December 3, 2009

David Like
Hampton Lumber Mills, Inc.
PO Box 8
Willamina, OR 97396

Re: Issuance of FINAL Title V Air Operating Permit SW97-5-R1- Renewal

Dear Mr. Like:

The Southwest Clean Air Agency (SWCAA) is issuing a final renewal Title V permit to Hampton Lumber Mills, Inc – Morton Facility. The Title V permit is being revised to incorporate the permit modifications proposed in Air Discharge Permits 03-2454 and 04-2534R1 and to include Hampton Drying Company as a support facility. In addition, SWCAA has utilized this opportunity to make administrative updates to various parts of the permit and statement of basis.

Copies of the final renewal Air Operating Permit and Title V Basis Statement are accompanied with this letter. In addition, copies of the final permit will be available on SWCAA's website at www.swcleanair.org. If you have any questions or comments, please contact me at (360) 574-3058 ext. 29.

Sincerely,

Vannessa McClelland
Air Quality Engineer

Attachment

C: Nancy Helm, Manager; Federal and Delegated Air Programs
US EPA Region 10, Office of Air Waste and Toxics
1200 6th Avenue, MS AWT-107
Seattle, WA 98101
Hampton Lumber Mills - WA, Inc. - Morton Facility

Air Operating Permit

SW97-5-R1

Final Issued December 3, 2009

Southwest Clean Air Agency
11815 NE 99 St., Ste 1294
Vancouver, WA 98682
Telephone: (360) 574-3058
AIR OPERATING PERMIT #: SW97-5-R1

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 98377

Hampton Drying Company
247 Priest Road
Morton, WA 98356

NATURE OF BUSINESS: Saw mill

SIC/NAICS CODE: 2421/321113

AIRS NUMBER: 53-041-00009

EFFECTIVE DATE: December 3, 2009

EXPIRATION DATE: December 3, 2014

RENEWAL APPLICATION DUE: June 3, 2014

PERMIT ENGINEER: Vannessa McClelland, Air Quality Engineer

REVIEWED BY: Paul T. Mairose, Chief Engineer

APPROVED BY: Robert D. Elliott, Executive Director
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I. ABBREVIATIONS

List of Common Abbreviations

ADP Air Discharge Permit (aka Order of Approval)
AOP Air Operating Permit
BACT Best available control technology
BF Board feet
CAM Compliance Assurance Monitoring
CO Carbon monoxide
CFR Code of Federal Regulations
DOE Washington Department of Ecology
EPA U.S. Environmental Protection Agency
EU Emission unit
EU# Refers to a specific emission unit numbered "#"
FCAA Federal Clean Air Act
G# Refers to a specific general term and condition numbered "#"
gr/dscf Grains per dry standard cubic foot
HAP Hazardous air pollutant
IEU Insignificant emission unit
IEU# Insignificant emission unit numbered "#"
M# Refers to a specific monitoring requirement numbered "#"
MACT Maximum Available Control Technology
MSDS Material safety data sheet
NESHAPS National Emission Standards for Hazardous Air Pollutants
NR# Nonapplicable requirement numbered "#"
NSR New source review
NOx Oxides of nitrogen
O2 Oxygen
PM Particulate matter
PM10 Particulate matter less than 10 microns in diameter
PTE Potential to emit
R# Refers to a specific reporting requirement numbered "#"
RACT Reasonably available control technology
RCW Revised Code of Washington
Region 10 Region 10 of the U.S. Environmental Protection Agency
Req-# Applicable requirement numbered "#"
SERP Source Emission Reduction Plan
SO2 Sulfur dioxide
SIP State implementation plan
SWCAA Southwest Clean Air Agency
TAP Toxic air pollutant
tpy Tons per year
VOC Volatile organic compound
WAC Washington Administrative Code

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations.
II. REGULATORY BASIS

This Air Operating Permit (AOP) is authorized under the procedures established in WAC 173-401 and Title V of the 1990 Federal Clean Air Act Amendments. The terms and conditions of this permit describe the emission limitations, operating requirements, ambient monitoring, recordkeeping requirements, and reporting frequencies for the permitted source.

Permit terms and conditions are divided into the following categories: Permit Provisions, General Terms and Conditions, Operating Terms and Conditions, Monitoring Requirements, Recordkeeping Requirements, and Reporting Requirements. As used in this permit, there is no distinction between "terms" and "conditions." As such, "condition" shall mean the same as "terms and conditions" as referred to in Title V of the 1990 Federal Clean Air Act Amendments.

The conditions required under this permit are determined to be necessary to assure and provide for certification of compliance with applicable local, state, and federal air pollution requirements and standards. A comprehensive list of local, state, and federal air pollution regulations and standards that currently apply to emission units and other air pollution sources located at the permittee's facility is provided in Section V, "General Terms and Conditions." These regulations and standards were determined to be applicable based on the equipment specifications and regulatory history of each emission unit as described in the Title V Statement of Basis for this permit.

III. EMISSION UNIT IDENTIFICATION

<table>
<thead>
<tr>
<th>ID #</th>
<th>Generating Equipment/Activity</th>
<th>Emission Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-1</td>
<td>Log Yard</td>
<td>Water truck</td>
</tr>
<tr>
<td>EU-2</td>
<td>Sawmill</td>
<td>Building enclosures, Western Pneumatics baghouse Plastic sheeting and wet suppression</td>
</tr>
<tr>
<td>EU-3</td>
<td>Hog Fuel Boiler</td>
<td>One multi-clone/Zurn Air Systems wet venturi scrubber combination One settling pond</td>
</tr>
<tr>
<td>EU-4</td>
<td>Dry Kilns</td>
<td>None</td>
</tr>
<tr>
<td>EU-5</td>
<td>Diesel Boiler (Hampton Drying Company)</td>
<td>Flue gas recirculation</td>
</tr>
<tr>
<td>EU-6</td>
<td>Dry Kiln (Hampton Drying Company)</td>
<td>None</td>
</tr>
</tbody>
</table>
IV. PERMIT PROVISIONS

P1. Credible Evidence

For the purposes of submitting compliance certifications or establishing whether a violation of any term or condition of this permit has occurred or is occurring, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether the permittee would have been in compliance with a specific term or condition if the appropriate performance or compliance test or procedure would have been performed.

P2. Confidentiality of Records and Information

The permittee is responsible for clearly identifying information that is considered proprietary and confidential prior to submittal to SWCAA. Requests for proprietary and confidential information shall be released only after legal opinion by SWCAA's legal counsel, and notice to the permittee of the intent to release or deny the release of information.

In the case where the permittee has submitted information to SWCAA under a claim of confidentiality, SWCAA may also require the source to submit a copy of such information directly to the Administrator.

Upon request, the permittee shall also furnish to the permitting authority copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205.

P3. Permit Duration

This permit shall be valid for a fixed term of 5 years.


(a) Duty to comply. The permittee must comply with all conditions of this Chapter 401 permit. Any permit noncompliance constitutes a violation of Revised Code of Washington (RCW) Chapter 70.94 and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
(b) *Need to halt or reduce activity not a defense.* It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(c) *Permit actions.* This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(d) *Property rights.* This permit does not convey any property rights of any sort, or any exclusive privilege.

(e) *Duty to provide information.* The permittee shall furnish to the permitting authority, within a reasonable time, any information that the permitting authority may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the permitting authority copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205.

(f) *Permit fees.* The permittee shall pay fees in accordance with RCW 70.94.162 as a condition of this permit in accordance with the permitting authority's fee schedule. Failure to pay fees in a timely fashion shall subject the permittee to civil and criminal penalties as prescribed in RCW 70.94.430 and 70.94.431.

(g) *Emissions trading.* No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(h) *Severability.* If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable.

(i) *Permit appeals.* This permit or any conditions in it may be appealed only by filing an appeal with the Pollution Control Hearings Board and serving it on the permitting authority within thirty days of receipt of the permit pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under § 505(b) of the FCAA.

(j) *Permit continuation.* This permit and all terms and conditions contained herein shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted.
P5. **Insignificant Emission Unit - Permit Revision**  
WAC 173-401-530(6) - [10/17/02]

Any emission unit or activity that qualifies as insignificant solely on the basis of provisions in WAC 173-401-530(1)(a) shall not exceed the emissions thresholds specified in WAC 173-401-530(4) until this permit is modified pursuant to WAC 173-401-725.

P6. **Federally Enforceable Requirements**  
WAC 173-401-625 - [10/17/02]

(a) All terms and conditions in an air operating permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the FCAA, except as indicated in paragraph (b) below.

(b) Notwithstanding subsection (a), any terms and conditions included in this permit that are not required under the FCAA or under any of its applicable requirements are specifically designated as "state" or "local" only, and are not federally enforceable under the FCAA. Terms and conditions so designated are not subject to the requirements of WAC 173-401-810.

P7. **Permit Shield**  
WAC 173-401-640 - [10/17/02]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements that are specifically identified in this permit as of the date of permit issuance. Nothing in this permit shall alter or affect the following:

(a) The provisions of section 303 of the FCAA (emergency orders), including the authority of the Administrator under that section;

(b) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

(c) The applicable requirements of the acid rain program, consistent with section 408(a) of the FCAA;

(d) The ability of EPA to obtain information from a source pursuant to section 114 of the FCAA; and

(e) The ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as defined in RCW 70.94.

P8. **Emergency Provision**  
WAC 173-401-645 - [10/17/02]

An "emergency" as defined in WAC 173-401-645(1) shall constitute an affirmative defense to an action brought for noncompliance with technology based emission limitations. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

(a) An emergency occurred and that the permittee can identify the causes(s) of the emergency;
(b) The permitted facility was at the time being properly operated;

(c) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(d) The permittee submitted notice of the emergency to the permitting authority within two working days of the time when emission limitations were exceeded due to the emergency or shorter periods of time specified in an applicable requirement. This notice fulfills the requirement of WAC 173-401-615(3)(b) unless the excess emissions represent a potential threat to human health and safety. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

Burden of proof lies with the permittee.

P9. Reopenings for Cause

This permit shall be reopened and revised under any of the following circumstances:

(a) Additional applicable requirements become applicable to a major air operating permit source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j);

(b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit;

(c) The permitting authority or Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or

(d) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings under this section shall not be initiated before a notice of such intent is provided to the air operating permit source by the permitting authority. Such notice shall be made at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

P10. Excess Emissions

The permittee shall report excess emissions to SWCAA as soon as possible. Excess emissions due to startup or shutdown conditions or due to scheduled maintenance shall be considered
unavoidable provided the source reports as required under subsection (1) of SWCAA 400-107 and adequately demonstrates that the excess emissions could not have been prevented or avoided.

Excess emissions due to upsets shall be considered unavoidable provided that the permittee reports as soon as possible but no later than 48 hours after discovery, and adequately demonstrates that:

(a) The event was not caused by poor or inadequate design, operation, or maintenance, or any other reasonably preventable conditions;

(b) The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;

(c) The operator took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the operator knew or should have known that an emission standard or permit condition was being exceeded; and

(d) The owner or operator(s) actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence.

V. GENERAL TERMS AND CONDITIONS

G1. Asbestos 40 CFR 61 Subpart M - [7/1/08]
SWCAA 400-075 - [12/14/06 Local Only]
SWCAA 476 - [3/18/01 Local Only]

The permittee shall comply with the provisions of SWCAA 476 when conducting any renovation or demolition activities at the facility.

G2. Chemical Accident Prevention Program 40 CFR 68 - [7/1/08]

The permittee shall comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR part 68 no later than the latest of the following dates:

(a) Three years after the date on which a regulated substance, present above the threshold quantity in a process, is first listed under 40 CFR § 68.130; or

(b) The date on which a regulated substance is first present above a threshold quantity in a process.

G3. Protection of Stratospheric Ozone 40 CFR 82, Subparts B and F - [7/1/08]

The permittee shall comply with the standards for recycling and emissions reduction as provided in 40 CFR Part 82, Subparts B and F.
G4. Duty to Supplement or Correct Application

WAC 173-401-500(6) - [10/17/02]

The permittee, upon becoming aware that relevant facts were omitted or incorrect information was submitted in a permit application, shall promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit.

G5. Certification

WAC 173-401-520 - [10/17/02]

All application forms, reports, and compliance certifications must be certified by a responsible official. Certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information contained in the submittal are true, accurate, and complete.

G6. Inspection and Entry

WAC 173-401-630(2) - [11/4/93]

SWCAA 400-105(3) – [12/14/06]

SWCAA 400-106(1)(a) – [12/14/06]

The permittee shall allow inspection and entry, upon presentation of credentials and other documents as may be required by law, by the permitting authority or an authorized representative to perform the following:

(a) Enter upon the permittee's premises where an air operating permit source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and ability to copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by SWCAA 400-105 and the FCAA, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

G7. Schedule of Compliance

WAC 173-401-630(3) - [[10/17/02]

The permittee shall continue to comply with all applicable requirements with which the source is currently in compliance, and meet on a timely basis any applicable requirements that become effective during the permit term.

G8. Permit Renewal, Expiration and Revocation

WAC 173-401-710 - [10/17/02]

The permittee shall submit a complete permit renewal application to SWCAA no later than the date established in the permit. Permit expiration terminates the source’s right to operate unless a
timely and complete renewal application has been submitted consistent with WAC 173-401-710(1) and WAC 173-401-500. All terms and conditions of the permit shall remain in effect after the permit expires if a timely and complete permit application has been submitted. Operation under the terms and conditions of the expired permit will be allowed until SWCAA takes final action on the renewal application.

This permit expires on December 3, 2014. A renewal application is due on December 3, 2013 and a complete renewal application is due no later than June 3, 2014.

The permitting authority may revoke a permit only upon the request of the permittee or for cause. The permitting authority shall provide at least thirty days written notice to the permittee prior to revocation of the permit or denial of a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee/applicant an opportunity to meet with the permitting authority prior to the authority's final decision. A revocation issued under this section may be issued conditionally with a future effective date and may specify that the revocation will not take effect if the permittee satisfies the specified conditions before the effective date.

G9. Transfer of Ownership or Operational Control WAC 173-401-720(1)(d) - [10/17/02]

A change in permittee due to transfer of ownership or operational control of an affected source requires a request for administrative permit amendment as governed by WAC 173-401-720(1)(d).

SWCAA 400-110(5) - [11/21/96 SIP Only]
SWCAA 400-110(6) – [12/14/06 Local Only]

Portable sources which locate temporarily at the site of air operating permit sources shall be allowed to operate at the temporary location without filing an air discharge permit application provided that:

(a) The source/emission units are registered with SWCAA;

(b) The source/emission units have an air discharge permit to operate as a portable source;

(c) The owner(s) or operator(s) notifies SWCAA of the intent to operate at the new location at least ten business days prior to starting the operation;

(d) The owner(s) or operator(s) supplies sufficient information including production quantities and hours of operation, to enable SWCAA to determine that the operation will comply with the emission standards for a new source, and will not cause a violation of applicable ambient air quality standards and, if in a nonattainment area, will not interfere with scheduled attainment of ambient standards; and

(e) The owner(s) and/or resident(s) of immediately adjacent properties shall be notified by the owner(s) or operator(s) of the portable source in writing at least 10 business days prior to commencement of operations at the proposed location with copies mailed to SWCAA.
Written notification to the adjacent landowners/residents shall be by certified mail with return receipt requested. Such written notification shall include a complete description of the proposed operation, the associated emissions control provisions and equipment, the total estimated project emissions, the name, address and phone number of the person in charge of the operation, and the address and phone number for SWCAA. Written notification shall indicate that all comments shall be directed to SWCAA.

G11. Misrepresentation and Tampering

SWCAA 400-105(6 & 7) - [12/14/06 Local Only]

(a) The permittee shall not make any false material statement, representation or certification in any form, notice, or report.

(b) The permittee shall not render inaccurate any monitoring device or method required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

G12. New Source Review

WAC 173-460 - [8/21/98 State Only]
SWCAA 400-109 – [12/14/06 Local Only]
SWCAA 400-110 - [11/21/96 SIP, 12/14/06 Local Only]
SWCAA 400-141 - [12/14/06 Local Only]

The permittee shall not construct or modify a source which is required to be reviewed under SWCAA 400 and WAC 173-460 without first receiving an approval or permit under such provisions. Portable sources may be exempt from this requirement if they fulfill the criteria described in G10 – Portable Sources.

G13. Replacement or Substantial Alteration of Emission Control Technology at an Existing Stationary Source

SWCAA 400-114 - [11/21/96 SIP, 12/14/06 Local Only]

Prior to replacing or substantially altering emission control technology or equipment installed at an existing stationary source or emission unit, the permittee shall file an air discharge permit application with SWCAA. Construction shall not commence on a project subject to review until SWCAA issues a final air discharge permit or other regulatory order. However, any air discharge permit application filed under this section shall be deemed to be approved without conditions if the Agency takes no action within thirty days of receipt of a complete application.

G14. Outdoor Burning

WAC 173-425 - [10/18/90 SIP, 4/13/00 State Only]
SWCAA 425 - [8/1/02 Local Only]

The permittee is prohibited from conducting outdoor burning except as allowed by SWCAA 425.
VI. OPERATING TERMS AND CONDITIONS

The following table lists all federal, state, and/or locally enforceable requirements applicable to the permittee. The legal authority for each requirement is below each requirement. Applicable requirements identified as having "plantwide" applicability apply to both EUs and IEUs. Some of the requirements have been partially adopted into the Washington State Implementation Plan (SIP). Only those parts adopted into the Washington SIP are federally enforceable. Requirements which are not required under the FCAA are denoted as state or local only. Monitoring requirements are used to provide a reasonable assurance of compliance with the applicable requirements, and may or may not involve the use of a reference test method.

<table>
<thead>
<tr>
<th>Req. #</th>
<th>Requirement</th>
<th>Emission Point</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req-1</td>
<td>Permittee shall not cause or permit any visible emissions which exceed 20% opacity for more than three minutes, in any one hour. Reference Test Method: SWCAA 400, Appendix A – SWCAA Method 9</td>
<td>Plantwide</td>
<td>M1 Visible Emissions</td>
</tr>
<tr>
<td>Req-2</td>
<td>Permittee shall not cause or permit fallout of particulate matter beyond the source's property boundary in sufficient quantity to interfere unreasonably with the use and enjoyment of the property on which the fallout occurs.</td>
<td>Plantwide</td>
<td>M2 Particulate Matter, M5 Complaint</td>
</tr>
<tr>
<td>Req-3</td>
<td>Permittee shall take reasonable precautions to prevent the release of fugitive emissions from any emission unit which is a source of fugitive emissions.</td>
<td>Plantwide</td>
<td>M4 Fugitive Emissions, M5 Complaint</td>
</tr>
<tr>
<td>Req-4</td>
<td>Permittee shall use recognized good practice and procedures to reduce odors to a reasonable minimum.</td>
<td>Plantwide</td>
<td>M5 Complaint</td>
</tr>
<tr>
<td>Req-5</td>
<td>Permittee shall not cause or permit emissions detrimental to persons or property.</td>
<td>Plantwide</td>
<td>M5 Complaint</td>
</tr>
<tr>
<td>Req-6</td>
<td>Permittee shall not cause or permit any emission unit to emit a gas containing sulfur dioxide in excess of 1,000 ppm of sulfur dioxide on a dry basis, based on an average of sixty consecutive minutes. Reference Test Method: 40 CFR 60, Appendix A - EPA Method 6</td>
<td>Plantwide</td>
<td>M7 SO₂ Emission Standard</td>
</tr>
<tr>
<td>Req-7</td>
<td>Permittee shall not cause or permit the installation or use of any means which conceals or masks an emission which would otherwise violate any provisions of SWCAA 400-040.</td>
<td>Plantwide</td>
<td>N/A</td>
</tr>
<tr>
<td>Req-8</td>
<td>Permittee shall take reasonable precautions to prevent emissions of fugitive dust and operate the source to minimize emissions.</td>
<td>Plantwide</td>
<td>M4 Fugitive Emissions, M5 Complaint</td>
</tr>
<tr>
<td>-------</td>
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<tr>
<td></td>
<td>SWCAA 400-040(8)(a) - [9/21/95 SIP, 12/14/06 Local Only]</td>
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<td></td>
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<tr>
<td>Req-9</td>
<td>Permittee shall not cause or permit emissions of particulate matter from a combustion or incineration emission unit in excess of 0.1 gr/dscf of exhaust gas corrected to 7% oxygen. Permittee shall not cause or permit emissions of particulate matter from an emission unit combusting wood derived fuels in excess of 0.2 gr/dscf of exhaust gas corrected to 7% oxygen. Reference Test Method: 40 CFR 60, Appendix A - EPA Method 5 SWCAA 400-050(1)&amp;(3) - [9/21/95 SIP, 12/14/06 Local Only] Oxygen level exclusion provision of SWCAA 400-050(3) - [12/14/06 Local Only]</td>
<td>Plantwide</td>
<td>M2 Particulate Matter, M14 Boiler Emissions Testing, M15 Boiler Emissions Monitoring</td>
</tr>
<tr>
<td>Req-10</td>
<td>Permittee shall not cause or allow emissions of particulate matter from a general process unit (excludes combustion) in excess of 0.1 gr/dscf of exhaust gas. Reference Test Method: 40 CFR 60, Appendix A - EPA Method 5 SWCAA 400-060 - [9/21/95 SIP, 12/14/06 Local Only]</td>
<td>Plantwide</td>
<td>M2 Particulate Matter, M3 Particulate Matter Emissions Testing</td>
</tr>
<tr>
<td>Req-11</td>
<td>Permittee shall not cause or permit any visible emissions from operation of the ABCO Industries hog fuel boiler which exceeds fifteen percent (15%) opacity for more than 3 minutes in any one hour period except during periods of cold-start ups, soot blowing and/or grate cleaning. Reference Test Method: SWCAA 400, Appendix A – SWCAA Method 9 SWCAA 04-2534R1, Section 2.1.4 - [11/22/04]</td>
<td>EU3</td>
<td>M1 Visible Emissions</td>
</tr>
<tr>
<td>Req-12</td>
<td>Permittee shall not cause or permit any visible emissions from operation of the dry kilns which exceeds five percent (5%) opacity for more than 3 minutes in any one hour period. Reference Test Method: SWCAA 400, Appendix A – SWCAA Method 9 SWCAA 04-2534R1, Section 2.1.4 - [11/22/04]</td>
<td>EU4</td>
<td>M1 Visible Emissions</td>
</tr>
<tr>
<td>Req-13</td>
<td>Permittee shall not cause or permit any visible emissions from operation of Hampton Drying Company's Cleaver Brooks diesel boiler which exceeds five percent (5%) opacity for more than 3 minutes in any one hour period except during periods of cold-start ups, soot blowing and/or grate cleaning. Reference Test Method: SWCAA 400, Appendix A – SWCAA Method 9 SWCAA 03-2454, Section 2.1.7 - [6/26/03]</td>
<td>EU5</td>
<td>M1 Visible Emissions</td>
</tr>
<tr>
<td>Req-14</td>
<td>Permittee shall not cause or permit any visible emissions from operation of Hampton Drying Company dry kilns which exceeds five percent (5%) opacity for more than 3 minutes in any one hour period. Reference Test Method: SWCAA 400, Appendix A – SWCAA Method 9 SWCAA 03-2454, Section 2.1.7 - [6/26/03]</td>
<td>EU6</td>
<td>M1 Visible Emissions</td>
</tr>
<tr>
<td>Req-15</td>
<td>Permittee shall not cause or permit any visible emission from approved operations which exceeds zero percent (0%) opacity for more than three minutes in any one hour. Reference Test Method: SWCAA 400, Appendix A – SWCAA Method 9</td>
<td>EU2</td>
<td>M1 Visible Emissions</td>
</tr>
<tr>
<td>Req-16</td>
<td>Emissions from the ABCO Industries hog fuel boiler operation shall not exceed the following corrected to 7% O2:</td>
<td>EU3</td>
<td>M14 Boiler Emissions Testing, M15 Boiler Emissions Monitoring</td>
</tr>
<tr>
<td></td>
<td><strong>Pollutant</strong></td>
<td><strong>Emission Limit</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOx</td>
<td>125.0 tpy, 175 ppm, one hour average</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CO</td>
<td>130.0 tpy, 300 ppm, one hour average</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>60.0 tpy, 0.070 gr/dscf (filterable only for compliance)</td>
<td></td>
</tr>
<tr>
<td>Req-17</td>
<td>Emissions from lumber drying operations shall not exceed the following:</td>
<td>EU4</td>
<td>M2 Particulate Matter, M11 Lumber Drying, M13 Lumber Drying Emissions Testing</td>
</tr>
<tr>
<td></td>
<td><strong>Pollutant</strong></td>
<td><strong>Emission Limit</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>9.0 tpy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VOC</td>
<td>35.0 tpy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toluene</td>
<td>5,705 lbs/yr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,2,4 Trimethylpentane</td>
<td>2,996 lbs/yr</td>
<td></td>
</tr>
<tr>
<td>Req-18</td>
<td>Emissions from the Western Pneumatics baghouse shall not exceed the following:</td>
<td>EU2</td>
<td>M2 Particulate Matter, M3 Particulate Matter Emissions Testing</td>
</tr>
<tr>
<td></td>
<td><strong>Pollutant</strong></td>
<td><strong>Emission Limit</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM&lt;sub&gt;10&lt;/sub&gt; (filterable)</td>
<td>10.51 tpy, 0.005 gr/dscf</td>
<td></td>
</tr>
<tr>
<td>Req-19</td>
<td>Emissions from the Hampton Drying Company's Cleaver Brooks diesel boiler operation shall not exceed the following corrected to 7% O2:</td>
<td>EU5</td>
<td>M2 Particulate Matter, M14 Boiler Emissions Testing, M15 Boiler Emissions Monitoring</td>
</tr>
<tr>
<td></td>
<td><strong>Pollutant</strong></td>
<td><strong>Emission Limit</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOx</td>
<td>19.5 tpy, 85 ppm, one hour average</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CO</td>
<td>6.5 tpy, 100 ppm, one hour average</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>2.5 tpy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VOC</td>
<td>1.0 tpy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>9.0 tpy</td>
<td></td>
</tr>
<tr>
<td>Req-20</td>
<td>Emissions from the Hampton Drying Company lumber drying operations shall not exceed the following:</td>
<td>EU6</td>
<td>M2 Particulate Matter, M11 Lumber Drying</td>
</tr>
<tr>
<td></td>
<td><strong>Pollutant</strong></td>
<td><strong>Emission Limit</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>3.5 tpy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VOC</td>
<td>6.5 tpy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAPs</td>
<td>SQER</td>
<td></td>
</tr>
<tr>
<td>Req-21</td>
<td>Operations that cause or contribute to a nuisance odor shall use recognized good practice and procedures to reduce these odors to a reasonable minimum.</td>
<td>Plantwide</td>
<td>M5 Complaint</td>
</tr>
</tbody>
</table>

SWCAA 04-2534R1, Section 2.1.4 - [11/22/04]  
SWCAA 04-2534R1, Section 2.1.1 - [11/22/04]  
SWCAA 04-2534R1, Section 2.1.2 - [11/22/04]  
SWCAA 04-2534R1, Section 2.1.3 - [11/22/04]  
SWCAA 03-2454, Section 2.1.1-2 - [6/26/03]  
SWCAA 03-2454, Section 2.1.3, 6 - [6/26/03]  
SWCAA 04-2534R1, Section 2.2.6 - [11/22/04]  
SWCAA 03-2454, Section 2.1.8 - [6/26/03]
<table>
<thead>
<tr>
<th>Req-22</th>
<th>Exhaust gases from the Western Pneumatics baghouse shall be discharged vertically. Any device that obstructs or prevents vertical discharge while in operation is prohibited.</th>
<th>EU2</th>
<th>M4 Fugitive Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.9 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-23</td>
<td>The Western Pneumatics baghouse shall be equipped with a differential pressure gauge to continuously measure the pressure differential ($\Delta P$) across the filtering media.</td>
<td>EU2</td>
<td>M6 Compliance Certification, M12 Material Handling Operations</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.20 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-24</td>
<td>The ABCO Industries hog fuel boiler shall be equipped with an oxygen meter capable of continuously monitoring oxygen levels in the exhaust gas.</td>
<td>EU3</td>
<td>M6 Compliance Certification</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.15 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-25</td>
<td>Temperature of the lumber drying kilns shall be continuously monitored and shall not operate at temperatures in excess of 250 °F.</td>
<td>EU4, EU6</td>
<td>M11 Lumber Drying</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.17 - [11/22/04]</td>
<td>SWCAA 03-2454, Section 2.2.11 - [6/26/03]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-26</td>
<td>Approved lumber drying operations shall only dry Douglas fir, pine, hemlock, and spruce lumber. 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.</td>
<td>EU4</td>
<td>M11 Lumber Drying</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.16 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-27</td>
<td>A street sweeper shall be used weekly on paved roads and a watering truck shall be used daily on unpaved roads when significant rainfall has not occurred for 15 days or more, or more frequently as needed to minimize fugitive dust.</td>
<td>EU2</td>
<td>M4 Fugitive Emissions</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.18-19 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-28</td>
<td>The Zurn wet venturi scrubber shall operate with a minimum differential pressure of 19&quot; w.c. and a minimum process water circulation rate of 60 gpm, measuring 4&quot; on the flume. The scrubber settling pond shall have a minimum capacity of 3,000 ft³ and the deep end of the settling pond shall have a water depth of at least 3 feet to assure proper operation of the scrubber system.</td>
<td>EU3</td>
<td>M10 Settling Pond</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.12-14 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-29</td>
<td>The scrubber water quality shall be visually evaluated on a daily basis in accordance with Appendix E of SWCAA 04-2534R1. Suspended solids testing shall be conducted on a quarterly basis.</td>
<td>EU3</td>
<td>M10 Settling Pond</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.10 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-30</td>
<td>The scrubber water flocculent shall be added to scrubber water on a daily basis as needed.</td>
<td>EU3</td>
<td>M10 Settling Pond</td>
</tr>
<tr>
<td>SWCAA 04-2534R1, Section 2.2.11 - [11/22/04]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-31</td>
<td>The Hampton Drying Company Cleaver Brooks boiler shall only be fired on 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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-32</td>
<td>The Hampton Drying Company Cleaver Brooks boiler shall only be fired on #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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Req-33</td>
<td>The director or governor may declare and terminate the emergency stage of an episode. This declaration shall constitute an order for action in accordance with applicable SERPs. The plan was prepared by Cowlitz Stud on November 14, 1972 and provisions to limit emissions of particulate matter were established in SERP No. 08-106.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SWCAA 03-2454, Section 2.2.9 - [6/26/03]

SWCAA 03-2454, Section 2.2.10 - [6/26/03]

WAC 173-435-050 - [1/3/89]
SERP No. 08-106
VII. MONITORING TERMS AND CONDITIONS

To assure compliance with all applicable requirements, the permittee shall perform the monitoring program specified below. Each monitoring requirement is indexed according to the underlying requirement(s). Pursuant to WAC 173-401-530(2)(c), the following monitoring requirements do not apply to IEUs.

M1. Visible Emissions Monitoring WAC 173-401-615(1) - [10/17/02]

This monitoring requirement applies to Requirements 1, 11, 12, 13, 14, and 15.

The permittee shall perform monthly inspections of affected operations during daylight hours for the purpose of identifying potential visible emission violations. Whenever visible emissions are observed during the monthly inspection, or whenever visible emissions are indicated by a complaint, the permittee shall verify the equipment causing the emissions. The permittee shall within 60 minutes of observing visible emissions confirm whether the equipment involved is experiencing a malfunction and determine if all pollution control equipment is operating properly. If the equipment has an opacity limit higher than 0%, assure the equipment is operating within permitted limits. Within 24 hours of initial discovery, permittee shall resolve the visible emissions or excess emissions problem, or notify SWCAA by the next working day of progress made in resolving the operational problem. Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M2. Particulate Matter Emissions Monitoring WAC 173-401-615(1) - [10/17/02]

This monitoring requirement applies to Requirements 9, 10, 17, 18, 19, and 20.

The permittee shall perform monthly inspections of affected operations during daylight hours for the purpose of identifying potential particulate matter emissions violations. Whenever particulate matter fallout or visible emissions are observed during the monthly inspection, other than from the hog fuel boiler, the permittee shall verify the equipment causing the emissions. The permittee shall within 60 minutes of observing the emissions confirm whether the equipment involved is experiencing a malfunction and whether all air pollution control equipment is operating properly. The permittee shall resolve particulate matter fallout or visible emissions within 24 hours of initial discovery, or notify SWCAA by the next business day of progress made in resolving the problem. Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M3. Particulate Matter Emissions Testing SWCAA 04-2534R1 Section 2.4.31 - [11/22/04]

This monitoring requirement applies to Requirements 10 and 18.
The permittee shall emission test particulate matter control equipment in accordance with the following schedule:

<table>
<thead>
<tr>
<th>Control Equipment</th>
<th>Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Pneumatics baghouse</td>
<td>Tested prior to March 2005 and every five years thereafter no later than the end of March.</td>
</tr>
</tbody>
</table>

Emission testing shall be conducted as specified in SWCAA 04-2534R1, Appendix C. Records of test results shall be maintained in accordance with Section VIII of this permit.

M4. **Fugitive Emissions Monitoring**  
WAC 173-401-615(1) - [10/17/02]  
SWCAA 04-2534R1 Section 2.4.28 - [11/22/04]

This monitoring requirement applies to Requirements 3, 8, 22, and 27.

The permittee shall perform monthly inspections of affected operations during daylight hours for the purpose of identifying excess fugitive emissions. Whenever fugitive emissions are observed during the monthly inspection, the permittee shall determine the source of the emissions and perform a visible emission evaluation. The permittee shall within 60 minutes of discovery confirm whether the equipment involved is experiencing a malfunction, and whether reasonable precautions and good work practices are being employed to minimize emissions. For purposes of this condition reasonable precautions shall include, but not be limited to, the following:

a. Use a street sweeper, or similar type equipment, to paved traffic areas on a weekly basis during periods when significant rainfall has not occurred for 15 days or more, or more frequently as necessary to minimize fugitive road dust. The dates the street sweeper is used to reduce fugitive emissions shall be recorded for each use; and

b. Use a water truck to apply water to unpaved traffic areas on a daily basis during periods when significant rainfall has not occurred for 15 days or more, or more frequently as necessary, to minimize fugitive road dust. The dates the water truck is used to reduce fugitive emissions shall be recorded for each use.

Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M5. **Complaint Monitoring**  
WAC 173-401-615(1) - [10/17/02]

This monitoring requirement applies to Requirements 2, 3, 4, 5, 8, and 21.

The permittee shall record, and maintain record of, any air quality related complaints received by the permittee or received by SWCAA and provided to the permittee. All complaints shall be investigated no later than one work day after the permittee has been notified. Investigation shall determine the validity of each complaint, the cause of emissions which prompted the complaint, and what, if any, corrective action was taken in
response to the complaint. Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M6. **Compliance Certification**

WAC 173-401-615(1) - [10/17/02]
SWCAA 04-2534R1 Section 2.3.24-26 - [11/22/04]
SWCAA 03-2454 Section 2.3.15 - [6/26/03]

This monitoring requirement applies to Requirements 7, 23, 24, and 33.

The permittee shall certify the following in each semi-annual report:

(a) Installed equipment does not conceal or mask any emissions which are otherwise in violation of general standards;

(b) Equipment capable of monitoring the following parameters on a continuous basis is installed and maintained:
   (i) Dry kiln operating temperature for all kilns;
   (ii) Steam production and excess oxygen of ABCO Industries hog fuel boiler;
   (iii) Boiler pressure and steam production for Hampton Drying Company's Cleaver Brooks diesel boiler; and
   (iv) Pressure drop across the throat of the wet scrubber.

(c) Equipment capable of monitoring the scrubber water circulation rate is installed and maintained;

(d) A differential pressure gauge which indicates the pressure differential across the filtering media of the Western Pneumatics baghouse is installed and maintained; and

(e) The Source Emission Reduction Plan (SERP) as outlined in SERP No. 08-106 was followed during all periods of air pollution alert, warning and emergency for the purposes of RCW 70.94.715, WAC 173-435, and SWCAA 435.

M7. **SO₂ Emission Standard**

WAC 173-401-615(1) - [10/17/02]

This monitoring requirement applies to Requirement 6.

The permittee shall certify in each semi-annual report that only hog fuel is used to fire the process boiler at the facility.

M8. **Monitoring of Hog Fuel Boiler Operations**

SWCAA 04-2534R1 Section 2.3.25 - [11/22/04]

This monitoring requirement applies to Requirement 28.

The permittee shall monitor boiler operations as follows:

(a) Hours of operation recorded monthly for the ABCO Industries hog fuel boiler;
(b) Fuel consumption recorded monthly for the ABCO Industries hog fuel boiler;
(c) Steam production recorded daily for the ABCO Industries hog fuel boiler;
(d) Oxygen level recorded daily for the ABCO Industries hog fuel boiler's exhaust gas;
(e) Cold start-up periods for each occurrence for the ABCO Industries hog fuel boiler;
(f) Pressure drop recorded daily across the throat of the wet scrubber;
(g) Wet scrubber process water circulation rate recorded daily; and
(h) Wet scrubber settling pond water depth at the deep side of the pond recorded daily.

The permittee shall perform daily inspections of affected operations to confirm that equipment operating parameters are in compliance with applicable requirements. Whenever noncompliant conditions are observed during the daily inspection or at any other time, the permittee shall within 60 minutes of discovery confirm whether the equipment involved is experiencing a malfunction, and if all air pollution control equipment is operating properly. Within 24 hours of initial discovery, permittee shall resolve the operational deficiency, or notify SWCAA by the next business day of progress made in resolving the operating problem. Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M9. Monitoring of Diesel Boiler Operations  SWCAA 03-2454 Section 2.3.16 - [6/26/03]

This monitoring requirement applies to Requirements 31 and 32.

The permittee shall monitor boiler operations as follows:

(a) Fuel consumption and type recorded monthly for the Hampton Drying Company's Cleaver Brooks diesel boiler;

The permittee shall perform daily inspections of affected operations to confirm that equipment operating parameters are in compliance with applicable requirements. Whenever noncompliant conditions are observed during the daily inspection or at any other time, the permittee shall within 60 minutes of discovery confirm whether the equipment involved is experiencing a malfunction, and if all air pollution control equipment is operating properly. Within 24 hours of initial discovery, permittee shall resolve the operational deficiency, or notify SWCAA by the next business day of progress made in resolving the operating problem. Implementation of corrective action does not relieve the permittee from the obligation of reporting permit deviations as specified in WAC 173-401-615(3). Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M10. Monitoring of Settling Pond Water Quality  SWCAA 04-2534R1 Section 2.3.25 - [11/22/04]

This monitoring requirement applies to Requirements 28, 29 and 30.

The permittee shall maintain and monitor settling pond water quality as follows:

(a) Scrubber pond depth shall be recorded on a daily basis;
(b) The quantity of flocculent added shall be predetermined by the Respondent. The flocculent delivery system shall be monitored on a daily basis for proper function and to assure flocculent is added to the scrubber pond. Facility personnel shall correct delivery system malfunctions as soon as possible. Flocculent shall be manually delivered as necessary to the scrubber pond if the delivery system can not be fixed within 8 hours;

(c) Scrubber water quality shall be visually evaluated on a daily basis using the standard procedure as described in Appendix B of this permit. Results of the visual evaluation shall be graded as excellent, normal, or poor. The permittee shall take immediate corrective action whenever a poor result is encountered; and

(d) Samples of the scrubber water shall be tested for total suspended solids on a quarterly basis.

Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M11. Monitoring and Emissions from Lumber Drying

This monitoring requirement applies to Requirements 17, 20, 25, and 26.

The permittee shall record, and maintain record of, the species, quantity, and moisture content of lumber dried in the facilities' dry kilns on a monthly basis. The highest temperature of the dry kiln exhaust air shall be recorded on a daily basis. Periods of non-operation should be recorded as such. Records shall be available for inspection no later than 30 days from the last day of the month. Compliance with specified emission limits is to be calculated based on lumber throughput and emission factors provided by the respective Permits. Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

M12. Material Handling Operations Monitoring

This monitoring requirement applies to Requirement 23.

The permittee shall record monthly tons of chips/shavings/sawdust unloaded from load-out bunkers.

The permittee shall record weekly the differential pressure across the Western Pneumatics baghouse filter media.

The permittee shall record monthly the hours of operation for the Western Pneumatics baghouse.

The permittee shall perform monthly inspections of affected operations for the purpose of identifying potential particulate matter emission violations. Whenever visible emissions are observed during the monthly inspection, or whenever visible emissions are indicated
by a complaint, the permittee shall verify the equipment causing the emissions. The permittee shall within 60 minutes of observing visible emissions confirm whether the equipment involved is experiencing a malfunction and whether air pollution control equipment is operating properly. Records of monitoring activities shall be maintained in accordance with Section VIII of this permit.

**M13. Lumber Drying Emissions Testing** SWCAA 04-2534R1 Section 2.4.30 - [11/22/04]

This monitoring requirement applies to Requirements 17 and 20.

The permittee shall emission test lumber drying by the end of February 2007 and every five years thereafter. Emission testing shall be conducted as specified in "Dry Kiln VOC Testing" in Appendix A of this permit. Records of test results shall be maintained in accordance with Section VIII of this permit.

**M14. Boiler Emissions Testing** SWCAA 04-2534R1 Section 2.4.29 - [11/22/04]

This monitoring requirement applies to Requirements 9, 16, and 19.

The permittee shall emission test the following:

(a) The ABCO Industries hog fuel boiler prior to October 2005 and every two years thereafter no later than the end of October; and
(b) The Hampton Drying Company's Cleaver Brooks diesel boiler prior to April 2003 and every five years thereafter no later than the end of April.

Emission testing shall be conducted as specified in SWCAA 04-2534R1 Appendix A and 03-2454 Appendix A. Records of test results shall be maintained in accordance with Section VIII of this permit.

**M15. Boiler Emissions Monitoring** SWCAA 04-2534R1 Section 2.4.32 - [11/22/04]

This monitoring requirement applies to Requirements 9, 16, and 19.

The permittee shall emission monitor the following:

(a) The ABCO Industries hog fuel boiler on a 12 month cycle, no later than the end of the calendar month in which the previous emission monitoring was performed. Emission monitoring is not required during any calendar year in which an emission test has been conducted.
(b) The Hampton Drying Company's Cleaver Brooks diesel boiler on a 12 month cycle, no later than the end of the month in which the initial testing was conducted.

Emission monitoring shall be conducted as specified in SWCAA 04-2534R1 Appendix D and 03-2454 Appendix B. Records of monitoring results shall be maintained in accordance with Section VIII of this permit.
VIII. RECORDKEEPING TERMS AND CONDITIONS

All monitoring records shall be maintained in a readily accessible form for a minimum period of five years. Pursuant to WAC 173-401-530(2)(c), none of the recordkeeping requirements apply to IEUs. The permittee shall maintain records of required monitoring per M1 through M14 as follows if applicable:

K1. General Recordkeeping  WAC 173-401-615(2) - [10/17/02]  
SWCAA 04-2534R1 Section 2.4.23, 29 Appendix D - [11/22/04]  
SWCAA 03-2454 Section 2.4.17-18 Appendix B - [6/26/03]

Permittee is required to keep the following records:

(a) Inspections and Certifications  
   (i)  The date, place, and time of activity;  
   (ii) Who conducted the inspection or certification;  
   (iii) The operating conditions existing at the time of the activity;  
   (iv) Compliance status of each monitored requirement as described in Section V and VII of this permit; and  
   (v) Corrective action taken in response to permit deviations and when action was initiated.

(b) Complaints  
   (i)  The date and time of complaint;  
   (ii) Name of the complainant;  
   (iii) The nature of the complaint;  
   (iv) Date and time follow-up inspection was conducted; and  
   (v) Corrective action taken in response to complaints and when action initiated.

(c) Upset Conditions/Excess Emissions  
   (i)  The date and time of upset or excess emission;  
   (ii) Identification of the emissions unit involved;  
   (iii) A brief description of the event;  
   (iv) Duration of the event; and  
   (v) Anticipated corrective action to prevent or minimize excess emissions.

(d) Sampling and Emissions Testing  
   (i)  The date sampling was performed;  
   (ii) The entity that performed the sampling;  
   (iii) The analytical techniques used to take the sample or perform the observation;  
   (iv) The operating conditions existing at the time of sampling or measurement;  
   (v) The date analyses were performed;  
   (vi) The entity that performed the analyses;  
   (vii) The analytical techniques or methods used to perform the analyses;  
   (viii) The results of such analyses;  
   (ix) Compliance status of each monitored requirement; and
(x)  Corrective action taken in response to permit deviations and when such action was initiated.

IX. REPORTING TERMS AND CONDITIONS

All required reports must be certified by a responsible official consistent with WAC 173-401-520. Where an applicable requirement requires reporting more frequently than once every six months, the responsible official's certification need only be submitted once every six months, covering all required reporting since the date of the last certification.

Addresses of regulatory agencies are the following, unless otherwise instructed:

Southwest Clean Air Agency  
11815 NE 99 St., Ste 1294  
Vancouver, WA 98682

U.S. EPA Region X  
Air Operating Permits  
1200 Sixth Avenue, AWT-107  
Seattle, WA 98101

R1. Deviations from Permit Conditions

WAC 173-401-615(3)(b) - [10/17/02]  
SWCAA 400-107 – [9/21/95 SIP, 12/14/06 Local Only]

Deviations from permit requirements shall be reported no later than thirty days after the end of the month during which the deviation is discovered. Deviations that represent a potential threat to human health or safety shall be reported as soon as possible but no later than twelve hours after the deviation is discovered. Reports of deviations shall include:

(a) Identification of the emission unit(s) involved;
(b) The duration of the event including the beginning and end times; and
(c) A brief description of the event, including:
   (i) Whether or not the deviation was due to an upset condition;
   (ii) The probable cause of the deviations; and
   (iii) The corrective action taken and when the corrective action was initiated.

Excess emissions shall be reported as soon as possible. In accordance with SWCAA 400-107(1), excess emissions that the permittee wishes to be considered unavoidable must be reported as soon as possible, but no later than 48 hours after discovery. The permittee shall report the upset condition by telephone, e-mail or facsimile as initial notification to SWCAA; a message may be left on the answering machine for conditions outside of normal business hours.

R2. Complaint Reports  WAC 173-401-615(3) - [10/17/02]

The permittee shall report all complaints to SWCAA within three business days of receipt. Complaint reports shall include the date and time of the complaint, the name of the complainant, and the nature of the complaint.
R3. Semi-annual Reports  WAC 173-401-615(3) - [10/17/02]
SWCAA 04-2534R1 Section 2.5.38, 40-44 - [11/22/04]

The permittee shall submit to SWCAA by October 15th and March 15th for the six
month periods January through June and July through December, respectively, the
following information:

(a) Records of all required monitoring, and any deviation from permit requirements shall
be clearly identified;
(b) For all EPA Method 9 or SWCAA Method 9 monitoring conducted during the semi-
annual period, a copy of the relevant opacity certification(s) shall be submitted with
the semi-annual report;
(c) Malfunctions in flocculent delivery system, results of scrubber water quality
evaluations, corrective action taken to improve scrubber water quality, pressure drop
across the throat of the wet scrubber, and results of total suspended solids testing;
(d) Hours of operation, fuel consumption and steam production of the ABCO Industries
hog fuel boiler;
(e) Cold start-up periods;
(f) Board feet of lumber dried, moisture content of wood dried, and type of wood dried
in the dry kilns for Hampton Lumber Mills, Morton;
(g) Bone dry tons of chips, sawdust, shavings and hog fuel loaded out from bunkers;
(h) Hours of operation of the Western Pneumatics baghouse;
(i) Tons of logs processed through the Nicholson barker;
(j) Summary of annual emissions;
(k) Upset conditions; and
(l) All required reports must be certified by a responsible official consistent with WAC
173-401-520. The responsible official is identified on Page 1 of the Statement of
Basis. The reports shall be either certified at initial submittal or each shall be
delineated and certified in the subsequent semi-annual report.

SWCAA 04-2534R1 Section 2.5.39 - [11/22/04]
SWCAA 03-2454 Section 2.5.20 - [6/26/03]

(a) Annual Compliance Certification:
The permittee shall submit to SWCAA and EPA a certification of compliance with all
terms and conditions of this permit in accordance with WAC 173-401-630(5)(d). The
permittee shall submit by March 15th of the following year the following information
for the period of January through December:

(i) Identification of each term or condition of the permit that is the basis of the
certification;
(ii) Statement of compliance status;
(iii) Whether compliance was continuous or intermittent;
(iv) Method(s) used for determining the compliance status of the source, currently and
over the reporting period consistent with WAC 173-401-615;
(v) Such other facts as SWCAA may require to determine the compliance status of
the source; and
(vi) Such additional requirements as may be specified pursuant to Sections 114(a)(3) and 504(b) of the FCAA.

(b) Annual Reports:
The permittee shall report the following to SWCAA annually by March 15th for the previous calendar year:

(i) Hours of operation, fuel consumption and type for the Hampton Drying Company's Cleaver Brooks diesel boiler;
(ii) Board feet of lumber dried, moisture content of wood dried, and type of wood dried in the dry kilns for Hampton Drying Company; and
(iii) Summary of annual emissions.

The permittee shall report the following to SWCAA annually by December 31st.

(i) The annual grate cleaning schedule for the ABCO Industries hog fuel boiler for the upcoming year.

R5. Emission Inventory Reports

SWCAA 400-105 - [9/21/95 SIP, 12/14/06 Local Only]
SWCAA 04-2534R1 Section 2.5.33 - [11/22/04]
SWCAA 03-2454 Section 2.5.21 - [6/26/03]

The permittee shall submit an inventory of annual emissions from the source each calendar year to SWCAA by March 15th of the following year in accordance with SWCAA 400-105. The inventory shall include stack and fugitive emissions of NOX, SO2, CO, VOC, PM, and toxic air pollutants identified in WAC 173-460.

R6. Source Test Reports

WAC 173-401-615(3) - [10/17/02]
SWCAA 400-106 – [12/14/06 Local Only]
SWCAA 04-2534R1 Section 2.5.36, Appendices A, B, C, F - [11/22/04]
SWCAA 03-2454 Section 2.5.24, Appendix A - [6/26/03]

Reports of all required source or emissions testing shall be submitted to the Agency within 45 days of test completion. Each report shall include:

(a) A description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations.
(b) Time and date of the test and identification and qualifications of the personnel involved.
(c) A summary of results, reported in units and averaging periods consistent with the applicable emission standard or limit with correction to the appropriate O2 standard.
(d) A summary of control system or equipment operating conditions.
(e) A summary of production related parameters.
(f) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation.
(g) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation.
(h) Copies of field data and example calculations.
(i) Chain of custody information.
(j) Calibration documentation.
(k) Discussion of any abnormalities associated with the results.
(l) A statement signed by the senior management official of the testing firm certifying the
validity of the source test report.

R7. Emission Tuning Reports WAC 173-401-615(3) - [10/17/02]
SWCAA 400-106 – [12/14/06 Local Only]
SWCAA 04-2534R1 Section 2.5.37, Appendices D - [11/22/04]
SWCAA 03-2454 Section 2.5.23, Appendix B - [6/26/03]

Reports of all required emission tuning or monitoring shall be submitted to the Agency
within 15 days of tune-up completion. Each report shall include:

(a) Time and date of the performance monitoring;
(b) Identification of the personnel involved;
(c) A summary of results, reported in units consistent with the applicable emission
standard or limit;
(d) A summary of equipment operating conditions;
(e) A description of the evaluation methods or procedures used including all field data,
quality assurance/quality control procedures and documentation; and
(f) Analyzer response check documentation.

R8. MACT Records – Plywood MACT (Subpart DDDD) 40 CFR 63.46011 – [7/30/2004]

The permittee shall submit an initial notification of applicability as required by 40 CFR
63.9. This notification was submitted July 15, 2009.


The following lists all federal, state, and/or local requirements that might reasonably apply to the
permittee, but are deemed nonapplicable after review by SWCAA. In accordance with WAC 173-
401-640, the permittee is provided a permit shield for not complying with the requirements listed
below where they have been identified to be non-applicable to specific emission units.

1. Standards of Performance for Small Industrial-Commercial-Institutional Steam
Generating Units (Subpart Dc) 40 CFR 60.40c et seq. - [7/1/08]

Subpart Dc applies to all steam generation units for which construction, modification, or
reconstruction is commenced after June 9, 1989, and that have a maximum design heat
input between 10 million and 100 million Btu per hour. The hog fuel boiler at this source
has a design heat input between 10 million and 100 million Btu per hour, but was last
modified prior to June 9, 1989. Therefore, this requirement is not applicable.
2. **Standards of Performance for Incinerators (Subpart E)** 40 CFR 60.50 et seq. - [7/1/08]

Subpart E applies to all incinerators with charging rates greater than 50 tons per day which commenced construction or modification after August 17, 1971. Pursuant to 40 CFR 60.51(a), an incinerator is defined as any "...furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter." The hog fuel boiler at this source has a charging rate greater than 50 tons per day, but its primary purpose is the production of process steam not the reduction of waste volume. Therefore, this requirement is not applicable.

3. **Emission Standards for Combustion and Incineration Units**

   SWCAA 400-050(2) - [9/21/95 SIP, 12/14/06 Local Only]

   SWCAA 400-050(2) prohibits emissions of carbonyls from any incinerator in excess of 100 ppm total carbonyls as measured by applicable sampling methods. Pursuant to SWCAA 400-030(34), an incinerator is defined as "...a furnace used primarily for the thermal destruction of waste." The primary purpose of the hog fuel boiler at this source is the production of process steam not the destruction of waste so this requirement is not applicable.

4. **Registration Program**

   WAC 173-400-099 - [6/8/07 State Only], SWCAA 400-100(2) - [9/21/95 SIP, 12/14/06 Local Only]

   The permittee is an air operating permit source. Pursuant to WAC 173-400-101(7), air operating permit sources are exempt from the registration program established under WAC 173-400-099, and implemented in accordance with WAC 173-400-100 through WAC 173-400-104. Pursuant to SWCAA 400-100(3)(a)(iv) air operating permit sources are exempt from the registration requirements of SWCAA 400-100(2).

5. **Solid Waste Incinerator Facilities**

   WAC 173-434 [1/22/04]

   WAC 174-434 applies to all solid waste or solid waste derived fuel incinerator facilities constructed after January 1, 1985 with a design capacity greater than twelve tons per day or constructed prior to January 1, 1985, which begin to burn twelve tons or more per day after January 1, 1985. Pursuant to WAC 173-434-030(3), the fuel used in the hog fuel boiler is not included in the definition of solid waste. Therefore, this requirement is not applicable.
APPENDIX A

DRY KILN VOC TESTING

(Attached)
Dry Kiln VOC Testing

for

Cowlitz Stud Company.

November, 1996

Prepared by

H. DETTINGER
PROJECT MANAGEMENT
202 SW 16th CT Troutdale Oregon 97060
Phone 503 666 8967
Fax 503 666 9356

RECEIVED
Dec. 2 1996
SOUTHWEST AIR POLLUTION CONTROL AUTHORITY
1.0 INTRODUCTION

The following test method is designed to determine the VOC release from lumber during the drying process. Conventional procedures such as EPA method 25 A are difficult to apply to this process because of long process cycles, multiple exhaust ports and periodic venting of the VOC containing exhaust. This test procedure is based on drying a selected sample of the wood in a controlled environment to measure all the significant parameters. The measurements are then recorded in short intervals to develop accurate process data.

1.1 Principal

The proposed method for VOC measurements is based on simulated drying conditions in a laboratory size lumber dry kiln which operates in a controlled environment and can dry approximately 10 board foot of lumber. The VOC emissions will be measured as shown in the following schematic with a continuous flame ionization analyzer.

Two variations of the VOC method can be applied. Both methods use the same principals and calculations, however "method 1" is accelerated by employing the maximum kiln temperature during the entire cycle. This may result in slightly higher test results and therefore "method 2" may be preferred to obtain lower VOC release rates, which are closer to the actual process rates.

Method 1 is a worst case analysis, where the highest temperature for a specific drying cycle is applied to the sample process at all times during the test. The humidity is not controlled and is always at the lowest practical level to accelerate the drying process. It is possible to dry lumber in approximately 24 to 48 hours, while the actual cycle may take several days.

Method 2 utilizes the actual temperature schedule as it is applied to the actual kiln. Most schedules start between 120 degree Fahrenheit and 140 degree Fahrenheit and increase to near 180 degree Fahrenheit during the drying cycle.
1.1 Sample Dryer Configuration
1.2 SAMPLE COLLECTION PROCEDURE

Depending on the species and on the location of the board within the log, the VOC content can vary. It is recommended that the collected samples represent a cross section of the log from which the boards were cut. Resin rich soft woods often have localized pitch concentration. These so called pitch pockets can release significantly more VOC than the average board. Sample boards with pitch pockets should not be selected for the test.

Each species of lumber must be tested separately in order to determine species specific VOC release. Therefore all sample boards for a specific test must be of the same species.

The selected boards must be cut into sample boards between 18" and 24" long (all samples boards should be of the exact same length).

The board thickness and the width of the boards must represent the average dry kiln load.

The samples must be collected immediately after the log is sawed into boards to best represent the actual dry kiln cycle. If air drying is applied prior to the kiln drying cycle, then the sample boards shall be collected at the time the lumber is loaded into the dry kiln.

At least 6 separate boards must be used for the sample load.

The composite sample load must be at least 10 board foot based on U.S. Lumber Scale.

Each board must be marked with the date of collection, a batch number and a board number (example - Nov. 25/96 - 1/3). This means that the piece came from the first of the six selected boards and is the third piece of the same board. It is best to use pencil for marking. Marking pens may add VOC's to the board.

After the sample board are collected, prepare a data sheet with the following information:

a.) Company Name
Address
Telephone Number
Contact Person
b.) Date of sample preparation.
   Name of the person collecting the sample.
   Signature of the responsible supervisor.

c.) Species of the lumber.

d.) Total number of pieces shipped.

e.) Dry kiln identification in which this lumber is normally dried.
   Identify more than one kiln, if appropriate.

f.) Identify each sample piece as shown in the following example:

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Nominal Size</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3</td>
<td>8/4&quot; by 6&quot;</td>
<td>18&quot; (plus or minus 1/16&quot;)</td>
</tr>
</tbody>
</table>

g.) Provide the normal drying schedule for this lumber and the maximum drying temperature.

h.) Provide the final moisture content for this lumber.

Immediately after collecting the samples each board must be individually wrapped in shrink wrap to avoid any moisture and VOC loss. The entire package of sample boards must be shrink-wrapped or enclosed in a plastic bag and sealed with tape.

1.3 SAMPLE SHIPPING PROCEDURE

The samples should be packaged in a box to avoid damage of the vapor seal during shipping. To assure arrival at the laboratory within 48 hours of the date the samples were cut and wrapped, select a carrier which can deliver within the specified time.

1.4 PREPARATION AND SET-UP BEFORE TESTING

The testing laboratory must be prepared to perform the test within 96 hours after the samples were collected.

The sample boards should be unwrapped, prepared for testing and loaded into the sample kiln within a three hour time span.
Each board must be measured for thickness, width and length within 1/16” accuracy. The board number and the measurement must be recorded.

Each board must be weighed within plus or minus 10 grams and the information must be recorded in the data sheet.

After the preparation, place the lumber in the sample dry kiln and start the drying process. The VOC sampling device must be started simultaneously with the heating system of the sample dry kiln.

After the drying cycle has been started, the sample kiln door must be locked and cannot be opened during the entire drying process.

To perform the Method 1, the lumber in the sample dry kiln must be dried at the maximum temperature at which the lumber is normally dried at the plant site.

To perform Method 2, the exact same temperature schedule as applied in the field must be used for the sample drying process.

The heating system and internal air circulation system for the sample dry kiln must be operating during the entire drying process.

1.5 DATA COLLECTION

During the drying cycle the following information shall be collected and recorded on a continuous basis.

a.) VOC concentration inside the sample dry kiln.

b.) The temperature in the sample dry kiln.

c.) The in-flow of fresh air into the sample dry kiln in scfm. (The flow rate shall not be less than 50 scfm and not more than 200 scfm for every 10 board foot of lumber in the sample kiln.

d.) The in-flow of fresh air into the sample kiln shall be metered and totalized for the entire drying cycle.

e.) The VOC concentration shall be measured in 1 minute increments and accumulated over the entire drying cycle.
f.) The temperature shall be held constant with in plus or minus 5° F of the set point.

g.) The total drying time in hours and minutes shall be recorded.

1.6 Terminating the drying cycle

The lumber must be dried to the same moisture content to which the lumber is normally dried at the plant site.

After the desired moisture content has been reached, the recording instruments shall be stopped and the heating/ventilation system shall be terminated.

1.7 DETERMINE THE MOISTURE CONTENT

The initial and the final moisture content shall be determined as follows:

Weigh each board immediately after it is removed from the sample dry kiln. (within one hour after the drying cycle has been completed.)

Record the weight of each board within plus or minus 10 grams.

Measure the moisture content of each board after the boards have cooled to room temperature with a resistance type wood moisture meter. (See information on resistance type moisture meters to compensate for the board temperature).

Alternatively, the moisture content may be determined by preparing a total of three small samples from randomly selected boards according to the following method:

Collection: Cut three samples approximately 2" by 4" by ½ " from the center of a board.

Sample Size: Approximately 1 lb.

Initial Weight: Weigh each sample after collection and record the weight.
Drying Procedure: The sample shall be dried in a drying oven at 220 to 240°F for 24 hours.

Bone dry Weight: Immediately after the sample has completed the drying cycle the weight shall be determined.

Moisture content: Moisture content calculation in % of dry base.

\[
\% \text{ Moisture content} = \frac{(\text{wet weight} - \text{dry weight})}{\text{dry weight}} \times 100
\]

1.8 Data Evaluation

The VOC concentration was collected in one minute intervals, measured as PPM of methane or propane depending on the calibration.

The accumulated VOC quantity is the total of incremental VOC concentrations over the drying cycle and is expressed as (ppm * minutes) of VOC. Divide this number by the total process time in minutes to obtain the average VOC concentration in ppm.

The air flow rate was recorded coincident with the VOC concentration and the total air in flow in SCFT for the entire cycle was summarized.

The water vapor volume can be calculated from the total water loss of the sample.

The total exhaust flow from the sample dry kiln is the sum of the air in flow plus the water vapor flow from the evaporated water in the wood.

With the results of VOC concentration in ppm (wet basis) and the volumetric flow rate in SCFT (wet basis), the total VOC release in Lb/drying cycle can be calculated.

The result in Lb of VOC per sample drying cycle can be divided by the total number of board foot dried during the test cycle and the emission factor in Lb of VOC per 1000 board foot of lumber can be established.

The average emission rate for the actual dry kiln can now be calculated using the calculation as shown in the following section.
These calculations determine the average discharge rate of air and water vapor from the actual dry kiln.

2.0 Calculation to determine VOC release

The following equations shall be used to calculate the total VOC release from the actual lumber dry kiln and the VOC concentrations in the exhaust flow.

The standard conditions are 68°F and 29.92” HG.

2.1 Equation to determine exhaust flow rate.

a.) Air in flow in scft

\[
M_v = \text{meter reading volume in cft.} \\
T_a = \text{absolute process temperature in degree Rankin as measured.} \\
T_s = \text{Standard temperature in degree Rankin.} \\
P_a = \text{pressure in inch Hg at test site.} \\
P_s = \text{pressure in inch Hg standard} \\
V_{sa} = \text{air flow in scft} \\
V_{sa} = \frac{M_v}{T_a} \times \frac{T_s}{P_a} \times P_s
\]

b.) Water vapor flow in scft

\[
m_t = \text{total mass of wood plus moisture (green) in Lbs..} \\
m_d = \text{total mass of wood plus moisture (dry) in Lbs.} \\
V_v = \text{volume of vapor in cft} \\
C_{st} = \text{volume of steam (water vapor) at standard atmosphere in scft/lb.} \\
V_{vs} = \left( m_t - m_d \right) \times C_{st} \times \frac{T_s}{T_a} \times \frac{P_s}{P_a}
\]

c.) Total exhaust volume

\[
V_e = V_{sa} (Air) + V_{vs} (Steam) \text{ in scft}
\]

Note: The evaporated volume of VOC contained in the total volumetric flow was neglected because it is insignificant compared to the total exhaust volume.

2.8.2 VOC volume and mass flow

The total VOC as it is accumulated by the data logger is in PPM (volume) per drying cycle is measured as methane (CH₄) or propane (C₃H₈).
The selection of methane or propane calibration of the test instrument is optional, but must be considered in the following calculations.

2.2 TOTAL VOC VOLUME

\[ \text{VOC}_c = \text{average VOC concentration as measured in ppm.} \]
\[ \text{Vt} \text{s} = \text{total volume measured in scft.} \]
\[ \text{VOC}_{Ts} = \text{total volume at standard condition in scft} \]
\[ \text{VOC}_m = \text{total mass of VOC's measured as carbon (C) in lbs.} \]
\[ \text{C}_{m} = \text{molecular volume in Lbs/mole Lb (385 scft/lb-mole)at 68}^{\circ}\text{F} \]
\[ \text{VOC}_{Ts} = \left( \text{VOC}_c / T_a / T_s / F_a / F_s \right) \times \text{Vts} / 10^{3}6 \text{ in scft} \]

For Propane calibration
\[ \text{VOC}_m = \frac{\text{Vts}}{\text{C}_{m} \times \text{Instrument calibration factor}} \]

2.3 VOC EMISSION FACTOR

It is recommended to express the VOC emission factor in Lbs. of VOC per 1000 board foot of lumber based on U.S. lumber scale. Other lumber scales must be corrected accordingly.
APPENDIX B

SCRUBBER WATER VISUAL EVALUATION METHOD

June 26, 1997

Heinz Dettinger
202 S.W. 16th Court
Troutdale, OR 97060

Dear Heinz:

The flocculents Steam Engineering is using at the Cowlitz Stud plants in Morton and Randal are #4910 and #4950 respectively. They are used at the scrubbers to facilitate solids separation and settling from the water to aid in clarification of the water.

A test for performance of the flocculent is performed by collecting approximately a liter (or quart) of the surface water in the scrubber pond and then noting the following:

* If 80% settles in 30 seconds, the flocculent performance is excellent.
* If 80% settles in 60 seconds, the flocculent performance is good.
* If 80% settles in 5 minutes, the flocculent performance is poor.

If you have any further questions, please feel free to call me.

Sincerely,

Dave Volpe
DV/mlw

Printed with permission of the South Central Air Pollution Control Authority

9735 SE 41st Ave., Suite 200, Portland, OR 97206
503-282-2250 or 800-635-4652

Received: Jun 30, 1997
APPENDIX C

SOURCE EMISSION REDUCTION PLAN (SERP)

SOURCE EMISSION REDUCTION PLAN
Cowlitz Stud Company
P.O. Box 805
Randle, Washington 98377
08-106

Upon notification that an air pollution episode has occurred, you are directed to reduce emissions according to the plan described below:

FORECAST STAGE:
1. Cease all open burning.
2. Prepare for actions to be taken at the Alert stage.

ALERT STAGE:
1. Water the log yard.
2. Divert sawdust and shavings from burning to batch use.
3. Refrain from using cedar or other high-dust logs.
4. Divert all bark to waste wood boiler.

WARNING STAGE:
1. Divert all sawdust and shavings to storage.

EMERGENCY STAGE:
1. Complete shutdown of operations.

CONTACT:
1. Mr. L. Cook, Mgr. 497-5030
2. Mr. W. Cotton, President 497-5030

Actions required by this plan shall be started when telephone notification of an episode is received from the Southwest Air Pollution Control Authority. Notification will be subsequently confirmed in writing from the Southwest Air Pollution Control Authority.

James B. Behke
Executive Assistant Director
Public Services Branch

February 16, 1973 Date

Daniel J. Evans, Governor  John A. Biggs, Director  Olympia, Washington 98501  Telephone (206) 753-2700

Hampton Lumber Mills - Morton FINAL AIR OPERATING PERMIT

Permit No. SW97-5-R1 A-13 12/3/09