

January 16, 2018

Mr. Scott North
Sierra Pacific Industries, Inc.
3115 Kuper Rd
Centralia, WA 98531

Subject: Final Air Discharge Permit to Increase Dry Kiln Temperature

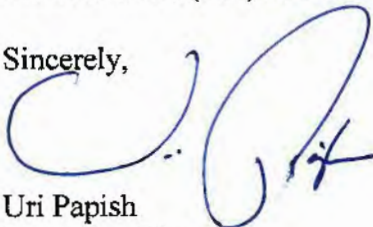
Dear Mr. North:

The public comment period for the preliminary determination to issue Air Discharge Permit 17-3237 (ADP 17-3248) in response to ADP Application L-689 concluded on January 16, 2018. The Southwest Clean Air Agency (SWCAA) did not receive any comments from the public relative to the preliminary determination. Therefore, a final determination to issue ADP 17-3248 has been made pursuant to Section 400-110(4) of SWCAA's General Regulations for Air Pollution Sources. Electronic copies of 17-3248 and the associated Technical Support Document are available for public review in the permit section of SWCAA's internet home page (<http://www.swcleanair.org/permitsADPfinals.asp>). Original copies are enclosed for your files.

This Air Discharge Permit may be appealed directly to the Pollution Control Hearings Board (PCHB) at P.O. Box 40903, Olympia, Washington 98504-0903 within 30 days of receipt as provided in RCW 43.21B.

If you have any comments, or desire additional information, please contact me or Vanessa McClelland at (360) 574-3058, extension 129.

Sincerely,



Uri Papish
Executive Director

UP: vm
Attachment

cc: US EPA Region X
Air Permit Section AWT-150
1200 6th Avenue
Seattle, WA 98101

SOUTHWEST CLEAN AIR AGENCY

**AIR DISCHARGE PERMIT
17-3248**

Final Date: January 16, 2018

Facility Name: Sierra Pacific Industries
Physical Location: 3115 Kuper Road
Centralia, WA 98531

SWCAA ID: 2272

REVIEWED BY: *Paul T. Mairose*
Paul T. Mairose, Chief Engineer

APPROVED BY: *Uri Papish*
Uri Papish, Executive Director



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1. Equipment/Activity Identification

ID No.	Generating Equipment/Activity	# of Units	Control Measure / Equipment	# of Units
1	Planer Mill	1	Total enclosure, baghouse (Carothers and Son)	1
2	Anti-Stain Treatment	1	Mist eliminator	1
3	Chip Bunker	3	Partial enclosure/wind screens	N/A
4	Sawdust Bunker	1	Partial enclosure/wind screens	N/A
5	Shavings Bunker	1	Partial enclosure/wind screens	N/A
6	Bark Bunker	1	Partial enclosure/wind screens	N/A
7	Nebraska Hog Fuel Boiler	1	One multiclone followed by a two-field ESP and SNCR	N/A
8	Dry Kilns	5	Process temperature limit	N/A

2. Approval Conditions

The following tables detail the specific requirements of this Permit. In addition to the requirements listed below, equipment at this facility may be subject to other federal, state, and local regulations. The permit requirement number is identified in the left hand column. The text of the permit requirement is contained in the middle column. The emission unit, equipment, or activity to which the permit requirement applies is listed in the right hand column.

This Permit will supersede Air Discharge Permit 08-2799R2 in its entirety.

2.1 Emission Limits

No.	Emission Limits	Equipment/ Activity																
1.	<p>Emissions from the Nebraska hog fuel boiler emitted through the multiclone, ESP and SNCR must not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>NO_x</td> <td>58.52 tpy, 90 ppmvd @ 7% O₂ (24-hr avg)</td> </tr> <tr> <td>CO</td> <td>105.35 tpy, 228 ppmvd @ 7% O₂ (24-hr avg)</td> </tr> <tr> <td>PM/PM₁₀/PM_{2.5}</td> <td>14.30 tpy, 0.015 gr/dscf @ 7% O₂ (1-hr avg) (filterable only)</td> </tr> <tr> <td>Ammonia</td> <td>5.81 tpy, 25 ppm @ 7% O₂ (24-hr avg)</td> </tr> <tr> <td>Acetaldehyde</td> <td>0.06 tpy</td> </tr> <tr> <td>Acrolein</td> <td>0.012 tpy</td> </tr> <tr> <td>Formaldehyde</td> <td>0.67 tpy</td> </tr> </tbody> </table> <p>Emissions must be calculated using the most recent emission test data for PM, CEM data for NO_x and CO, listed emission factors for HAPs, VOC and SO₂, and actual annual hours of operation consistent with the methodology in Section 6 of the Technical Support Document for this Permit. Emissions from startup and shutdown activities are included in these annual limits.</p> <p>Compliance with the PM₁₀ limit above must be demonstrated based on the average of three 1-hr tests.</p> <p>The short-term emission limits identified above (hourly or 24-hr averaging time) do not apply during boiler start up and shutdown periods and periods of soot blowing/grate cleaning. Condition 22 applies during periods of startup and shutdown.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	NO _x	58.52 tpy, 90 ppmvd @ 7% O ₂ (24-hr avg)	CO	105.35 tpy, 228 ppmvd @ 7% O ₂ (24-hr avg)	PM/PM ₁₀ /PM _{2.5}	14.30 tpy, 0.015 gr/dscf @ 7% O ₂ (1-hr avg) (filterable only)	Ammonia	5.81 tpy, 25 ppm @ 7% O ₂ (24-hr avg)	Acetaldehyde	0.06 tpy	Acrolein	0.012 tpy	Formaldehyde	0.67 tpy	7
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2.	<p>Emissions from the lumber drying must not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>VOC</td> <td>117.13 tpy</td> </tr> <tr> <td>PM/PM₁₀/PM_{2.5}</td> <td>4.51 tpy</td> </tr> <tr> <td>Acetaldehyde</td> <td>10.24 tpy</td> </tr> <tr> <td>Acrolein</td> <td>0.16 tpy</td> </tr> <tr> <td>Formaldehyde</td> <td>0.33 tpy</td> </tr> <tr> <td>Methanol</td> <td>11.95 tpy</td> </tr> </tbody> </table> <p>Emissions must be calculated using actual annual material throughput and emission factors from Section 6 of the Technical Support Document for this Permit.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	VOC	117.13 tpy	PM/PM ₁₀ /PM _{2.5}	4.51 tpy	Acetaldehyde	10.24 tpy	Acrolein	0.16 tpy	Formaldehyde	0.33 tpy	Methanol	11.95 tpy	8		
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3.	<p>Emissions from the anti-stain must not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>VOC</td> <td>1.70 tpy</td> </tr> </tbody> </table> <p>Emissions must be calculated based on actual material throughput consistent with the methodology in Section 6 of the Technical Support Document for this Permit.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	VOC	1.70 tpy	2												
<u>Pollutant</u>	<u>Emission Limit</u>																	
VOC	1.70 tpy																	

No.	Emission Limits	Equipment/ Activity								
4.	<p>Emissions from the Carothers and Son baghouse must not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>PM/PM₁₀</td> <td>11.26 tpy, 0.005 gr/dscf (1-hr avg)</td> </tr> <tr> <td>PM_{2.5}</td> <td>2.58 tpy</td> </tr> </tbody> </table> <p>Emissions must be calculated based on the maximum allowed emission concentration and actual annual hours of operation consistent with the methodology in Section 6 of the Technical Support Document for this Permit.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	PM/PM ₁₀	11.26 tpy, 0.005 gr/dscf (1-hr avg)	PM _{2.5}	2.58 tpy	1		
<u>Pollutant</u>	<u>Emission Limit</u>									
PM/PM ₁₀	11.26 tpy, 0.005 gr/dscf (1-hr avg)									
PM _{2.5}	2.58 tpy									
5.	<p>Emissions from all bin unloading must not exceed the following:</p> <table border="0"> <thead> <tr> <th><u>Pollutant</u></th> <th><u>Emission Limit</u></th> </tr> </thead> <tbody> <tr> <td>PM</td> <td>41.18 tpy</td> </tr> <tr> <td>PM₁₀</td> <td>24.71 tpy</td> </tr> <tr> <td>PM_{2.5}</td> <td>9.45 tpy</td> </tr> </tbody> </table> <p>Emissions must be calculated based on the actual annual throughput and emission factors consistent with the methodology in Section 6 of the Technical Support Document for this Permit or alternate emission factors approved by SWCAA.</p>	<u>Pollutant</u>	<u>Emission Limit</u>	PM	41.18 tpy	PM ₁₀	24.71 tpy	PM _{2.5}	9.45 tpy	3-6
<u>Pollutant</u>	<u>Emission Limit</u>									
PM	41.18 tpy									
PM ₁₀	24.71 tpy									
PM _{2.5}	9.45 tpy									
6.	<p>Visible emissions must not exceed the following values for more than 3 minutes in any one hour period as determined by a Certified Observer certified in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400) or determined by the continuous opacity monitoring system (COMS). The opacity limit for the Nebraska boiler does not apply during boiler start up and shutdown, and periods of soot blowing/grate cleaning.</p> <table border="0"> <thead> <tr> <th><u>Equipment</u></th> <th><u>Opacity Limit</u></th> </tr> </thead> <tbody> <tr> <td>Nebraska Boiler</td> <td>10%</td> </tr> <tr> <td>Dry kilns</td> <td>5%</td> </tr> <tr> <td>All other approved equipment</td> <td>0%</td> </tr> </tbody> </table> <p>Any COMS recorded 6-minute block average opacity value which has a 6-minute block average ESP exhaust gas temperature value (for the same time block) that is 175 °F or greater is valid opacity data. Values under 175 °F are invalid due to the potential for the presence of condensed moisture in the stack.</p>	<u>Equipment</u>	<u>Opacity Limit</u>	Nebraska Boiler	10%	Dry kilns	5%	All other approved equipment	0%	1-8
<u>Equipment</u>	<u>Opacity Limit</u>									
Nebraska Boiler	10%									
Dry kilns	5%									
All other approved equipment	0%									

2.2 Operating Limits and Requirements

No.	Operating Limits and Requirements	Equipment/ Activity
7.	Reasonable precautions must be taken at all times to prevent and minimize fugitive emissions from plant operations.	Facilitywide
8.	Operations that cause or contribute to odors that unreasonably interfere with any other property owner's use and enjoyment of their property must use recognized good practice and procedures to reduce those odors to a reasonable minimum.	Facilitywide

No.	Operating Limits and Requirements	Equipment/ Activity
9.	Each pollution control device must be operated whenever the processing equipment served by that control device is in operation with the exception of the ESP and SNCR during hog fuel boiler start ups. Control devices must be operated and maintained in accordance with the manufacturer's specifications. Furthermore, control devices must be operated in a manner that minimizes emissions.	1-7
10.	Emission units identified in this Permit must be maintained and operated in total and continuous conformity with the emission levels and operational requirements specified in this Permit. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this Permit, including directing the facility to cease operations until corrective action can be completed.	1-8
11.	Exhaust gas from approved equipment must be discharged vertically into the ambient air. Any device that obstructs or prevents vertical discharge while in operation is prohibited.	1, 2, 7, 8
12.	The Nebraska boiler must only be fired on wood products. The Permittee must employ work practices to assure that only clean fuel is combusted in the hog fuel boiler.	7
13.	A flow meter must be installed and maintained operable to measure the ammonia usage of the SNCR system.	7
14.	A differential pressure gauge must be installed and maintained to measure the pressure drop across filtration media in the Carothers and Son baghouse.	1
15.	The Carothers and Son baghouse must be operated at all times when the planer is in use.	1
16.	<p>Dry kilns are approved for use with Douglas fir, hemlock, and spruce lumber only. Lumber made of other wood species may be dried provided that the following information is furnished to SWCAA for review prior to the start of drying operations:</p> <ul style="list-style-type: none"> (a) Identification of wood species to be dried; (b) Emission factors for the proposed wood species; and (c) Estimated amount of wood to be dried. <p>Approval by SWCAA of additional wood species does not increase or modify in anyway the emission limit established in Requirement 2 of this Permit.</p>	8
17.	The dry-bulb set point temperature of the dry kilns must not exceed 200°F on a 24-hr average.	8
18.	Dry kiln doors must be kept closed at all times during active drying operations.	8
19.	Wood waste loadout bins must have full length side wind barriers as well as shrouding/curtains on the ends to reduce fugitive particulate matter emissions.	3-6
20.	All containers for VOC containing materials must be kept securely closed with a lid in place except when in active use. Open containers for storage or disposal of VOC containing materials are prohibited.	Plantwide
21.	The use of a street sweeper (or similar device such as a water truck) on paved roads must be used weekly when significant rainfall has not occurred, or more frequently as needed, to minimize fugitive dust and to keep the log yard clean.	Plantwide

No.	Operating Limits and Requirements	Equipment/ Activity
22.	During typical startup of the hog fuel boiler, the boiler must be operated to minimize emissions, which includes, but is not limited to, starting on clean fuels. The ESP shall be started no later than once the boiler exhaust temperature reaches 175°F. Start-up periods following refractory work must not exceed 36 hours.	7

2.3 Monitoring and Recordkeeping Requirements

No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity
23.	With the exception of data recorded by an automated data acquisition system, each record required by this Permit must include the date and the name of the person making the record entry. If a control device or process is not operating during a specific time period, a record must be made to that effect.	1-8
24.	All records required by this Permit must be kept for a minimum period of no less than five years and must be maintained in a form readily available for inspection by SWCAA representatives.	1-8
25.	Excess emissions and upset conditions must be recorded for each occurrence.	1-8
26.	A continuous emission monitoring system (CEMS) and data acquisition and handling system (DAHS) must be installed to monitor emission concentrations and emission rates of opacity, NO _x , CO, and O ₂ from the Nebraska boiler. The CEMS/DAHS system must be operated and maintained as described in Appendix B of this Permit and SWCAA 400-105(7). Minimum data availability must be 90% or greater.	7
27.	Hourly and 24-hour averages of the following data for the hog fuel boiler must be recorded by the DAHS and kept readily available for on-site inspection: <ul style="list-style-type: none"> (a) NO_x emission concentration (ppmvd @ 7% O₂) (b) NO_x emission rate (lb/hr) (c) CO emission concentration (ppmvd @ 7% O₂) (d) CO emission rate (lb/hr) (e) O₂ concentration (dry volume percent) 	7

No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity
28.	<p>Operational data for the ESP, SNCR, and Nebraska boiler must be recorded as follows:</p> <ul style="list-style-type: none"> (a) Multiclone differential pressure Recorded daily (b) Secondary voltage in each ESP field Recorded daily (c) Current level in each ESP field Recorded daily (d) Spark rate in each ESP field Recorded daily (e) Ammonia consumption (lb/month) Recorded monthly (f) Hours of operation Recorded monthly (g) Boiler/ESP outlet temperature Recorded daily (h) Boiler steam flow rate Monitored continuously and recorded as a 30-day rolling average (i) Maintenance and repair activities Recorded for each occurrence (j) Emission testing/monitoring results Recorded for each occurrence (k) Oxygen level in boiler exhaust Monitored continuously and recorded as a 30-day rolling average (l) Periods of grate cleaning/soot blowing Recorded for each occurrence (m) CEMS calibration results Recorded for each occurrence (n) CEMS cylinder gas audit results Recorded for each occurrence (o) CEMS maintenance/repair activities Recorded for each occurrence 	7
29.	<p>Operational data for lumber drying activities must be recorded and monitored as follows:</p> <ul style="list-style-type: none"> (a) Amount, species, and final moisture of dried lumber Recorded monthly (b) Emission testing results Recorded for each occurrence (c) Dry kiln average dry bulb Temperature (averaged daily) Monitored continuously during operation 	8
30.	<p>Operational data for the Carothers and Son baghouse must be recorded as follows:</p> <ul style="list-style-type: none"> (a) Baghouse differential pressure Recorded weekly (b) Hours of operation Recorded monthly (c) Filter bag replacement Recorded for each occurrence (d) Emission testing results Recorded for each occurrence (e) Maintenance and repair activities Recorded for each occurrence 	1
31.	The amount and type of anti-stain product consumed must be recorded monthly.	2
32.	The bone dry tons and type of wood waste unloaded from bins must be recorded monthly.	3-6

No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity
33.	<p>SWCAA must be notified at least seven days in advance of the use of any new material which will result in emissions of toxic air pollutants as defined in WAC 173-460 [effective 2/14/94] or hazardous air pollutants. The written notice must include the following:</p> <ul style="list-style-type: none"> (a) A description of the proposed change(s) in materials with an MSDS for each new material, (b) The date the change(s) is (are) to be made, (c) The change(s) in emissions of VOCs, HAPs and TAPs occurring as a result of the change, and (d) A summary of any applicable requirement(s) that would apply as a result of the change(s). <p>If the proposed emission rate of a new TAP exceeds one or more SQERs and/or contains VOCs or otherwise circumvents an applicable requirement including those established by this Air Discharge Permit, New Source Review must be required prior to making the proposed change.</p>	Plantwide

2.4 Emission Monitoring and Testing Requirements

No.	Emission Monitoring and Testing Requirements	Equipment/ Activity
34.	<p>The Nebraska boiler was initially emission tested on April 9, 2008. Emission testing must be conducted every two years, no later than the end of April. Emission testing must be performed in accordance with Appendix A of this Permit. Annual Relative Accuracy Test Audits (RATA) must be performed no later than the end of the month of the initial emission test in accordance with Appendix B of this Permit.</p> <p>Note: The facility is subject to additional testing required by the Boiler MACT, but this requirement is for testing established in this Permit only.</p>	7
35.	<p>Emission testing of lumber drying operations must be conducted within one year after achieving maximum intended operation. The kilns began operation on September 15, 2008. Subsequent emission testing must be conducted on a five year cycle, no later than the end of the calendar month in which the initial emission test was performed. Emission testing must be performed in accordance with Appendix C of this Permit.</p> <p>If no testing company with the ability to test emissions from wood drying is available, the facility should submit to SWCAA a letter proposing an alternate test schedule. This alternate test schedule must be approved by SWCAA.</p>	8
36.	<p>The Carothers and Son baghouse was initially emission tested on December 19, 2006. Emission testing of the baghouse must be conducted every ten years, no later than the end of June in accordance with Appendix D of this Permit.</p>	1

2.5 Reporting Requirements

No.	Reporting Requirements	Equipment/ Activity
37.	An annual emissions inventory report must be submitted in accordance with SWCAA 400-105(1). Emissions must be calculated on a 12-month rolling total. In addition to the emissions information required under SWCAA 400-105(1), each annual report must include an estimate of annual emission quantities for each TAP compound listed in the Technical Support Document for this Permit.	Facilitywide
38.	The 12-month rolling total in tons for NO _x and CO must be reported monthly.	7
39.	Upset conditions must be reported to SWCAA as soon as possible after discovery. The permittee may provide notification to SWCAA via telephone. A message may be left on the answering machine for upset conditions that occur outside of normal business hours.	1-8
40.	Excess emissions must be reported to SWCAA as follows: (a) As soon as possible, but no later than 12 hours after discovery for emissions that represent a potential threat to human health or safety; (b) As soon as possible, but no later than 48 hours after discovery for emissions which the permittee wishes to claim as unavoidable pursuant to SWCAA 400-107(1); and (c) No later than 30 days after the end of the month of discovery for all other excess emissions.	1-8
41.	Deviations from permit conditions must be reported no later than 30 days after the end of the month during which the deviation is discovered.	1-8
42.	The following operational data must be reported to SWCAA by September 15 and March 15 for the preceding periods of January to June and July to December, respectively: (a) Hours of operation of the Nebraska boiler; (b) Amount of ammonia consumed; (c) Amount, species, average daily temperature set point and average final moisture of lumber dried in the dry kilns; (d) Hours of operation for the Carothers and Son baghouse; (e) Amount and type of anti-stain consumed; (f) Amount and type of wood byproducts transferred from the facility; (g) Hourly and daily (24-hr) CEMS data for: (i) NO _x emission concentration (ppmvd @ 7% O ₂) (ii) NO _x emission rate (lb/hr) (iii) CO emission concentration (ppmvd @ 7% O ₂) (iv) CO emission rate (lb/hr) (v) O ₂ concentration (% O ₂) (h) Opacity exceedance reports; (i) The results of all daily CEMS calibrations and quarterly cylinder gas audits; (j) Summary of all deviations from permit requirements; and (k) Summary of facilitywide air pollutant emissions.	1-8
43.	A grate cleaning schedule for the Nebraska boiler must be submitted to SWCAA annually by December 31 for the following year.	7
44.	Emission test results must be reported to SWCAA within 45 calendar days of completion in both printed and electronic formats unless otherwise directed by SWCAA.	7, 8

3. General Provisions

No.	General Provisions
A.	For the purpose of ensuring compliance with this Permit, duly authorized representatives of the Southwest Clean Air Agency must be permitted access to the permittee's premises and the facilities being constructed, owned, operated and/or maintained by the permittee for the purpose of inspecting said facilities. These inspections are required to determine the status of compliance with this Permit and applicable regulations and to perform or require such tests as may be deemed necessary.
B.	The provisions, terms and conditions of this Permit must be deemed to bind the permittee, its officers, directors, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for the permittee.
C.	The requirements of this Permit must survive any transfer of ownership of the source or any portion thereof.
D.	This Permit must be posted conspicuously at or be readily available near the source.
E.	This Permit must be invalid if construction/installation has not commenced within eighteen months from date of issuance.
F.	This Permit does not supersede requirements of other Agencies with jurisdiction and further, this Permit does not relieve the permittee of any requirements of any other governmental Agency. In addition to this Permit, the permittee may be required to obtain permits or approvals from other agencies with jurisdiction.
G.	Compliance with the terms of this Permit does not relieve the permittee from the responsibility of compliance with SWCAA General Regulations for Air Pollution Sources, previously issued Regulatory Permits, RCW 70.94, Title 173 WAC or any other applicable emission control requirements, nor from the resulting liabilities and/or legal remedies for failure to comply.
H.	If any provision of this Permit is held to be invalid, all unaffected provisions of the Permit must remain in effect and be enforceable.
I.	No change in this Permit must be made or be effective except as may be specifically set forth by written Permit of the Southwest Clean Air Agency upon written application by the permittee for the relief sought.
J.	The Southwest Clean Air Agency may, in accordance with RCW 70.94 impose such conditions as are reasonably necessary to assure the maintenance of compliance with the terms of this Permit, the Washington Clean Air Act, and the applicable rules and regulations adopted under the Washington Clean Air Act.

Air Discharge Permit 17-3248 - Appendix A
Emission Testing Requirements
Nebraska Boiler

1. Introduction:

The purpose of this testing is to quantify emissions from the Nebraska boiler, and demonstrate compliance with the requirements of this Permit and applicable air quality regulations.

2. Testing Requirements:

- a. **Test plan.** A comprehensive test plan must be submitted to SWCAA for review and approval at least ten business days prior to each test. SWCAA personnel must be informed at least five business days prior to testing so that a representative may be present during testing.
- b. **Testing schedule.** Initial testing was completed on April 9, 2008. Emission testing must be conducted every two years, no later than the end of April.
- c. **Test runs/Reference test methods.** A minimum of three test runs must be performed for each constituent listed below to ensure the data are representative. Compliance must be demonstrated by averaging the results of the individual sampling runs. The sampling methods and schedules must be used unless alternate methods are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Reference Test Method</u>	<u>Minimum Test Run Duration</u>
Flow rate, temperature	EPA Methods 1 and 2	N/A
O ₂ , CO ₂ content	EPA Method 3 or 3A	60 minutes
Moisture content	EPA Method 4	60 minutes
PM (filterable)	EPA Method 5	60 minutes
PM (condensable)	EPA Method 202	60 minutes
NO _x	EPA Method 7E	60 minutes
CO	EPA Method 10	60 minutes
Ammonia (NH ₃)	BAAQMD ST-1B	30 minutes
VOC (initial test only)	EPA Method 25A	60 minutes
SO ₂ (initial test only)	EPA Method 6C	60 minutes
Opacity	SWCAA Method 9	6 minutes

3. Source Operation:

- a. **Source operations.** Source operations during the emission test must be representative of maximum intended operating conditions.

Air Discharge Permit 17-3248 - Appendix A**Emission Testing Requirements****Nebraska Boiler**

- b. **Record of production parameters.** Production related parameters and equipment operating conditions must be recorded during emission testing for each run to correlate operating conditions with emissions. Recorded parameters must, at a minimum, include:

- 1) Boiler steam production rate (lb/hr steam),
- 2) Boiler firing rate (MMBtu/hr),
- 3) Ammonia injection rate (gal/hr),
- 4) Fuel type/mixture description,
- 5) Process start ups and shutdowns, and
- 6) Plant adjustments.

All recorded production parameters must be documented in the test results report.

4. Reporting Requirements:

- a. A final emission test report must be prepared and submitted to SWCAA within 45 calendar days of test completion in both printed and electronic formats unless otherwise directed by SWCAA. At a minimum, the report must contain the following information:

- (1) Description of the source including manufacturer, model number and design capacity of the equipment, the location of the sample ports or test locations, and stack parameters,
- (2) Time and date of the test and identification and qualifications of the personnel involved,
- (3) Summary of results, reported in units and averaging periods consistent with the applicable emissions standard or unit,
- (4) Summary of control system or equipment operating conditions,
- (5) Summary of production related parameters,
- (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
- (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
- (8) Copies of field data and example calculations,
- (9) Chain of custody information,
- (10) Calibration documentation,
- (11) Discussion of any abnormalities associated with the results, and
- (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

- b. All test results must be corrected to 7% and 3% oxygen.

Air Discharge Permit 17-3248 - Appendix B
Continuous Emission Monitoring Requirements
Nebraska Boiler

1. Introduction:

- a. The purpose of installing and maintaining continuous emissions monitoring systems (CEMS) for NO_x, O₂, and CO is to demonstrate compliance with the requirements of this Air Discharge Permit.

2. Requirements:

- a. **CO, NO_x and O₂ CEMS.** The permittee must install and maintain a system for monitoring the concentration and emission rate of CO, NO_x, and O₂ from the hog fuel boiler exhaust stack in accordance with the requirements and specifications found in the following regulations:
- 40 CFR 60, Appendix B - Performance Specification 2 "Specifications and Test Procedures for Sulfur Dioxide and Nitrogen Oxides Continuous Emission Monitoring Systems in Stationary Sources."
 - 40 CFR 60, Appendix B - Performance Specification 3 "Specifications and Test Procedures for Oxygen and Carbon Dioxide Continuous Emission Monitoring Systems in Stationary Sources."
 - 40 CFR 60, Appendix B - Performance Specification 4A "Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources."
 - 40 CFR 60, Appendix F - Procedure 3 "Quality Assurance Procedures."

Relative Accuracy Test Audits (RATAs) must be conducted at least once for every four calendar quarters.

- b. **RATA Reports.** Relative accuracy test audit reports must be submitted to SWCAA within 45 days of test completion in both printed and electronic formats unless otherwise directed by SWCAA.

Air Discharge Permit 17-3248 - Appendix C**Emission Testing Requirements****Lumber Drying****1. Introduction:**

The purpose of this testing is to quantify emissions from lumber drying operations described in this Permit.

2. Testing Requirements:

- a. **Testing schedule.** Emission testing of the lumber drying process must be conducted within one year after achieving maximum intended operation. The kilns began operation on September 15, 2008. Subsequent emission testing must be conducted on a five year cycle, no later than the end of the calendar month in which the initial emission test was performed. Unless otherwise directed by SWCAA, the testing must be conducted on the dominant species dried at the facility.
- b. **Test plan.** A comprehensive test plan must be submitted to SWCAA for review and approval at least ten business days prior to each test. SWCAA personnel must be informed at least five business days prior to testing so that a representative may be present during testing.
- c. **Test runs/Reference test methods.** The sampling methods identified below must be used unless alternate methods are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Reference Test Method</u>	<u>Minimum Test¹ Run Duration</u>
Exhaust Flow	EPA Methods 1-4	N/A
Volatile organic compounds ²	EPA Method 25A / 18 or 320	N/A
Methanol	NCASI Method 105	N/A
Ethanol	NCASI Method 105	N/A
Formaldehyde	NCASI Method 105	N/A
Acetaldehyde	NCASI Method 105	N/A
Acrolein	NCASI Method 105	N/A
Propionaldehyde	NCASI Method 105	N/A
Acetic Acid	NCASI Method 105 ³	N/A

¹ Test duration will be as necessary to yield representative results. In some cases, multiple test runs will be conducted over the drying cycle.

² The purpose of the testing is to quantify actual VOC emissions. This might involve developing an appropriate scaling factor for Method 25A results, or quantifying the individual components of the kiln exhaust without performing Method 25A.

³ Acetic acid may be collected in the NCASI Method 105 impinger train and analyzed by HPLC.

Air Discharge Permit 17-3248 - Appendix C**Emission Testing Requirements****Lumber Drying****3. Kiln Operation:**

- a. **Quality assurance.** The following quality assurance measures must be met unless otherwise approved by SWCAA in advance of the testing:
- (1) The lumber used for the source test must be preserved in a manner to assure the freshness of the lumber. The lumber must be wrapped in plastic wrap or some other material to prevent off-gassing and contamination during storage and shipment;
 - (2) The log(s) from which lumber is taken should be newly arrived to the lumber yard;
 - (3) The lumber must be maintained below 45°F if the lumber is stored for more than two but less than seven days prior to the commencement of testing;
 - (4) The lumber must be maintained below 10°F if stored for seven or more days prior to testing.
 - (5) The ends of each test board must be trimmed prior to testing;
 - (6) The kiln must be operated as close as practical to the dominant drying schedule (dry bulb and wet bulb temperatures) at the subject facility for the wood species being tested; and
 - (7) The wood samples must be dried to a moisture content at or below the moisture content targeted by the subject facility.
- b. **Record of testing parameters.** Production related parameters and equipment operating conditions must be recorded during emissions testing to correlate operating conditions with emissions. Recorded parameters must include the following if reasonably attainable:
- (1) Testing kiln details including: kiln dimensions, kiln air velocity, and heating method;
 - (2) Sample size (board feet), sample weight, and lumber size (2" x 4", 4" x 8", etc.);
 - (3) Drying time;
 - (4) Wood moisture content (initial and final);
 - (5) Temperature (continuously monitored and recorded wet bulb and dry bulb temperatures);
 - (6) Lumber information including: percentage of heartwood vs. sapwood, ring count, percentage of face area that consists of knots, etc.;
 - (7) Tree information: coastal or inland tree, tree age, approximate date harvested, if log was stored in fresh or salt water, etc.; and
 - (8) Any interruptions in kiln operation.

All recorded production parameters must be documented in the test results report.

4. Reporting Requirements:

- a. A final emission test report must be prepared and submitted to SWCAA within 45 calendar days of test completion in both printed and electronic formats unless otherwise directed by SWCAA. At a minimum, the report must contain the following information:
- (1) Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations;
 - (2) Time and date of the test and identification and qualifications of the personnel involved;
 - (3) Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit;

Air Discharge Permit 17-3248 - Appendix C**Emission Testing Requirements****Lumber Drying****4. Reporting Requirements: (con't)**

- (4) Summary of control system or equipment operating conditions;
 - (5) Summary of production related parameters;
 - (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation;
 - (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation;
 - (8) Copies of field data and example calculations;
 - (9) Chain of custody information;
 - (10) Calibration documentation;
 - (11) Discussion of any abnormalities associated with the results; and
 - (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report.
- b. VOC emissions must be reported in pounds per thousand board feet (lb/Mbf) as VOC. Emissions of each VOC species quantified during the test must be reported in units of lb/Mbf as the individual species.

Air Discharge Permit 17-3248 - Appendix D**Emission Testing Requirements****Carothers and Son Baghouse****1. Introduction:**

The purpose of this testing is to quantify emissions from this baghouse and to demonstrate compliance with the requirements of this Permit and applicable air quality regulations.

2. Testing Requirements:

- a. **Test plan.** A comprehensive test plan must be submitted to SWCAA for review and approval at least ten business days prior to each test. SWCAA personnel must be informed at least five business days prior to testing so that a representative may be present during testing.
- b. **Testing schedule.** Initial testing was completed on December 19, 2006. Emission testing must be conducted every ten years thereafter, no later than the end of June.
- c. **Test runs/Reference test methods.** A minimum of three (3) test runs at maximum operating conditions for a minimum of one hour must be performed for each constituent listed below to ensure the data are representative. Compliance must be demonstrated by averaging the results of the individual sampling runs. The sampling methods and schedules must be used unless alternate methods/schedules are approved in writing by SWCAA in advance of the emission testing.

<u>Constituent</u>	<u>Reference Test Method</u>	<u>Minimum Test Run Duration</u>
PM (filterable)	EPA Method 5	60 minutes
Opacity	SWCAA Method 9	15 minutes

3. Source Operation:

- a. **Source operations.** Source operations during the emissions test must be representative of maximum intended operating conditions.
- b. **Record of production parameters.** Production related parameters and equipment operating conditions must be recorded during emissions testing to correlate operating conditions with emissions. Recorded parameters must, at a minimum, include process start ups and shutdowns, baghouse pressure drop and plant adjustments. All recorded production parameters must be documented in the test results report.

4. Reporting Requirements:

- a. A final emission test report must be prepared and submitted to SWCAA within 45 calendar days of test completion in both printed and electronic formats unless otherwise directed by SWCAA. At a minimum, the report must contain the following information:
 - (1) Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations,
 - (2) Time and date of the test and identification and qualifications of the personnel involved,
 - (3) Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit,
 - (4) Summary of control system or equipment operating conditions,

**Air Discharge Permit 17-3248 - Appendix D
Emission Testing Requirements
Carothers and Son Baghouse**

4. Reporting Requirements: (con't)

- (5) Summary of production related parameters,
- (6) A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation,
- (7) A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation,
- (8) Copies of field data and example calculations,
- (9) Chain of custody information,
- (10) Calibration documentation,
- (11) Discussion of any abnormalities associated with the results,
- (12) A statement signed by the senior management official of the testing firm certifying the validity of the source test report, and
- (13) Results must be reported as measured with no O₂ correction.