

Hampton Lumber Mills – WA, Inc. - Morton Facility
Air Operating Permit Basis Statement

Southwest Clean Air Agency
1308 NE 134th Street
Vancouver, WA 98685-2747
Telephone: (360) 574-3058

PERMIT #: SW97-5-R0-A

ISSUED TO: Hampton Lumber Mills -
WA Inc.
10166 US Hwy 12
Randle, WA 98377

PLANT SITE: Hampton Lumber Mills -
WA Inc. - Morton Facility
302 Morton Road
Morton, WA 98356

PERMIT ENGINEER: Vanessa McClelland, Air Quality Engineer

REVIEWED BY: Paul T. Mairose, Chief Engineer

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I. GENERAL INFORMATION

1. Company Name: Hampton Lumber Mills - WA Inc.
2. Facility Name: Hampton Lumber Mills - WA Inc., Morton Facility
3. Responsible Official: Harvey Chandler, Cowlitz Division Operations Manager
4. Facility Contact Person: Jim Schuldt, HR/Safety Manager
5. Unified Business Identification Number: 219-001-738
6. SIC Code: 2421
7. Basis for Title V Applicability:

Hampton Lumber Mills - Morton facility (Hampton Lumber Mills) has actual emissions in excess of 100 tpy of carbon monoxide which is a regulated criteria pollutant under the Federal Clean Air Act.
8. Attainment Area:

Hampton Lumber Mills is located in an area which is in attainment for all criteria pollutants.
9. Facility Description:

Cowlitz Stud Company was purchased by Hampton Lumber Mills on June 1, 1999. Hampton Lumber Mills requested on June 19, 2001, that AOP SW97-5-R0 be updated to include this name change as well as update the Responsible Official.

Hampton Lumber Mills is a manufacturer of finished lumber products. The products manufactured by Hampton Lumber Mills are primarily used in the construction industry. Dimensional lumber produced at the Morton facility is shipped both kiln dried and green.

Hampton Lumber Mills has a lumber manufacturing facility located at 302 Morton Road in Morton, Washington. Hampton Lumber Mills - Morton facility has four emission units designated as EU1 through EU4. 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, lumber remanufacturing plants, 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.

II. EMISSION UNIT DESCRIPTIONS

EU1 Log Yard

EU1 consists of all outdoor areas at the perimeter 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 Morton Road are completely paved, but the yard area itself is packed earth. Haul road and fugitive dust emissions are controlled by water suppression. Water is applied with a water truck as necessary to minimize emissions.

The following individual pieces of equipment are associated with EU1:

<u>Equipment</u>	<u>Facility Designation</u>
One water truck	-
Various log trucks	-
Various log loaders and transports	-

EU2 Sawmill

EU2 consists of an enclosed building and associated equipment used to produce green 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 multiple stages of trimming, edging, and resawing. Green sawdust from sawing operations are collected by drag chains, and pneumatically conveyed to exterior storage bins. Selected pieces of equipment, such as planers, are directly connected to emission abatement equipment. Finished lumber is color coded and/or marked prior to shipment off-site.

Particulate matter collected in the cyclones and baghouses 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 byproducts are conveyed to multiple chippers. Wood chips are conveyed to exterior storage bins prior to shipment off-site.

The following individual pieces of equipment are associated with EU2:

<u>Equipment</u>	<u>Facility Designation</u>
Two debarkers	-
Two bucksaws	-
One fuel hog	-
Three chippers	-
Various conveyors	-
Various chop saws, trim saws	-
Various edgers	-
Seven storage bins	-
One planer	-
Air pollution abatement equipment	-

EU3 Power House

EU3 consists of one hogged fuel boiler and associated equipment. The boiler is used to generate steam for the lumber dry kilns on-site. The boiler is fired solely on wood byproducts from facility operations. Most of the boiler's fuel is hogged fuel from the sawmill. However, chips, planer shavings, sawdust, and scrap wood are all fired in the boiler depending on required fuel characteristics. Particulate matter emissions are controlled with a multi-clone and wet venturi scrubber configured in series. Process water for the wet scrubber is conditioned in a settling pond located adjacent to the boiler building. Wood ash is conveyed by drag chain to an exterior storage bunker.

The following individual pieces of equipment are associated with EU3:

<u>Equipment</u>	<u>Facility Designation</u>
One wood fired boiler	-
One multi-clone/wet venturi scrubber combination	-
One settling pond	-

EU4 Dry Kilns

EU4 consists of five dry kilns used to dry green lumber from the sawmill. The kilns are powered exclusively with steam from the facility's hogged fuel boiler. Roughsawn lumber is stacked on carts and rolled into the kilns. After drying, lumber is removed from the kilns, and sent to the sawmill planer.

The following individual pieces of equipment are associated with EU6:

<u>Equipment</u>	<u>Facility Designation</u>
Five dry kilns	-

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. SWCAA did not confirm the insignificant status for all of the emission units identified by the permittee. Emission units determined to be insignificant by SWCAA are described as follows:

IEU1 Machine Shop 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 APPLICABLE REQUIREMENTS**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 are general statewide standards, and apply to all sources of air contaminants. Therefore, these standards 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. 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.

Reqs. 11-22 SWCAA Orders of Approval

[SWCAA 97-2034, SWCAA 96-1951, SWCAA 95-1817, SWCAA 88-1032]

There are currently four active Orders of Approval which apply to operations at the Morton facility. Each Order of Approval has been issued in response to a Notice of Construction application submitted by the Permittee for specific equipment installations and/or modifications. The requirements found in these Orders of Approval are directly applicable to the equipment for which the specific Order of Approval was issued.

Order of Approval SWCAA 88-1032 approved installation of a "Posi-Con" baghouse at the Morton facility (EU2). SWCAA 88-1032 limited visible emissions from the baghouse to zero percent opacity.

Order of Approval SWCAA 95-1817 approved installation of two new dry kilns at the Morton facility (EU4). SWCAA 95-1817 established the following requirements for dry kiln operation:

- PM emission limit of 2.5 tpy.

- VOC emission limit of 46.0 tpy.
- Toluene emission limit of 4.0 tpy.
- 2,2,4 trimethylpentane emission limit of 2.0 tpy.
- Visible emission limit of 10% opacity.
- Dry kiln operation was limited to hem-fir, pine, and douglas fir only.
- Maximum dry kiln operating temperature was limited to 250 °F.
- Routine emission testing of lumbering drying emissions.

Order of Approval SWCAA 96-1951 approved installation of a new Nicholson barker unit and a new Can-Car saw/chipper unit at the Morton facility (EU2). SWCAA 96-1951 established the following requirements for barker and saw/chipper operation:

- PM emission limit of 5.5 tpy.
- Visible emission limit of 0% opacity.
- Barker and saw/chipper operation was limited to green logs only.

Order of Approval SWCAA 97-2034 approved modification of existing emission limits for the hogged fuel boiler at the Morton facility (EU3). SWCAA 97-2034 established the following requirements:

- PM emission limit of 0.07 gr/dscf corrected to 7% O₂.
- Visible emission limit of 15% opacity.
- Minimum pressure drop across wet venturi scrubber of 30" w.c.
- Minimum scrubber water circulation rate of 240 gpm.
- Minimum settling pond make-up water flowrate of 10 gpm.
- Continuous monitoring of scrubber water circulation rate, settling pond make-up water flowrate, pressure drop across scrubber, and excess oxygen concentration in wood fired boiler.
- Maintenance and monitoring of pond water as proposed in NOC L-384.
- Routine emission testing of the boiler and associated control equipment.

V. EXPLANATION OF OBSOLETE REQUIREMENTS

SWCAA has issued a total of five Regulatory Orders to the permittee. As identified in Section IV, only four of these Orders are still active. The approval conditions in the remaining Order have been superseded as described below.

Order of Approval SWCAA 78-300 approved installation of a new hogged fuel boiler and associated pollution abatement equipment. SWCAA 78-300 was superseded by SWCAA 97-2034. SWCAA 78-300 established the following requirements:

- Visible emission limit of 0% opacity.
- Minimum pressure drop across wet venturi scrubber of 30" w.c.
- Minimum scrubber water circulation rate of 240 gpm.
- Minimum settling pond make-up water flowrate of 10 gpm.

VI. EXPLANATION OF MONITORING/RECORDKEEPING REQUIREMENTS**M1. Opacity Monitoring**

The applicable requirements cited in this monitoring/recordkeeping section are general requirements drawn from WAC 173-400, SWCAA 400, SWCAA 88-1032, SWCAA 95-1817, SWCAA 96-1951, and SWCAA 97-2034. 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. Demonstration of compliance is required in some cases via visible emission evaluation.

M2. Particulate Matter Emissions Monitoring

The applicable requirements cited in this monitoring/recordkeeping section are general requirements drawn from WAC 173-400, SWCAA 400, and SWCAA 97-2034. 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. M2 is designed to assure compliance through periodic facility inspections and prompt corrective action.

M3. Fugitive Emissions Monitoring

The applicable requirements cited in this monitoring/recordkeeping section are all general requirements drawn from WAC 173-400 and SWCAA 400. 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. M3 is designed to assure compliance through a combination of prompt complaint response and periodic facility inspections.

M4. Complaint Monitoring

The applicable requirements cited in this monitoring/recordkeeping section are general requirements drawn from WAC 173-400 and SWCAA 400. 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/recordkeeping section are drawn from WAC 173-400, SWCAA 400, SWCAA 96-1951, and SWCAA 97-2034. The cited applicable requirements are not directly related to one another, but do have the same monitoring requirements. None of requirements cited above identify a 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 96-1951, Section 9.c limits operation of the Nicholson barker and Can-Car saw/chipper units to green logs only. Certification of log type is deemed sufficient to assure compliance.

SWCAA 97-2034, Section 11.e requires the permittee to install and maintain equipment capable of continuously monitoring specified equipment parameters. The actual parameters themselves are monitored via M10. This requirement applies only to the presence and condition of the monitoring equipment. Certification of installation and good condition is deemed sufficient to assure compliance.

M6. SO₂ Emission Standard

The applicable requirement cited in this monitoring/recordkeeping section is drawn from WAC 173-400 and SWCAA 400. 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 hogged 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.

M7. Maintenance and Monitoring of Settling Pond

The applicable requirement cited in this monitoring/recordkeeping requirement is drawn from SWCAA 97-2034. SWCAA 97-2034, Section 11.f mandates a continuing regime of water quality monitoring proposed by the permittee in NOC L-384. Proper maintenance of water quality in the settling pond is essential to operation of the boiler's wet scrubber because poor water quality can greatly diminish scrubber effectiveness. M7 is designed to ensure maximum performance from the boiler's wet scrubber by maintaining optimum water quality in the settling pond.

M8. Emissions from Lumber Drying

The applicable requirement cited in this monitoring/recordkeeping requirement is drawn from SWCAA 95-1817. Compliance with the specified emission limits is calculated based on lumber throughput and emission factors derived from emission testing as required in M11. M8 is designed to collect and retain process data which will then be used to calculate emissions and certify the type of lumber dried in the kilns.

M9. Lumber Drying Emission Testing

The applicable requirement cited in this monitoring/recordkeeping section is drawn from SWCAA 95-1817. SWCAA 95-1817, Section 10.j establishes a schedule of emission testing to confirm compliance with the requirement. 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 kiln process. Testing is performed on wood samples in a laboratory environment similar to the kiln process. Lumber drying emissions are then calculated based on lumber throughput and an emission factor established by the test results. M9 is designed to provide validation of existing emission factors through periodic testing.

M10. Operations Monitoring

The applicable requirements cited in this monitoring/recordkeeping requirement are drawn from SWCAA 95-1817 and SWCAA 97-2034. Both of these requirements specify numerical parameters for the proper operation of the facility's lumber dry kilns and boiler. 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. Likewise, minimum flowrates and differential pressure are specified to ensure proper operation of the boiler's wet scrubber. M10 is designed to minimize emissions from the facility's lumber dry kilns and boiler by maintaining operating variables within specified parameters.

M11. Boiler Emission Testing

The applicable requirement cited in this monitoring/recordkeeping section is drawn from SWCAA 97-2034. SWCAA 97-2034, Section 11.1 establishes a schedule of emission testing to confirm compliance with the requirement. Testing is to be conducted in accordance with SWCAA 97-2034, Appendix B which prescribes sampling points, testing protocols, data reduction, and reporting formats. M11 is designed to demonstrate compliance through periodic testing.

M12. PM Emissions from Barker and Saw/Chipper

The applicable requirement cite in this monitoring/recordkeeping section is drawn from SWCAA 96-1951. SWCAA 96-1951, Section 9.a limits PM emissions from the approved barker and saw/chipper units to 5.5 tpy. Compliance with the specified emission limit is calculated based on lumber throughput, emission factors from the EPA FIRE database, and estimated control efficiencies as described in SWCAA 96-1951, Section 3. M12 is designed to collect and retain throughput data which will then be used to calculate emissions.

VII. EXPLANATION OF REPORTING REQUIREMENTS**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).

R2. Complaint Reports

The permittee is required to report all complaints to SWCAA within three days of receipt to ensure prompt complaint response.

R3. Semi-annual Reports

The permittee is required to report monitoring records and certification of monitoring records on a semi-annual basis. Semi-annual reporting of monitoring records and certification of monitoring records is required by WAC 173-401-615(3).

R4. Annual Reports

The permittee is required to certify compliance with all permit terms and conditions on an annual basis. Annual compliance certification is required by WAC 173-401-630(5).

R5. Emission Inventory Reports

The permittee is required to report an inventory of annual emissions as provided in WAC 173-400-105 and SWCAA 400-105.

R6. Source Test Reports

The permittee is required to report test results within 45 days of test completion to allow timely review by SWCAA.

VIII. APPENDIX A**1. Visible Emissions Evaluation Method**

Appendix A contains the method by which visible emissions from the permittee's operations are to be evaluated when performing required monitoring. SWCAA has traditionally determined compliance with local visible emissions standards using EPA Method 9 with modified data reduction. Upon review, EPA Region X commented that such use of EPA Method 9 was inappropriate for this source. SWCAA has therefore exercised its latitude under SWCAA 400-105(4) "Source Testing" to approve an alternative test method in advance for visible emissions evaluation. Approval has been granted via signature of this permit by SWCAA's Executive Director. The alternative method shall be used to determine compliance only with state and local opacity

standards. Determination of compliance with any federally established opacity standard requires that EPA Method 9 be performed.

2. 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.

IX. PERMIT ACTIONS

1.	Initial Permit Application:	June 7, 1995
	Additional Information Submitted:	November 25, 1995
2.	Application Complete:	December 7, 1995
3.	Application Sent to EPA:	September 19, 1997
4.	Draft Permit Issued:	September 19, 1997
5.	Proposed Permit Issued:	December 5, 1997
6.	Final Permit Issued:	January 28, 1998
7.	Administrative Revised Permit Issued:	October 15, 2001