

Hampton Lumber Mills, Inc.

Morton Facility

FINAL Title V Basis Statement

Southwest Clean Air Agency
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PERMIT #: SW97-5-R1

FINAL ISSUED: December 3, 2009

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: 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 - WA Inc.
2. Facility Name: Hampton Lumber Mills - WA Inc., Morton Facility
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 - Morton facility (Morton Facility) has actual emissions in excess of 100 tpy of carbon monoxide and nitrogen oxides which are regulated criteria pollutants under the Federal Clean Air Act, and actual emissions in excess of 10 tpy for acetaldehyde and methanol which are regulated hazardous air pollutants.
8. Current Permitting Action:
This is a Title V Permit Renewal. It also incorporates Hampton Drying Company (Hampton Drying) as a support facility. Also, Air Discharge Permits 03-2454 and 04-2534R1 were incorporated into the Title V Air Operating Permit. Since the last Title V Permit was issued Air Discharge Permit 03-2454 was issued to Hampton Drying and approved installation of the Cleaver Brooks diesel boiler. Air Discharge Permit 04-2534R1 was issued to the Morton Facility and approved installation of a shavings fractionating machine and replacement baghouse.
9. Attainment Area:
The Morton Facility is located in an area which is in attainment for all criteria pollutants.
10. Facility Description:
The Morton Facility 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 and pine, is produced at the Morton Facility both kiln dried and green and is then shipped offsite. The Morton Facility's equipment is divided into four emission units designated as EU-1 through EU-4. All emission units are either directly or indirectly involved in lumber production.

Hampton Drying is a support facility for the Morton Facility. It is located approximately 3 miles from the Morton Facility. Dimensional lumber manufactured at the Morton Facility is shipped to Hampton Drying to utilize the dry kilns. All of the lumber dried at Hampton Drying comes from the Morton Facility. Therefore, Hampton Drying is a support facility for the Morton Facility. Hampton Drying is divided into two emission units designated as EU-5 and EU-6. The planer mill and bin loadout described in SWCAA 03-2454 have been removed from the facility and are therefore not included in the Title V Permit. All emission units are either directly or indirectly involved in lumber production.

The Morton Facility 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 has 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
78-300	L-91	1-13-78	Installation of new ABCO Industries hog fuel boiler and associated pollution abatement equipment. Superseded by SWCAA 97-2034 and 04-2534.
88-1032	L-179	1-19-89	Installation of a "Posi-Con" baghouse. Superseded by SWCAA 04-2534.
95-1817	L-342	1-8-96	Installation of two new dry kilns. Superseded by SWCAA 04-2534.
96-1951	L-289	11-25-96	Installation of a new Nicholson barker unit and Can-Car saw/chipper unit. Superseded by SWCAA 04-2534.
97-2034	L-384	9-5-97	Modification of existing emission limits for the hog fuel boiler. Superseded SWCAA 78-300. Superseded by SWCAA 04-2534.
01-2339	L-478	3-27-01	Installation of one additional Coe Manufacturing dry kiln. Superseded by SWCAA 04-2534.
01-2341		3-1-01	Consent Order for compliance with boiler emission limits.

04-2534	L-439	6-9-04	Update equipment parameters and modifications 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.
04-2534R1	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.
08-2800		6-16-08	Consent Order for testing and compliance with boiler CO emission limits. The Order's requirements have been met.

Hampton Drying Company

Permit	ADP Application	Date Issued	Description
76-180	none	6-2-76	Order on Consent - abate emissions from boiler and planer cyclone. Superseded by SWCAA 03-2454.
76-204	L-80	8-26-76	Installation of Clark Pneuaire 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.

II. EMISSION UNIT IDENTIFICATION

ID #	Generating Equipment/Activity	Emission Control
EU-1	Log Yard	Water truck
EU-2	Sawmill	Building enclosures, Western Pneumatics baghouse Plastic sheeting and wet suppression
EU-3	Hog Fuel Boiler	One multi-clone/Zurn Air Systems wet venturi scrubber combination One settling pond
EU-4	Dry Kilns	None
EU-5	Diesel Boiler (Hampton Drying Company)	Flue gas recirculation

EU-6	Dry Kiln (Hampton Drying Company)	None
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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 Sawmill

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 56,000 cfm. 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

Two debarkers
 Two bucksaws

One fuel hog
Three chippers
Various conveyors
Various chop saws, trim saws
Various edgers
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 56,000 cfm are used to control sawmill and planer equipment emissions.

EU-3 Power House

EU-3 consists of one hog fuel boiler and associated equipment. 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 and associated air pollution control equipment were installed in 1978. 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 Zurn Air Systems model Venturi Scrubber II, with 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 original scrubber flow rate and pressure were established based on manufacturer's information to be 240 gpm and 30" w.c., respectively. At over 90 gallons per minute the scrubber fan floods and introduces particulate matter into the exhaust stream. The source test performed on October 7, 1999 established an adequate flowrate at 60 gallons per minute and an adequate scrubber pressure at 17" w.c. or higher. The original scrubber airflow rate was established based on manufacturer's information to be a maximum of 18,000 acfm.

The boiler is equipped with an oxygen meter, boiler furnace temperature gauge, and boiler steam flow rate meter. The Zurn Air Systems scrubber is equipped with a differential pressure gauge.

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 Zurn Air Systems model Venturi Scrubber II, with venturi throat. The operating scrubber flow rate and pressure, established based on facility source tests, are 60 gpm and 17" w.c., respectively.

One settling pond with a volume of 3,960 ft³.

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 at approximately 180 °F with a drying time of approximately 62 hours per cycle. The wood, Douglas fir, hemlock, pine, or spruce, 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.

Hampton Drying Company**EU-5 Diesel Boiler**

EU-5 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-5:

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-6 Dry Kilns

EU-6 consists of four dry kilns, of local manufacture, used to dry green lumber shipped from the Morton Facility. 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 at approximately 180 °F with a drying time of approximately 60 hours per cycle. The wood, Douglas fir, hemlock, pine, or spruce, is dried to approximately 16% moisture content. After drying, lumber is removed from the kilns and shipped back to the Morton Facility 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-6:

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-2 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**P10. 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 15% 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.

G10. Portable Sources

[SWCAA 400-110(6), WAC 173-400-110(9)]

WAC 173-400-110(5) in the SIP (replaced in the State only rules by WAC 173-400-035) 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.

R4. Annual Report

[SWCAA 04-2534R1]

SWCAA 04-2534R1 establishes reporting requirements for the boiler grate cleaning. The boiler grate cleaning schedule is required to be submitted to SWCAA each year no later than March 15. The date was changed to December 31 to encompass the entire upcoming year. When SWCAA 04-2534R1 is opened again, this date change will be addressed.

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. 9 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. 10 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. 11, 12, 15-18, 21-30 Air Discharge Permit for Installation of Shavings Fractionating Machine and Replacement Baghouse
[SWCAA 04-2534R1]

Air Discharge Permit (ADP) SWCAA 04-2534R1 issued for ADP application L-546 on November 22, 2004 approved the installation of a shavings fractionating machine and the replacement of two existing baghouses with the Western Pneumatics baghouse.

Req-11 limits opacity from the ABCO Industries hog fuel boiler to fifteen 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 15% or below (not to be exceeded for more than 3 minutes in any one hour).

Req-12 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-15 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-16 limits emissions from the ABCO Industries hog fuel boiler to the following:

NOx - 125.0 tpy, 175 ppm, one hour average

CO - 130.0 tpy, 300 ppm, one hour average

PM - 60.0 tpy, 0.070 gr/dscf (filterable only for compliance)

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

Req-17 limits emissions of from the lumber drying operations at the Morton Facility to the following:

PM - 9.0 tpy

VOC - 35.0 tpy

Toluene - 5,705 lbs/yr

2,2,4 Trimethylpentane - 2,996 lbs/yr

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

Req-18 limits emissions of from the Western Pneumatics baghouse to the following:

PM10 (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-21 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-22 requires the Western Pneumatics baghouse to discharge vertically without any device to obstruct vertical dispersion.

Req-23 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-24 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-25 limits the maximum temperature of lumber drying to 250 °F. This limit was established to assure excess VOCs and TAPs are not emitted.

Req-26 limits the lumber approved for drying in the kilns to pine (later specified as Ponderosa and Lodgepole Pine), hemlock, Douglas fir, and spruce. 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-27 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-28 provides operating parameters for the wet scrubber. The minimum differential pressure limit is 19" w.c. and the minimum process water circulation rate limit is 60 gpm, measuring 4" on the flume. The scrubber settling pond volume must have a capacity greater or equal to 3,000 ft³ 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-29 requires the water quality to be visually evaluated in accordance with Appendix E of SWCAA 04-2534R1. 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-30 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. 13, 14, 19-21, 25, 31, 32 Air Discharge Permit for Installation of Diesel Boiler
[SWCAA 03-2454]

Req-13 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-14 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-19 limits emissions from the Cleaver Brooks diesel boiler to the following:

NO_x - 19.5 tpy, 85 ppm, one hour average

CO - 6.5 tpy, 100 ppm, one hour average

PM - 2.5 tpy

VOC - 1.0 tpy

SO₂ - 9.0 tpy

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

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

PM – 3.5 tpy

VOC – 6.5 tpy

TAPs - SQER

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

Req-21 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-25 limits the maximum temperature for lumber drying to 250 °F. This limit was established to assure excess VOCs and TAPs are not emitted.

Req-31 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_x to the atmosphere.

Req-32 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 SO₂ to the atmosphere.

Req. 33 WAC Source Emission Reduction Plan

[WAC 173-435-050, SWCAA 435, SERP No. 08-106]

The source emission reduction plan requires the facility to reduce emissions during an air pollution episode. Actions required by this plan shall be started when telephone notification of an episode is received. The plan requires the following activities when activated: cease all open burning, water the log yard, divert all sawdust and shavings to storage, refrain from using cedar or other high-dust logs, divert all bark to waste wood boiler, and shutdown. With the exception of shutdown, the majority of the measures are standard procedures that the facility operations personnel normally follow. It is highly unlikely that an air pollution episode will be called that will impact this operation due to the relatively "clean" nature of the ambient air.

VI. EXPLANATION OF OBSOLETE AND FUTURE REQUIREMENTS**1. Obsolete Air Discharge Permits**

SWCAA has issued a total of nine ADPs for the Morton Facility and two 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.

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.

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 Pneumatic baghouse on the planer cyclone. This Permit was superseded by 03-2454.

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

Title 40 CFR 63 Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. On July 30, 2007, the United States Court of Appeals for the District of Columbia Circuit issued a mandate vacating and remanding the NESHAP for Industrial Boilers and Process Heaters. The Subpart is not currently in effect.

In 2008 SWCAA compiled test data on emissions from lumber drying from various sources within and outside SWCAA jurisdiction. HAP emissions from the dry kiln operations were

recalculated with this updated information for the combined maximum throughput of both the Morton Facility and Hampton Drying; based on this updated emissions data the facility is major for HAP emissions and therefore Subpart DDDDD applies. The main and support facility lumber drying operations combined emit 12.31 tpy of acetaldehyde and 12.54 tpy of methanol.

As of the date of this Permit the facility has chosen to not take any type of limit to restrict HAP emissions below major source thresholds.

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 03-2454, and SWCAA 04-2534R1. 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-2, EU-3, EU-4, EU-5, and EU-6 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 03-2454 Section 2.1.1-2 and Section 2.1.3, 6, and SWCAA 04-2534R1 Section 2.1.1-3. 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-2, EU-3, EU-4, and EU-5 to identify potential excess particulate matter emissions.

M3. Particulate Matter Emission Testing

The applicable requirements cited in this monitoring section are drawn from SWCAA 04-2534R1 Section 2.4.31. A schedule of emission testing to confirm compliance with the requirements is provided. Testing is to be conducted in accordance with SWCAA 04-2534R1, Appendix C which prescribes sampling points, testing protocols, data reduction, and reporting formats. M3 is designed to provide periodic demonstration of compliance with particulate matter emission limits.

M3 is intended to supplement the routine compliance monitoring provided in M2. M3 requires testing for EU-2.

M4. Fugitive Emissions Monitoring

The applicable requirements cited in this monitoring section are requirements drawn from WAC 173-400, SWCAA 400, and SWCAA 04-2534R1. SWCAA 04-2534R1, Section 2.2.5 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 and venting dry kilns through elevated stacks. The use of the street sweepers and watering trucks shall be recorded when utilized.

M4 requires the permittee to perform monthly inspections of the facility during daylight hours to identify any excess fugitive emissions, including fugitive dust.

M5. Complaint Monitoring

The applicable requirements cited in this monitoring section are general requirements drawn from WAC 173-400, SWCAA 400, SWCAA 03-2454 Section 2.1.8 and SWCAA 04-2534R1 Section 2.2.6. SWCAA 03-2454 and SWCAA 04-2534R1 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.

M5 is designed to ensure compliance through prompt complaint response and corrective action.

M6. 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 03-2454 Section 2.1.8 and SWCAA 04-2534R1 Section 2.2.6. 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. The applicable requirements are also utilized to assure compliance with CAM requirements.

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 03-2454 Section 2.1.8 and SWCAA 04-2534R1 Section 2.2.6 require 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.

M7. SO₂ Emission Standard

The applicable requirement cited in this monitoring section is drawn from WAC 173-400-040(6) and SWCAA 400-040(6). WAC 173-400-040(6) and SWCAA 400-040(6) limit the emission of sulfur dioxide from combustion sources to a maximum of 1000 ppmv 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 ppmv sulfur dioxide while firing on these fuels. Monitoring has therefore been limited to certification of fuel type.

M8. Maintenance and Monitoring of Hog Fuel Boiler Operations

The applicable requirement cited in this monitoring requirement is drawn from 40 CFR 64 "Compliance Assurance Monitoring" (CAM) and SWCAA 04-2534R1 Section 2.2.12-14. Proper maintenance of the boiler assures clean and efficient operations.

M8 is designed to ensure maximum performance from the boiler, EU-3, and to comply with CAM requirements.

M9. Maintenance and Monitoring of Diesel Boiler Operations

The applicable requirement cited in this monitoring requirement is drawn from 40 CFR 64 and SWCAA 03-2454 Section 2.2.9-10. Proper maintenance of the boiler assures clean and efficient operations.

M9 is designed to ensure maximum performance from the boiler, EU-5.

M10. Maintenance and Monitoring of Settling Pond Water Quality

The applicable requirement cited in this monitoring requirement is drawn from 40 CFR 64 and SWCAA 04-2534R1 Section 2.2.10-14. 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.

M10 is designed to ensure maximum performance from the boiler's wet scrubber, EU-3, and to comply with CAM requirements by maintaining optimum water quality in the settling pond.

SWCAA 04-2534R1 Section 2.2.14 requires the settling pond to be of a minimum volume of 3,000 ft³. 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.

M11. Monitoring and Emissions from Lumber Drying

The applicable requirement cited in this monitoring requirement is drawn from SWCAA 03-2454 Section 2.3.16 and SWCAA 04-2534R1 Section 2.3.26. 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.

M11 is designed to collect and retain process data which will then be used to calculate emissions for EU-4 and EU-6.

M12. Material Handling Operations Monitoring

The applicable requirements cited in this monitoring requirement are drawn from SWCAA 04-2534R1 Sections 2.3.24 and 27. These requirements specify numerical parameters for the proper operation of the facility's baghouse and bin unloading operations.

M12 is designed to minimize emissions from the facility's baghouse, EU-2, and bin unloading.

M13. Lumber Drying Emission Testing

The applicable requirement cited in this monitoring section is drawn from SWCAA 04-2534R1 Section 2.4.30. SWCAA 04-2534R1 Section 2.4.30 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 "Dry Kiln VOC Testing" method found in Appendix A of the permit. 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.

M13 is designed to provide validation of existing emission factors through periodic testing for EU-4.

M14. Boiler Testing

The applicable requirement cited in this monitoring section is drawn from SWCAA 03-2454 Section 2.4.19 and SWCAA 04-2534R1 Section 2.4.29. SWCAA 03-2454 Section 2.4.19 and SWCAA 04-2534R1 Section 2.4.29 establish a schedule of emission testing to confirm compliance with the requirement. Testing is to be conducted in accordance with SWCAA 04-2534R1 Appendix A and 03-2454 Appendix A which prescribe 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.

M14 is designed to demonstrate compliance through periodic testing for EU-3 and EU-5.

M15. Boiler Emission Monitoring

The applicable requirement cited in this monitoring section is drawn from SWCAA 03-2454 Section 2.4.18 and SWCAA 04-2534R1 Section 2.4.32. SWCAA 03-2454 Section 2.4.18 and SWCAA 04-2534R1 Section 2.4.32 establish a schedule of emission monitoring to confirm compliance with the requirement. Monitoring is to be conducted in accordance with SWCAA 04-2534R1 Appendix D and 03-2454 Appendix B which prescribe sampling points, testing protocols, data reduction, and reporting formats.

M15 is designed to demonstrate compliance through periodic testing for EU-3 and EU-5.

VIII. EXPLANATION OF RECORDKEEPING TERMS AND CONDITIONS

K1. Basic Recordkeeping

This recordkeeping section is taken directly from SWCAA 03-2454 Section 2.4.17-18, Appendix B, SWCAA 04-2534R1 Section 2.4.23, 29, Appendix D 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 M3, M13 and M14.

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 and particulate matter control equipment annual hours of 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 15th for the previous calendar year as provided in SWCAA 400-105. WAC 173-400-105 sets a later emission inventory due date

of April 15th. 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 03-2454 Section 2.5.24, Appendix A and SWCAA 04-2534R1 Section 2.5.36, Appendices A, B, C, and F. 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 03-2454 Section 2.5.23, Appendix A and SWCAA 04-2534R1 Section 2.5.37, 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 Reports

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.

In 2009 SWCAA compiled test data on emissions from lumber drying from various sources. Recalculating the HAP emissions from the dry kiln operations with this updated information for the combined maximum throughput of both the Morton Facility and Hampton Drying, the facility is a major source of HAP emissions and therefore Subpart DDDDD applies. The main and support facility lumber drying operations combined emit 12.31 tpy of acetaldehyde and 12.54 tpy of methanol. The SWCAA met with the facility May, 27, 2009 to discuss their new status.

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

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.

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 - Dry Kiln VOC Testing

Appendix A contains the method by which VOC emission factors for lumber drying operations are to be established. There is no EPA or DOE reference test method for this type of source. SWCAA has specified use of the "Dry Kiln VOC Testing" method developed by one of the permittee's consultants. Direct testing of the lumber drying process was determined to be too difficult and cost prohibitive. As an alternative, the specified method is designed to test wood samples under laboratory conditions which are similar to the actual drying process. Test results produce an emission factor that can be used to calculate process emissions based on lumber throughput, species, and final moisture content.

2. Appendix B - Scrubber Water Visual Evaluations Method

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

3. Appendix C - Source Emission Reduction Plan (SERP)

Appendix C contains the timeline and actions required by the facility in the event of an air pollution episode.

XII. PERMIT ACTIONSInitial 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: | December 15, 1997 |
| 7. | Administrative Revised Permit Issued: | October 15, 2001 |

Current Permitting Actions

- | | | |
|----|---|-------------------|
| 1. | Notice to Submit Application for Permit Renewal | May 1, 2001 |
| 2. | Initial Permit Renewal Application: | December 15, 2001 |
| 3. | Renewal Application Complete: | February 14, 2002 |
| 4. | Draft Permit Issued: | August 26, 2009 |
| 5. | Proposed Permit Issued: | October 13, 2009 |
| 6. | Final Permit Issued: | December 3, 2009 |