low sulfur fuel, limited hours
EU-7	Diesel Boiler (Hampton Drying Company)	Flue gas recirculation
EU-8	Dry Kiln (Hampton Drying Company)	None

**Hampton Lumber Mills - Morton Facility**

**EU-1 Log Yard**

EU-1 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 State Route 7 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. Water is applied with a water truck as necessary to minimize emissions.

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

Equipment

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

**EU-2 Saw and Planer Mills**

EU-2 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 cut to length with bucksaws. Processed logs are then cut down to standard dimensional lumber sizes through various stages of trimming, edging, and resawing. A fractionating machine is used to reduce the size of wood shavings collected by the main system cyclone, a Western Pneumatics 8’ semi-long cone standard cyclone designed for 14,000 cfm, installed in 2004. Green sawdust from sawing operations, including the planer, is either directly connected to or is collected by drag chains, and pneumatically conveyed to exterior storage bins by the Western Pneumatics baghouse rated at 42,750 acfm. Finished lumber is color coded and/or marked in a small paint application area prior to shipment off-site.

Emissions from the sawmill consist of fugitive particulate matter emissions from process operations as well as non-fugitive particulate matter emissions from the baghouse. Particulate matter collected in the baghouse is 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 following individual pieces of equipment are associated with EU-2:

Equipment

- One debarker
- Two bucksaws
- One fuel hog (external)
- Five chippers (four in sawmill, one in planer mill)
- One sorter

Various conveyors  
Various chop saws, trim saws  
Various edgers  
Five lumber stackers (two in sawmill, three in planer mill)  
One planer  
Seven 2-unit bins containing wood byproducts. Bin unloading is controlled with sheeting on all bins and the addition of wet suppression (water sprays) on the sawdust bins.  
One Western Pneumatics 8' semi-long cone standard cyclone designed for 14,000 cfm and one Western Pneumatics Model 542 baghouse rated at 42,750 acfm are used to control sawmill and planer equipment emissions.

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

EU-3 consists of one hybrid suspension grate design hog fuel boiler and associated equipment. (Originally, the unit was thought to be a stoker design, but further investigation into the Boiler MACT definitions clarified the design status.) An ABCO Industries, Inc. hog fuel boiler, rated at 40,400 lbs of steam/hr and 59.6 million British thermal units per hour (MMBtu/hr) with an airflow of 22,400 dcfm, is used to generate steam for the lumber dry kilns. It was installed in 1978. The associated air pollution control equipment was installed in 2015. An air-to-air heat exchanger on the exhaust delivers preheated combustion air to the boiler. The boiler is fired solely on wood byproducts from facility operations such as green hog fuel from the sawmill. However, chips, planer shavings, sawdust, and scrap wood are all fired in the boiler depending on required fuel characteristics.

The unit was originally reported to have a heat input of 38.8 MMBtu/hr, however the original reference for this information is unknown and using the boiler's actual steam production value of 40,000 lbs/hr, the heat input is more appropriately 59.6 MMBtu/hr using a 67% combustion efficiency.

Particulate matter emissions are controlled with a multiclone, to remove larger particulate matter, followed by a Branch Environmental Corp. wet scrubber system with a variable venturi throat. Process water for the wet scrubber is conditioned with flocculant in a settling pond located adjacent to the boiler building. Water from the settling pond is recirculated to the wet scrubber. Make-up water for the settling pond is provided from boiler blowdown and the facility's main water supply.

The facility utilizes a five cubic feet dewatering unit to dewater the pond slurry. The water is sent back into the pond and the ash is pressed into hard cakes. The ash storage pile is covered. The ash is sent off site to be used as fertilizer.

Wood ash from the boiler is conveyed by drag chain to an exterior storage bunker.

The boiler is equipped with an oxygen meter, boiler furnace temperature gauge, and boiler steam flow rate meter. The Branch Environmental Corp. wet scrubber is equipped with a differential pressure gauge and flow meter.



The unit is subject to Title 40 CFR 63 Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. Combined emissions from Hampton Lumber Morton and Hampton Drying establish both as major for HAP emissions and therefore Subpart DDDDD applies. The facility plans on establishing compliance through source testing.

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

#### Equipment

One ABCO Industries, Inc. hog fuel boiler, model number 120x22HRT, serial number 77101, rated at 40,400 pounds of steam per hour and 59.6 MMBtu/hr with an airflow of 22,400 dcfm. An air-to-air heat exchanger on the exhaust delivers preheated combustion air to the boiler.

One multiclone/wet scrubber system: Exhaust from the boiler is sent through a multiclone to remove larger particulate matter. The multiclone is followed by a Branch Environmental Corp. wet scrubber system, with variable venturi throat. The scrubber operating flow rate is 215 GPM and the pressure drop across the system is 19" w.c., According to the manufacturer, the flow rate can range from 150 GPM to 258 GPM, and the pressure can range from 15" w.c. to 22" w.c. and still meet the capture efficiency. It has AIROL Chevron Mist eliminators. It is guaranteed to remove 99.5% of particulate matter greater than 10 microns. The scrubber stack is 20 feet tall with a diameter of 8 inches.

One settling pond with a volume of 3,960 ft<sup>3</sup>.

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

EU-4 consists of five American Wood Dryers, Inc. model 1156 dry kilns and one Coe Manufacturing 68' double track, shop #59824, dry kiln 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 is stacked on carts and rolled into the kilns. The American Wood Dryers have a capacity of 140,000 board feet (BF) each and the Coe Manufacturing has a capacity of 141,000 BF. The lumber is dried between 180 °F and 200 °F with a drying time of approximately 62 hours per cycle. The wood, Douglas fir, hemlock, spruce, pine, or other wood, is dried to approximately 16% moisture content. After drying, lumber is removed from the kilns and sent to the sawmill planer or shipped rough.

Three American Wood Dryers, Inc. kilns were installed in 1978; two additional kilns were installed in 1996. The Coe Manufacturing kiln was installed in 2001.

The dry kilns have heat exchangers installed that save between 25-30% of the energy used.

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

Equipment

Five American Wood Dryers, Inc. model 1156 steam heated dry kilns with a capacity of 140,000 BF each with added heat exchangers.

One Coe Manufacturing 68' double track, shop #59824, steam heated dry kiln with a capacity of 141,000 BF with added heat exchanger.

**EU-5 Office Emergency Propane Engine**

EU-5 consists of an emergency propane engine. One Generac 45 kw, 60.3 hp, emergency electrical generator which is propane-fired. It consumes 4.14-7.96 gal/hr and was manufactured in 1993. It is used to provide emergency electrical power to the office during power outages.

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

Equipment

One Generac 45 kw, 60.3 hp, generator model 93A05070-S, serial number 2011085 emergency electrical generator which is propane-fired.

**EU-6 Fire Pump Emergency Diesel Engine**

EU-6 consists of a fire pump emergency diesel engine. One Caterpillar diesel-fired pump engine, 225 hp, that consumes 12.1 gal/hr and was manufactured in August 1985. It is used to provide emergency electrical power to the main sprinkler house that provides emergency fire protection in the event of a power outage.

The following individual pieces of equipment are associated with EU-6:

Equipment

One Caterpillar diesel-fired pump engine, 225 hp, model 3208, serial number 03Z04523.

**Hampton Drying Company**

**EU-7 Diesel Boiler**

EU-7 consists of one package diesel-fired boiler. The Cleaver Brooks model CB 200-800, serial number 52708, boiler rated at 800 hp, 33 MMBtu/hr with installed flue gas recirculation is used to generate steam for the lumber dry kilns. It was installed in 2003. The burner is a Cleaver Brooks high turn down unit. The diesel fuel consumption rate at full rated load capacity is 240 gallons per hour. The unit generates 27,600 lbs of steam per hour.

Low sulfur diesel fuel is used at all times and low nitrogen diesel fuel is used when available. The low nitrogen diesel fuel is currently readily available according to local fuel vendors.

The following individual pieces of equipment are associated with EU-7:

Equipment

One Cleaver Brooks diesel boiler, model number CB 200-800, serial number 52708, rated at 27,600 pounds of steam per hour and 33 MMBtu/hr with an airflow of 9,420 acfm.

**EU-8 Dry Kilns**

EU-8 consists of four dry kilns, of local manufacture, used to dry green lumber shipped from Hampton Lumber Morton. The kilns exclusively use steam from the Cleaver Brooks diesel boiler. Rough sawn lumber is stacked on carts and rolled into the kilns. The lumber is dried between 180 °F and 200 °F with a drying time of approximately 60 hours per cycle. The wood, Douglas fir, hemlock, spruce, pine, or other wood, is dried to approximately 16% moisture content. After drying, lumber is removed from the kilns and shipped back to Hampton Lumber Morton or shipped rough. The dry kilns each measure 12' by 60' and have been at the facility since prior to 1976.

The following individual pieces of equipment are associated with EU-8:

Equipment

Four steam heated dry kilns with a capacity of 140,000 BF each. They are not equipped with heat exchangers.

**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 173-401-533(2)(i)**

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 173-401-533(2)(i).

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

**P13. Excess Emissions**

[SWCAA 400-107, WAC 173-400-107]

WAC 173-400-107 and SWCAA 400-107 establish 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 shall 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 shall be advised of the schedule.

#### **G12. Portable Sources**

[SWCAA 400-110(6), WAC 173-400-110(6)]

WAC 173-400-110(6) in the SIP (replaced in the State only rules by WAC 173-400-036) and SWCAA 400-110(6) establish 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**

[WAC 173-400-040, SWCAA 400-040]

WAC 173-400-040 and SWCAA 400-040 establish maximum emission standards for various air contaminants. These requirements apply to all emission units at the source, both EU and IEU. Pursuant to WAC 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 semi-annual compliance certification.

**Req. 11 Emission Standards for Combustion and Incineration Units**  
[WAC 173-400-050, SWCAA 400-050]

WAC 173-400-050 and SWCAA 400-050 establish 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 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. 12 Emission Standards for General Process Units**  
[WAC 173-400-060, SWCAA 400-060]

WAC 173-400-060 and SWCAA 400-060 establish maximum particulate matter emission standards for general process units. These requirements apply to all general process units at the source, both EUs and IEUs. Pursuant to WAC 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. 13, 14, 17-19, 30-36, 39-41, 53-61, 64-66 Air Discharge Permit for Replacement of the Wet Scrubber**  
[SWCAA 15-3151]

Air Discharge Permit (ADP) SWCAA 15-3151 issued for ADP application L-643 on August 27, 2015 approved the replacement of the Zurn wet scrubber with a Branch Environmental wet scrubber.

Req-13 limits opacity from the ABCO Industries hog fuel boiler to fifteen percent. This limit was set as part of the original BACT evaluation of this source. Data from the boiler source tests has shown that under proper operation the opacity can be maintained at 15% or below (not to be exceeded for more than 3 minutes in any one hour).

Req-14 limits opacity from dry kilns to five percent. This limit was set as part of the original 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-17 limits opacity from the fire pump emergency diesel engine operations to five percent. This limit was set as part of the original BACT evaluation of this source. In SWCAA's experience, diesel engines can easily meet the 5% opacity limit (not to be exceeded for more than 3 minutes in any one hour).

Req-18 limits opacity from the hog to five percent. This limit was set as part of the original BACT evaluation of this source. In SWCAA's experience, hogs can easily meet the 5% opacity limit (not to be exceeded for more than 3 minutes in any one hour).

Req-19 limits opacity from the log yard, sawmill (except the hog), and propane emergency equipment operations to zero percent. This limit was set as part of the original BACT evaluation of these sources. In SWCAA's experience, enclosed sawmill operations of green lumber, paved log yard with wet suppression and propane combustion can easily meet the 0% opacity limit (not to be exceeded for more than 3 minutes in any one hour).

Req-30 limits emissions from the ABCO Industries hog fuel boiler to the following:

NO<sub>x</sub> - 125.0 tpy, 175 ppm, one-hour average

CO - 131.0 tpy, 300 ppm, one-hour average

PM - 43.0 tpy, 0.050 gr/dscf (filterable only for compliance)

The limits are established based on facility source test and maximum steam flow and fuel combustion.

The ABCO Industries hog fuel boiler uses a wet scrubber to control PM emissions. These emissions could potentially exceed 100 tpy without the control equipment, therefore Compliance Assurance Monitoring (40 Part 64) is required for this equipment. Streamlining is allowed via 40 CFR 70.6(a)(3)(i)(A) and the Boiler MACT monitoring requirements meet Part 64 so no further monitoring is required.

Req-31 limits emissions from the lumber drying operations at Hampton Lumber Morton to the following:

VOC - 139.00 tpy

PM/PM<sub>10</sub> - 4.30 tpy

Acetaldehyde - 9.61 tpy

Acrolein - 0.15 tpy

Formaldehyde - 0.32 tpy

Methanol - 9.27 tpy

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

Req-32 limits emissions from the Western Pneumatics baghouse to the following:

PM<sub>10</sub> (filterable) - 10.51 tpy, 0.005 gr/dscf

The limits are established based on rated airflow of the baghouse, hours of operation, and a maximum emission concentration of 0.005 gr/dscf.

Req-33 limits emissions from the bin unloading to the following:

PM - 27.39 tpy

PM<sub>10</sub> - 16.34 tpy

PM<sub>2.5</sub> - 6.30 tpy

The limits are established based on types of material unloaded and SWCAA emission factors.

Req-34 limits emissions from the office emergency propane engine to the following:

NO<sub>x</sub> - 2.97 lb/hr and 0.30 ton/yr

CO - 0.23 lb/hr and 0.02 ton/yr

PM<sub>10</sub> - 0.007 lb/hr and 0.001 ton/yr

The limits are established based on amount of fuel combusted and EPA emission factors.

Req-35 limits emissions from the fire pump diesel engine to the following:

NO<sub>x</sub> – 6.98 lb/hr and 0.70 ton/yr

CO – 1.50 lb/hr and 0.15 ton/yr

PM<sub>10</sub> - 0.05 lb/hr and 0.05 ton/yr

The limits are established based on amount of fuel combusted and EPA emission factors.

Req-36 limits emissions from the hog to the following:

PM<sub>10</sub> - 0.74 ton/yr

The limits are established based on amount of wood hogged and emission factors.

Req-39 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-40 requires the Western Pneumatics baghouse, ABCO Industries hog fuel boiler, and dry kilns to be discharged vertically. Any device that obstructs or prevents vertical discharge while in operation is prohibited.

Req-41 requires the Western Pneumatics baghouse to 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-53 requires the scrubber to be in operation at all times the ABCO Industries hog fuel boiler is operating.

Req-54 requires the water quality to be visually evaluated in accordance with Appendix E of SWCAA 15-3151. It also requires suspended solids testing to be conducted quarterly. This is to assure the flocculent is adequately settling out suspended particles in the scrubber water so the solids can be removed manually on a periodic basis.

Req-55 requires scrubber water flocculent to be added to the scrubber water on a daily basis as needed. This is to settle out solids from the scrubber water and ensure that solids are not re-entrained in the scrubber water.

Req-56 provides operating parameters for the wet scrubber. The minimum differential pressure limit is 15" w.c. and the minimum process water circulation rate limit is 170 gpm. The scrubber settling pond volume must have a capacity greater or equal to 3,000 ft<sup>3</sup> and the deep end of the settling pond must be at least 3 feet deep. These requirements are established to assure proper operation of the scrubber system. Monitoring, recordkeeping and reporting requirements were not established for the volume of the settling pond. The volume of the settling pond is assured at the required depth of 3 feet, therefore monitoring of the volume was limited to annual compliance certification.

The parametric limits on the scrubber pressure and process water circulation rate were determined through source testing to establish a minimum operational limit to demonstrate compliance between compliance source testing.

Req-57 requires the ABCO Industries hog fuel boiler to be equipped with an oxygen meter capable of continuously monitoring oxygen levels in the exhaust gas. Monitoring the oxygen level helps to determine proper operation.

Req-58 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 from other wood species may be dried upon written approval by SWCAA. When requesting approval, the permittee must provide the following information to SWCAA:

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

Req-59 limits the maximum temperature of lumber drying to 200 °F. This limit was established to assure excess VOCs and TAPs are not emitted.

Req-60 requires the dry kiln doors to remain closed during the drying cycle. This is to assure emissions are emitted vertically through the stack.

Req-61 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 when significant rainfall has not occurred for 15 days or more to minimize fugitive dust.

Req-64 requires the emergency equipment to only be operated for manufacturer required maintenance and readiness testing and or emergencies.

Req-65 requires maintenance and readiness testing on emergency equipment to not exceed 100 hr/yr. Emergency operation is not limited. It also requires a nonresettable hourmeter to record hours.

Req-66 limits the fire pump diesel engine's fuel to #2 diesel fuel or better, not to exceed 0.0015% sulfur by weight. This is to reduce sulfur emissions.

**Req. 15, 16, 37-39, 58-60, 62, 63 Air Discharge Permit to Increase Dry Kiln Throughput**  
[SWCAA 10-2948]

Req-15 limits opacity from the Cleaver Brooks diesel boiler to five 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 5% or below (not to be exceeded for more than 3 minutes in any one hour).

Req-16 limits opacity from Hampton Drying's 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-37 limits emissions from the Cleaver Brooks diesel boiler to the following:

- NO<sub>x</sub> - 19.5 tpy, 85 ppm, one-hour average
- CO - 6.5 tpy, 100 ppm, one-hour average
- VOC - 1.0 tpy
- SO<sub>2</sub> - 9.0 tpy
- PM - 2.5 tpy

The limits are established based on vendor data, emission factors and maximum fuel combustion.

Req-38 limits emissions from lumber drying operations at Hampton Drying to the following:

- VOC – 39.31 tpy
- PM – 1.97 tpy
- Acetaldehyde – 4.41 tpy
- Acrolein – 0.07 tpy
- Formaldehyde – 0.09 tpy
- Methanol – 4.25 tpy

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

Req-39 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-58 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 from other wood species may be dried upon written approval by SWCAA. When requesting approval, the permittee must provide the following information to SWCAA:

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

Req-59 limits the maximum temperature for lumber drying to 200 °F. This limit was established to assure excess VOCs and TAPs are not emitted.

Req-60 requires the dry kiln doors to remain closed during the drying cycle. This is to assure emissions are emitted vertically through the stack.

Req-62 requires the Cleaver Brooks diesel boiler's fuel to be low nitrogen fuel or better if it is reasonably available. Regular nitrogen fuel usage is limited to 760 hr/yr. Use of regular nitrogen fuel shall be considered an upset and shall be reported to SWCAA for each occurrence. For each event when low nitrogen fuel is not available, documentation from the supplier shall be provided describing why low nitrogen fuel is not available and the expected time when low nitrogen fuel will again be available. This is to limit the emissions of NO<sub>x</sub> to the atmosphere.

Req-63 limits the Cleaver Brooks diesel boiler's fuel to be #2 fuel oil or better. Any fuel other than #2 fuel oil shall be approved by SWCAA prior to use. Maximum fuel sulfur content of any fuel shall not exceed 0.05% by weight. This is to limit the emissions of SO<sub>2</sub> to the atmosphere.

**Req. 9, 10, 20-29, 42-52 Boiler MACT Requirements**  
[40 CFR Part §63.7500]

Req-9-10 requires the boilers to operate in a manner consistent with safety and good air pollution control practices to minimize emissions.

Req-20-24 limits emissions from the ABCO Industries hog fuel boiler to the following, except during periods of startup and shutdown:

<b>Emission</b>	<b>Emission Limit</b>
Filterable PM	4.4E-01 lb per MMBtu of heat input
	5.5E-01 lb per MMBtu of steam output
TSM	4.5E-04 lb per MMBtu of heat input
	5.7E-04 lb per MMBtu of steam output
CO	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen
	3.5 lb per MMBtu of steam output
HCL	2.2E-02 lb per MMBtu of heat input
	2.5E-02 lb per MMBtu of steam output
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-25-29 limits emissions from Hampton Drying Company's Cleaver Brooks diesel boiler to the following, except during periods of startup and shutdown:

<b>Emission</b>	<b>Emission Limit</b>
Filterable PM	7.9E-03 lb per MMBtu of heat input
	9.6E-03 lb per MMBtu of steam output
TSM	6.2E-05 lb per MMBtu of heat input
	7.5E-05 lb per MMBtu of steam output
CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen
	0.13 lb per MMBtu of steam output
HCL	1.1E-03 lb per MMBtu of heat input
	1.4E-03 lb per MMBtu of steam output
Hg	2.0E-06 lb per MMBtu of heat input
	2.5E-06 lb per MMBtu of steam output

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

Req-42 requires a one-time energy assessment.

Req-43 requires the permittee to demonstrate compliance using performance stack testing, fuel analysis, or continuous monitoring system.

Req-44 establishes work practice standards for startup and shutdown for boilers. It establishes different definitions of startup with which the permittee must comply.

Req-45 establishes operating limits depending on how the facility wishes to demonstrate compliance. For the ABCO hog fuel boiler, a 30-day rolling average pressure drop and liquid flow rate for the scrubber must be maintained.

Req-46 establishes an alternate timeline for compliance for Hampton Drying Company's Clever Brooks diesel boiler, which has not been operating.

Req-47 establishes operating limits for Hampton Drying Company's Cleaver Brooks diesel boiler depending on how the facility wishes to demonstrate compliance.

Req-48 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-49 requires the permittee to install, operate and maintain CMS to measure the operating load or steam generation.

Req-50 requires the permittee to install, operate and maintain each CMS according to the procedures in 7525(d)(1) through (5).

Req-51 requires the permittee to follow certain requirements for installing and operating the flow monitoring system on the wet scrubber for the ABCO hog fuel boiler.

Req-52 requires the permittee to follow certain requirements for installing and operating the pressure monitoring system on the wet scrubber for the ABCO hog fuel boiler.

**Req. 64, 65, 67-70 Engine MACT Requirements**

[40 CFR Part §63.6600]

Req-64 requires the emergency equipment to only be operated for manufacturer required maintenance and readiness testing and or emergencies.

Req-65 requires maintenance and readiness testing on emergency equipment to not exceed 100 hr/yr. Emergency operation is not limited. It also requires a nonresettable hourmeter to record hours.

Req-67 requires the fire pump diesel engine to be operated and maintained in accordance with the manufacturer's emission-related operation and maintenance instructions or the permittee's own maintenance plan which must provide to the extent practicable for the

maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Req-68 establishes maintenance practices for the fire pump diesel engine.

Req-69 establishes maintenance practices for the office emergency propane engine.

Req-70 requires the permittee to minimize the time the office emergency propane engine and fire pump diesel engine spends at idle and minimize the fire pump's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

## VI. EXPLANATION OF OBSOLETE AND FUTURE REQUIREMENTS

### 1. Obsolete Air Discharge Permits

SWCAA has issued a total of ten ADPs for Hampton Lumber Morton and three ADPs for Hampton Drying. As identified in Section V, only one of these ADPs for each facility is still active. The approval conditions in the remaining eleven ADPs have been superseded or have become obsolete as described below.

#### Hampton Lumber Mills – Morton Division

SWCAA 78-300 was issued January 13, 1978 for ADP application L-91. SWCAA 78-300 approved installation of the ABCO Industries, Inc. hog fuel boiler and associated pollution control equipment consisting of a multiclone and Zurn Air Systems wet venturi scrubber. This Permit was superseded by 04-2534.

SWCAA 88-1032 was issued January 16, 1989 for ADP application L-179. SWCAA 88-1032 approved a "Posi-Con" baghouse for the sawmill. A visible emission limit of 0% opacity was established for approved operations. This Permit was superseded by SWCAA 04-2534.

SWCAA 95-1817 was issued January 8, 1996 for ADP application L-342. SWCAA 95-1817 approved the installation of two additional American Wood Dryers, Inc. model 1156 lumber dry kilns. This Permit was superseded by 04-2534.

SWCAA 96-1951 was issued November 11, 1996 for ADP application L-289. SWCAA 96-1951 approved the installation and operation of new debarking and saw equipment. This Permit was superseded by 04-2534.

SWCAA 97-2034 was issued September 5, 1997 for ADP application L-384. SWCAA 97-2034 established federally enforceable emission limits for the existing ABCO Industries, Inc. boiler. This Permit was superseded by 04-2534.

SWCAA 01-2339 was issued March 27, 2001 for ADP application L-478. SWCAA 01-2339 approved the installation of a new Coe Manufacturing dry kiln. This Permit was superseded by 04-2534.

Consent Order SWCAA 01-2341 was issued March 2, 2001. SWCAA 01-2341 was a Consent Order to improve the performance of the ABCO Industries, Inc. hog fuel boiler.

SWCAA 04-2534 was issued June 9, 2004 for ADP application L-439. SWCAA 04-2534 modified existing approval conditions including emissions monitoring provisions for the hog fuel boiler, dry kilns, and sawmill. This Permit was superseded by 04-2534R1.

SWCAA 04-2534R1 was issued November 22, 2004 for ADP application L-546. SWCAA 04-2534R1 approved the replacement of the Carothers Company model 386 baghouse and the H & R Mechanical Systems Posi-Con model 7210 baghouse with a new Western Pneumatics model 542 baghouse. This Permit was superseded by 04-2534R2.

Consent Order SWCAA 08-2800 was issued June 17, 2008. SWCAA 08-2800 was a Consent Order issued to allow the facility time to improve the operation of the ABCO Industries, Inc. hog fuel boiler to limit CO emissions.

SWCAA 04-2534R2 was issued August 3, 2010 for ADP application L-643. SWCAA 04-2534R2 approved the increase in bin unloading throughput and dry kiln throughput. This Permit was superseded by 15-3151.

#### Hampton Drying Company

Consent Order SWCAA 76-180 was issued June 2, 1976. SWCAA 76-180 required emissions from the planer cyclone and boiler to be controlled. This Permit was superseded by 03-2454.

SWCAA 76-204 was issued August 26, 1976 for ADP application L-80. SWCAA 76-204 approved installation of the Clark Pneuaire baghouse on the planer cyclone. This Permit was superseded by 03-2454.

SWCAA 03-2454 was issued June 26, 2003 for ADP application L-507. SWCAA 03-2454 approved installation of the diesel boiler and a facilitywide roll-up. This Permit was superseded by 10-2948.

## **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.

Hampton Lumber Mills – Morton was not subject to the PSD program upon initial NSR permitting. The facility received its permit January 13, 1978, and 40 CFR 52.21(i) states [in the June 19, 1978 Federal Register] that the paragraphs (j) through (r) of this subsection shall not

apply to a major stationary source...if the owner obtained final approval before March 1, 1978. Therefore, PSD was not applicable. The facility does not have a PSD permit and has not made any modifications to SWCAA's knowledge that have resulted in an increase in emissions. Therefore, PSD has not been triggered since the initial NSR permitting action.

### **3. Future Requirements**

None.

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

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

The applicable requirements cited in this monitoring section are general requirements drawn from WAC 173-400, SWCAA 400, SWCAA 10-2948, and SWCAA 15-3151. 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 survey of EU-1, EU-2, EU-3, EU-4, EU-5, EU-6, EU-7 and EU-8 to identify potential visible emissions. If 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 WAC 173-400, SWCAA 400, SWCAA 10-2948, and SWCAA 15-3151. 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.

M2 is designed to assure compliance through periodic facility inspections and prompt corrective action. M2 requires a survey of EU-1, EU-2, EU-3, EU-4, EU-5, EU-6, EU-7 and EU-8 to identify potential excess particulate matter emissions.

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

The applicable requirements cited in this monitoring section are requirements drawn from WAC 173-400, SWCAA 400, SWCAA 10-2948, and SWCAA 15-3151. SWCAA 10-2948 and SWCAA 15-3151 require 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 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 WAC 173-400, SWCAA 400, SWCAA 10-2948 and SWCAA 15-3151. SWCAA 10-2948 and SWCAA 15-3151 require 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, WAC 173-400-040(7) and SWCAA 400-040(7), SWCAA 10-2948 and SWCAA 15-3151. WAC 173-400-040(7) and SWCAA 400-040(7) are 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.

WAC 173-400-040(7) and SWCAA 400-040(7) prohibit 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 15-3151 Section 2.2.11 requires the permittee to install specific equipment. Consequently, a general regime of periodic monitoring has been deemed ineffective for the purposes of assuring compliance. SWCAA has required semi-annual certification that the monitoring equipment is installed and maintained.

Source Emission Reduction Plan (SERP) No. 08-106 was issued under the requirements of WAC 173-435 and SWCAA 435. SWCAA adopted the state rule by reference on November 9, 1998. This rule requires the permittee follow the SERP whenever an air pollution episode has been declared. It is unlikely that an episode will be declared during the term of this permit. Consequently, a general regime of periodic monitoring has been deemed ineffective for the purposes of assuring compliance. SWCAA has required semi-annual certification that the plan will be followed if triggered.

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

The applicable requirement cited in this monitoring section is drawn from WAC 173-400-040(6), SWCAA 400-040(6), and SWCAA 10-2948. WAC 173-400-040(6) and SWCAA 400-040(6) limit the emission of sulfur dioxide from combustion sources to a maximum of 1000 ppm<sub>v</sub> corrected to a specified oxygen percentage. The hog fuel 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.

SWCAA 10-2948 Section 2.2.8 requires the diesel boiler at this source to only fire #2 fuel oil or better.

**M7. Monitoring of Hog Fuel Boiler Operations**

The applicable requirement cited in this monitoring requirement is drawn from SWCAA 15-3151. Proper maintenance and operation of the boiler assures reduction in emissions.

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

**M8. Monitoring of Diesel Boiler Operations**

The applicable requirement cited in this monitoring requirement is drawn from 40 CFR 64 and SWCAA 10-2948. Proper maintenance of the boiler assures clean and efficient operations.

M8 is designed to ensure maximum performance from the boiler, EU-5.

**M9. Monitoring of Settling Pond Water Quality**

The applicable requirement cited in this monitoring requirement is drawn from 40 CFR 64 and SWCAA 15-3151. Proper maintenance of water quality in the settling pond is essential to good PM removal by the boiler's wet scrubber because poor water quality can greatly diminish scrubber effectiveness.

M9 is designed to ensure maximum performance from the boiler's wet scrubber, EU-3, by maintaining optimum water quality in the settling pond.

SWCAA 15-3151 Section 2.2.20 requires the settling pond to be of a minimum volume of 3,000 ft<sup>3</sup>. Periodic monitoring was not required in the permit because it is a fixed concrete structure not easily modified. SWCAA has required annual certification that the pond is of the minimum volume.



**M10. Emissions from Lumber Drying**

The applicable requirement cited in this monitoring requirement is drawn from SWCAA 10-2948 and SWCAA 15-3151. Compliance with the specified emission limits are calculated based on lumber throughput and emission factors derived from emission testing as required in M13. A maximum temperature is specified for the lumber dry kilns in order to prevent fires and/or minimize smoke from partial combustion of exhaust gases.

M10 is designed to collect and retain process data which will then be used to calculate emissions for EU-4 and EU-8.

**M11. Material Handling Operations Monitoring**

The applicable requirements cited in this monitoring requirement are drawn from SWCAA 15-3151. These requirements specify numerical parameters for the proper operation of the facility's baghouse and bin unloading operations.

M11 is designed to minimize emissions from the facility's baghouse, EU-2, and bin unloading.

**M12. Hog Operations Monitoring**

The applicable requirements cited in this monitoring requirement are drawn from SWCAA 15-3151. These requirements specify numerical parameters for the proper operation of the facility's hog operations.

M12 is designed to help calculate emissions from the facility's hog, EU-2.

**M13. Emergency Equipment Operations Monitoring**

The applicable requirements cited in this monitoring requirement are drawn from 40 CFR 63.6655 and SWCAA 15-3151.

SWCAA 15-3151 Section 2.3.39 requires the permittee to record hours of operation, fuel sulfur content and any maintenance activities for the emergency equipment. The permittee must also perform monthly inspections to identify particulate matter emission violations.

M13 is designed to minimize emissions from the facility's emergency equipment, EU-5 and EU-6.

**M14. Particulate Matter Emission Testing**

The applicable requirements cited in this monitoring section are drawn from SWCAA 15-3151. A schedule of emission testing to confirm compliance with the requirements is provided. Testing is to be conducted in accordance with SWCAA 15-3151, Appendix C which prescribes sampling points, testing protocols, data reduction, and reporting

formats. M14 is designed to provide periodic demonstration of compliance with particulate matter emission limits.

M14 is intended to supplement the routine compliance monitoring provided in M2. M14 requires testing for EU-2.

#### **M15. Lumber Drying Emission Testing**

The applicable requirement cited in this monitoring section is drawn from SWCAA 15-3151. SWCAA 15-3151 Section 2.4.41 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 the SWCAA 15-3151, Appendix B, which 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.

February 27, 2017, Hampton Lumber Mills – Morton received a dry kiln emission test extension from SWCAA. Due to the lack of source testing company, the 2017 emission test was extended until February 2022.

M15 is designed to provide validation of existing emission factors through periodic testing for EU-4.

#### **M16. Boiler Emission Testing**

The applicable requirement cited in this monitoring section is drawn from 40 CFR part 63, SWCAA 10-2948 and SWCAA 15-3151. SWCAA 10-2948 Section 2.4.17 and SWCAA 15-3151 Section 2.4.40 establish a schedule of emission testing to confirm compliance with the requirement. Testing is to be conducted in accordance with SWCAA 15-3151 Appendix A and 10-2948 Appendix A which prescribe sampling points, testing protocols, data reduction, and reporting formats. 40 CFR part 63 establishes initial and ongoing performance requirements and schedules.

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.

M16 is designed to demonstrate compliance through periodic testing for EU-3 and EU-7.

**M17. Boiler Emission Monitoring**

The applicable requirement cited in this monitoring section is drawn from 40 CFR Part 63, SWCAA 10-2948 and SWCAA 15-3151. SWCAA 10-2948 Section 2.4.18 and SWCAA 15-3151 Section 2.4.43 establish a schedule of emission monitoring to confirm compliance with the requirement. Monitoring is to be conducted in accordance with 40 CFR Part 63, SWCAA 15-3151 Appendix D and 10-2948 Appendix B which prescribe a tune-up schedule, sampling points, testing protocols, data reduction, and reporting formats.

M17 is designed to demonstrate compliance through periodic tune-ups for EU-3 and EU-7.

**M18. Initial Compliance Demonstration Requirements**

The applicable requirements cited in this monitoring section are drawn from 40 CFR part 63. 40 CFR part 63 requires initial performance tests and tune-ups, a one-time energy assessment, fuel analysis, the establishment of operating limits, CMS installation and performance evaluations to establish initial compliance. 40 CFR part 63 establishes a timeline on when the demonstration is required.

M18 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M19. Ongoing Compliance Demonstration Requirements**

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

M19 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M20. Fuel Analyses for Chlorine, Mercury and Total Suspended Metals (TSM)**

The applicable requirements cited in this monitoring section are drawn from 40 CFR part 63. If the permittee chooses to demonstrate compliance with fuel analysis, 40 CFR part 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.

M20 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M21. Boiler Operating Limits**

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

M21 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M22. General Operating Requirements for CMS**

The applicable requirements cited in this monitoring section are drawn from 40 CFR part 63. 40 CFR part 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.

M22 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M23. CMS Performance Evaluations**

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

M23 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M24. CO and Oxygen Monitoring**

The applicable requirements cited in this monitoring section are drawn from 40 CFR part 63. 40 CFR part 63 requires the permitted 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.

M24 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M25. Site-specific Stack Test Plan**

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

M25 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M26. Site-specific Monitoring Plan**

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

M26 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**M27. Monitoring Compliance with Operating Limits**

The applicable requirements cited in this monitoring section are drawn from 40 CFR part 63. 40 CFR part 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.

M27 is designed to demonstrate compliance with the Boiler MACT for EU-3 and EU-7.

**VIII. EXPLANATION OF RECORDKEEPING TERMS AND CONDITIONS**

**K1. General Recordkeeping**

This recordkeeping section is taken directly from SWCAA 10-2948, 15-3151 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, EU-4, EU-7 and EU-8 during the performance demonstration detailed in M14, M15 and M16.

**K2. Boiler Recordkeeping**

This recordkeeping section is taken directly from 40 CFR part 63. 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. The requirements include the submission of a boiler grate cleaning schedule, dry kiln operations, and Hampton Drying Company's Cleaver Brooks diesel boiler operation. The report is designed to collect data to determine emissions and 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. WAC 173-400-105 sets a later emission inventory due date of April 15<sup>th</sup>. A complete emissions inventory includes quantifiable emissions from all EUs described in Section II and the IEUs described in Section III.

**R6. Source Test Reports**

This reporting section is taken from SWCAA 400-106(1)(g), SWCAA 10-2948 Section 2.5.23, Appendix A and SWCAA 15-3151 Section 2.5.55, Appendices A, B, C. The permittee is required to report test results within 45 days of test completion to allow timely review by SWCAA.

**R7. Emission Tuning Reports**

This reporting section is taken from SWCAA 400-106(2)(f), SWCAA 10-2948 Section 2.5.24, Appendix A and SWCAA 15-3151 Section 2.5.56, Appendix D. The permittee is required to report test results within 15 days of emission monitoring completion to allow timely review by SWCAA.

**R8. MACT Records – Plywood MACT (Subpart DDDD)**

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 tons per year of a single HAP or 25 tons per year 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.

**R9. MACT Records – Engine MACT (Subpart ZZZZ)**

Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engine MACT) applies to stationary RICE at a major or area source of HAP emissions

The facility is not required to submit an initial notification requirement because both units are existing stationary emergency RICE and the office power emergency generator is less than 100 hp. They must submit hours of operation and the purpose of that operation annually by March 31<sup>st</sup>.

**R10. MACT Records – Boiler MACT (Subpart DDDDD)**

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 tons per year of a single HAP or 25 tons per year combined HAPs.

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 15, 2011.

**X. COMPLIANCE HISTORY**

**Hampton Lumber Mills - Morton Facility**

<u>Date</u>	<u>FNOV/C Number</u>	<u>Violation</u>
8/4/98	1357	Did not install all monitoring equipment and did not fulfill all requirements for the Title V permit.
5/26/99	1361	Did not complete all testing, did not report deviations within 30 days, did not complete all monitoring requirements and scrubber pressure was below required limit.
12/3/99	1369	Exceeded PM grain loading during an emission source test for the hog fuel boiler.

1/28/00	1370	Did not complete all monitoring requirements, did not report deviations within 30 days, and scrubber pressure was below required limit.
9/13/00	2501	Exceeded PM grain loading during an emission source test for the hog fuel boiler.
11/6/01	2508	Failure to test suspended solids.
10/18/07	3310	Scrubber pond depth below required minimum limit.
10/12/07	3316	Exceeded CO ppm concentration on a source test.
2/13/10	3326	Failure to record boiler parameters.

**Hampton Drying Company**

<u>Date</u>	<u>FNOV/C Number</u>	<u>Violation</u>
6/16/98	1827	Exceeded opacity limit.

**XI. APPENDICES**

## 1 Appendix A - Emission Testing Requirements - ABCO Boiler

Appendix A contains the method by which the ABCO hog fuel boiler should be emission tested to determine compliance.

## 2 Appendix B - Emission Testing Requirements - Lumber Drying

Appendix B contains the method by which the emissions from the lumber drying operations can be quantified. This is not a compliance test.

## 3 Appendix C - Emission Testing Requirements – Western Pneumatics Baghouse

Appendix C contains the method by which the Western Pneumatics baghouse should be emission tested to determine compliance.

## 4 Appendix D - Emission Monitoring Requirements – ABCO Boiler

Appendix D contains the method by which the ABCO hog fuel boiler should be tuned to assure proper operation in years when the boiler is not emission tested.

## 5 Appendix E - Scrubber Water Visual Evaluations Method

Appendix E contains the method by which the scrubber water will be visually evaluated to determine the effectiveness of flocculent addition.

## 6 Appendix F - Emission Testing Requirements – HDC Diesel Boiler



Appendix F contains the method by which the HDC diesel boiler should be emission tested to determine compliance.

7 Appendix G - Emission Monitoring Requirements – HDC Diesel Boiler

Appendix G contains the method by which the HDC diesel boiler should be tuned to assure proper operation in years when the boiler is not emission tested.

## XII. PERMIT ACTIONS

### Initial Permitting Actions

- |    |                                       |                    |
|----|---------------------------------------|--------------------|
| 1. | Initial Permit Application Received:  | 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:                  | January 28, 1998   |
| 7. | Administrative Revised Permit Issued: | October 15, 2001   |
| 8. | First Renewal Issued:                 | December 3, 2009   |

### Current Permitting Actions

- |    |   |                  |
|----|---|------------------|
| 1. | Notice to Submit Application for Permit Renewal | November 7, 2013 |
| 2. | Initial Permit Renewal Application:             | May 29, 2014     |
| 3. | Renewal Application Complete:                   | July 14, 2014    |
| 4. | Draft Permit Issued:                            | August 9, 2016   |
| 5. | Proposed Permit Issued:                         | March 15, 2017   |
| 6. | Final Permit Issued:                            | May 17, 2017     |

**XIII. RESPONSE TO COMMENTS**

The following comments were received from Geoffrey Glass of the US EPA during the draft permit comment phase:

1. It is not clear from the website posting when the public comment period ends. (See the screenshot below.) Not only is the date listed as the end of the comment period identical to the date listed as the beginning of the beginning of the comment period, but the link to the Comment Notice was broken when I attempted to follow it. According to both 40 CFR 70.7(h)(1) and WAC 173-401-800(2)(b), public notice shall be given by notification in a newspaper of general circulation – the wording is somewhat different in the Federal and State regulations but in both cases refers to newspaper publication. According to WAC 173-401-800(3), the duration of the public comment period shall be at least 30 days, beginning on the date of publication in Washington’s *Permit Register* or the date of public notice in the newspaper of record, *whichever is later*. Therefore the 30-day public comment period began on August 13, 2016 and must continue through, at least, September 12, 2016.

Response: There was a problem in the database that feeds that date and the public notice to the webpage. That has been fixed and the web page is now updated. An additional 30 days of web page notice was provided to ensure the public had adequate opportunity to comment on the permit.

2. There is no discussion of CAM in the Statement of Basis. CAM plans must be submitted with applications for initial air operating permits, significant permit revisions, or permit renewals, as described in 40 CFR 64.5(a) and (b). It is good practice to document CAM decisions during any initial permit issuance, significant permit revision, or permit renewal in the SoB. If there are no PSEUs subject to CAM – for example, if no PSEUs were established since the last permit renewal – this can also be easily documented in the SoB. Please document CAM applicability in the SoB.

Response:

40 CFR 70.6(a)(3)(i)(A) requires all monitoring and analysis procedures or test methods required under applicable monitoring and testing requirements, including Part 64 (CAM) to be contained in the permit. This Part also allows for streamlining as long as the provisions provided are adequate to assure compliance with the requirements not included in the permit as a result from streamlining.

40 CFR 64.2(b)(1)(i) exempts the requirements of Part 64 for any emission limit or standard proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act. This was further explained in a FAQ on EPA’s website. “The exemptions are granted on the basis of monitoring requirements in those rules or emissions limitations being inherently sufficient to provide assurance of compliance without the additional burden of part 64 requirements.”

SWCAA has included requirements from the Boiler MACT in the Title V permit and will rely on this action to demonstrate compliance with Part 64. SWCAA considers these requirements to be adequate to assure compliance with the Part 64 requirements not included in this permit under the streamlining clause.

The following language will be added under section X. Non-Applicable Requirements within the AOP.

“Part 64 applies to certain pollutant-specific emissions units at major sources. In general, Part 64 applies to emission units that utilize a control device to achieve compliance with an emission limit for a pollutant that otherwise could be emitted at a rate exceeding the applicable major source threshold (e.g. 100 tpy criteria pollutants and VOCs, 10 tpy individual HAP). Particulate matter from the hog fuel boiler could exceed 100 tpy without the additional control of the wet scrubber. However, 40 CFR 64.2(b)(1)(i) exempts these emission limitations from the requirements of Part 64 because the facility is subject to a post-1990 NESHAPs (Boiler MACT)...” that establishes PM limits and monitoring. “It is expected that the standards in the Boiler MACT will provide a reasonable assurance of compliance.”

Also, in sections of the Basis Statement where a PM limit is established, SWCAA will note streamlining is allowed via 40 CFR 70.6(a)(3)(i)(A) and that the Boiler MACT monitoring requirements meet Part 64.

3. According to 40 CFR 70.6(b)(2) and WAC 173-401-625(2), the permitting authority may include permit terms that are not federally enforceable provided that they are specifically designated as not federally enforceable (or as “State only” or “local only”) conditions. This can assist the permittee by including all requirements, including state and local requirements in a single document. There are several conditions in the permit based on State or local regulations that are not in the SIP and, therefore, not federally enforceable including (this list is not exhaustive): G17 – Outdoor Burning; G18 – Reporting of Emissions of Greenhouse Gases; Req-2 – Fallout; and Req-4 – Good practices to reduce odors. However, these permit conditions are not identified as not being federally enforceable. Please clearly label all non-federally enforceable permit conditions.

Response: The agency has gone through the general and other requirements to make sure they are labeled as local only when not federally enforceable. Some of the requirements are already labeled as local only (the L designation next to the requirements that was defined in the section heading.) SWCAA will add the L to the other requirements that were missed to make it clear. SWCAA will also more clearly define that L next to the rule citation to indicate that this is a “local only” requirement.

Also, a review of the permit reveals additional underlying requirements in the “General Terms and Conditions” section that must be labeled as “State Only” or “Local Only”. These underlying requirements were found in “General Terms and Conditions” G10, G11, and G12.

4. Permit Section X “Non-applicable Requirements” contains significant useful information. (Although you may want to consider whether it actually belongs in the SoB, considering

that it doesn't include any applicable requirements nor is it part of a permit shield.) However, the claim that "[t]he following lists *all* federal state and/or local requirements that might reasonably apply to the permittee but were deemed nonapplicable after review by SWCAA" is perhaps a bit of an understatement. Permit Section X does not include applicability analyses of the two standards in part 60 that apply to internal combustion engines (subparts IIII and JJJJ) although the source operates both spark ignition and compression ignition engines. Permit Section X also does not include applicability analyses of the PSD and major NSR permitting programs. Please include applicability analyses for PSD, major NSR, the standards in part 60 for spark ignition and compression ignition engines, and any other standards which may reasonably be anticipated to apply.

Response: WAC 173-401-640(2) explicably addresses inapplicable requirements. "Upon request, the permitting authority shall include in the permit or in a separate written finding issued with the permit a determination identifying specific requirements that do not apply to the source." The Agency's permitting practice as been to include these in the Permit and has done so here.

It is more appropriate that discussion of PSD applicably should be included in the support documentation for the NSR/PSD permit, not the Title V permit. However, this facility was not subject to the PSD program upon initial permitting. The facility received its initial NSR permit January 13, 1978, and 40 CFR 52.21(i) states [in the June 19, 1978 Federal Register] that the paragraphs (j) through (r) of this subsection shall not apply to a major stationary source...if the owner obtained final approval before March 1, 1978. Therefore, PSD was not applicable. The facility does not have a PSD permit and has not made any modifications to SWCAA's knowledge that have resulted in an increase in emissions. Therefore, PSD has not been triggered since the initial NSR permitting action.

The following PSD discussion will be added to Section VI of the Statement of Basis where the permitting history is discussed:

"Hampton Lumber Mills – Morton was not subject to the PSD program upon initial NSR permitting. The facility received its permit January 13, 1978, and 40 CFR 52.21(i) states [in the June 19, 1978 Federal Register] that the paragraphs (j) through (r) of this subsection shall not apply to a major stationary source...if the owner obtained final approval before March 1, 1978. Therefore, PSD was not applicable. The facility does not have a PSD permit and has not made any modifications to SWCAA's knowledge that have resulted in an increase in emissions. Therefore, PSD has not been triggered since the initial NSR permitting action."

SWCAA will include Subparts IIII and JJJJ in section X Non-Applicable Requirements with an explanation as to why they are not applicable.

5. It appears that SWCAA has incorporated many requirements from the Boiler MACT, the RICE NESHAP, and the General Provisions of part 63 into the permit, perhaps all of the requirements necessary under the law. Without tables in the SoB that cross-reference the underlying applicable requirements in the CFR to the corresponding conditions in the permit, it is impossible to determine if the Air Agency has included every applicable

requirement in the permit without undertaking an enormous effort. Adding such tables would also free the Air Agency from the need to discuss individual paragraphs of otherwise applicable standards in Permit Section X “Non-applicable Requirements,” as a column could be included to the cross-referencing table for notes and explanations. We recommend including tables cross-referencing underlying applicable requirements in the CFR to conditions in the permit.

Response: To the agency’s knowledge, all applicable requirements have been included in the Permit. With respect to adding cross-referencing tables in the Title V Basis Statement, the agency would prefer not to provide such tables in the Basis Statement. A few of the MACT standards have simple, straightforward applicable requirements. Most, however, have complex requirements that many allow multiple options for compliance demonstrations. Some facilities can have up to four MACT standards all regulating the same equipment, process, vent stream, etc. In the case of the more complex MACT standards, SWCAA implements a system where the permit writer steps through each standard and notes which requirements are applicable or not. This documentation can be lengthy and cumbersome to include in the Basis Statement. This documentation is available for review upon request but is not incorporated into the Basis Statement.