

PROPOSED REVISIONS TO DRAFT PERMIT 0625-01-C
TRADEWINDS FOREST PRODUCTS, LLC
132.4 MMBTU/HR BOILER AND VENEER DRYER
LOCATED AT O'OKALA, HAWAII

The Tradewinds Forest Products, LLC facility consists of a 132.4 MMBtu/hr boiler and a veneer dryer proposed to be located in O'okala on the island of Hawaii. On October 30, 2007 a public hearing was held at Laupahoehoe School on the island of Hawaii to receive oral and written public comments on the draft permit for the facility. During the period from September 28 to November 6, 2007 written public comments were received for the same facility. The proposed revisions to the draft permit presented in this document are a result of comments made during the public comment period, revisions made for clarity purposes, corrections made to the permit resulting from conditions inadvertently left out of the original draft permit, and revisions made to reinforce the original conditions and determinations made during the original engineering review of the facility. The purpose of this public comment period is to receive comments on the proposed revised draft permit conditions presented.

Additions to the permit are underlined and deletions are struck through.

1. The following proposed changes were made to the draft permit for clarity:

- On the Subject line of the cover letter, O'okala Veneer Mill was replaced by the equipment description of '132.4 MMBtu/hr Boiler and Veneer Dryer.'
- On the cover letter, the title of a monitoring report form was revised to reflect the addition of Monitoring Report requirements:

Monitoring Report: Boiler Heat Input, Boiler Fuel, and Boiler and Veneer Dryer ESP Voltage

- The header on the first page of Attachment II the Special Conditions of the permit is changed as follows (the facility is not a temporary source):

~~TEMPORARY COVERED SOURCE PERMIT NO. 0625-01-C~~

- Special Condition A.1. of the Equipment Description section was revised to replace the text 'The O'okala Veneer Mill' by 'This permit'.
- Special Condition A.1.a. of the Equipment Description of the permit was changed to reflect revised boiler serial and model numbers. The changes are a result of the manufacturer changing numbers, the emissions and operating conditions have not changed. Special Condition A.1.a. of the Equipment Description section was changed as follows:
 - a. One (1) 132.4 MMBTU/hr Factory Sales and Engineering, Inc. boiler, model ~~PDDC 835C, SERIAL NO. 92-152~~-VS2D-82, serial no. 06-2031;
- The following has been added to Special Condition A.1.b. of the Equipment Description of the permit:
 - b. One (1) MTSA-80-9CYT-A-WRV-STA Mechanical Dust Collector;

- The cooling tower has two cells. Special Condition A.1.f. of section A Equipment Description was changed as follows:
 - f. One (1) 7,300 gal/min Marley cooling tower with two cells.
- Special Condition B.1. of the Applicable Federal Regulations section was revised as follows:
 - 1. ~~The O'okala Veneer Mill Boiler~~ is subject to the provisions of the following federal regulations:
- Special Condition C.3. of the Emission Limits of the permit is revised to clarify that the PM emission limit should be based on an average of three runs:
 - 3. Boiler PM Emissions

The PM emission limit, provided for under Special Condition C.1.a., shall be based on an average of three runs, shall be complied with at all times, except during boiler startup, shutdown, and malfunction. Compliance with the PM emission limit shall be demonstrated by initial and annual source performance testing.
- The Department of Health has modified Special Condition D.1.c.ii. of section D Operating Conditions as follows:
 - ii. Wood fuel shall consist of chips of uncontaminated whole tree wood, as provided for under Special Condition D.1.c.i, including stumps, branches, bark, chips, and sawdust incidental to ~~the O'okala Veneer Mill facility operations and the logging operations of Tradewinds or their subcontractors.~~
- Special Condition D.4. of the Operational Limits of the permit is revised as follows:
 - 4. Plant Maintenance

~~The O'okala Veneer Mill, including a~~All equipment provided for under Special Condition A.1, shall be maintained in good operating condition at all times with scheduled inspections and maintenance as recommended by the manufacturer, or as needed.
- Special Condition E.4. of the Monitoring and Recordkeeping Requirements of the permit is revised as follows:
 - 4. The permittee shall maintain records on equipment inspections, maintenance, and repair work performed on the ~~O'okala Veneer Mill, as provided for under~~ equipment and associated appurtenances listed in Special Condition A.1, focusing in particular, on inspections, maintenance, and repair work that affect air pollutant emissions. Records shall include:
 - a. Date that the inspection, maintenance, or repair work was performed;

- b. A description of the findings and any work performed on the equipment covered by this permit, including the parts inspected and repaired; and
 - c. Name and title of personnel performing the inspection or work.
- Special Condition F.1.a. of the Notification and Reporting Requirements of the permit is revised as follows:
 - a. ~~Anticipated date of initial start-up, of the O'okala Veneer Mill, and its actual date of construction commencement, and actual start-up date;~~
- Special Condition G.2. of the Testing Requirements of the permit is revised:

2. Boiler Test Methods

Performance tests for CO, NOx, PM, and HCl emissions and for the opacity of visible emissions shall be conducted and the results reported in accordance with test methods set forth in 40 CFR 60, Part 60.8 and Appendix A. The following test methods or U.S. EPA approved equivalent methods or other methods with prior written consent from the Department of Health shall be used.

- a. Performance tests for CO emissions shall be conducted using EPA Methods 1-4 and 10.
 - b. Performance tests for NOx emissions shall be conducted using EPA Methods 1-4, ~~and Method 7~~ and 19.
- Special Condition G.3. Boiler PM Performance Tests of the Testing Requirements of the permit was modified for clarity:
 - b. Method 2 ~~for~~ shall be used for velocity and volumetric flow rate.
 - c. ~~Method 3 shall be used for gas analysis, and Method 3B shall be used for gas analysis when applying Method 5.~~
 - d. Method 4 shall be used for moisture content of stack gases.
 - e. Method 5 shall be used for PM concentration ~~and moisture content.~~
 - i. For Method 5, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160, plus or minus 14°C (320 plus or minus 25°F).
 - ii. ~~The sampling time for each run shall be at least sixty (60) minutes and the minimum sample volume shall be at least thirty (30) dry cubic feet at standard conditions (dscf).~~
- Attachment IV, item 1, is revised as shown below. In addition to changing 'Crushing Plant' to 'Fuel and Production', the fire pump engine at the facility is considered an insignificant activity not subject to incorporation into the permit:

1. Complete the attached form(s):

Annual Emissions Report Form: ~~Crushing Plant Fuel and Production Monitoring/Annual Emissions Report Form: Fuel Certification – Diesel Engine~~

- The Annual Emissions Report Form: Fuel and Production was revised to remove the text 'O'okala Veneer Mill.'
 - The Annual Emissions Report Form: Fuel and Production was revised to require the reporting of Biodiesel S500 and Biodiesel S15 due to the difference in the fuels sulfur content.
 - The Monitoring Report Form: Boiler Heat Input, Boiler Fuel, and Boiler and Veneer Dryer ESP Voltage was revised to remove the text 'O'okala Veneer Mill.'
2. The following proposed changes were made to the draft permit to address the addition of a Continuous Opacity Monitoring System (COMS) for the boiler. The COMS is required to satisfy the requirements of 40 CFR, Part 60, Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. These conditions were inadvertently left out of the draft permit.

- The permit was revised to include the *Excess Emission and Monitoring System Performance Summary Report* a reporting requirement for the Continuous Opacity Monitoring System (COMS). Reference to the form is made on the permit's cover letter.
- Due to the addition of the Continuous Opacity Monitoring System, the boiler is not subject to the monthly and annual visible emissions readings of opacity from the boiler's stack. Special Condition E.5. of the Monitoring and Recordkeeping Requirements of the permit is modified as follows:

5. ~~Boiler and Veneer Dryer~~ Visible Emissions (V.E.)

a. V.E. Observations

For monthly and annual V.E. observations, two consecutive sets of observations shall be recorded. Each set shall last six minutes in duration and consist of twenty-four (24) readings taken at fifteen (15) second intervals. Records shall be completed and maintained in accordance with the enclosed "Visible Emissions Form Requirements."

b. Annual Observations

Annual V.E. observations shall be conducted by a certified reader in accordance with 40 CFR Part 60, Appendix A, Method 9.

c. Monthly Observations

Monthly V.E. observations shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 9, or by using the Ringelmann Chart provided. Monthly observations need not be conducted by a certified reader.

d. ~~Boiler and Veneer Dryer~~

- i. The permittee shall conduct **annual** (*calendar year*) V.E. observations of the ~~boiler and veneer dryer~~, provided for under Special Conditions ~~A.4.a and A.1.ed~~, in accordance with Special Conditions E.5.a and E.5.b.
- ii. Except in those months where annual V.E. observations of the ~~boiler and dryer~~ are conducted, the permittee shall conduct **monthly** (*calendar month*) V.E. observations in accordance with Special Conditions E.5.a and E.5.c.
- iii. When conducting V.E. observations of the ~~boiler and dryer~~, the distance between the observer and the ~~boiler dryer~~ shall be at least three (3) stack heights, but not more than 402 meters (0.25 miles).
- iv. Upon written request and justification by the permittee, the Department of Health may waive the requirement for the **annual** V.E. observations of the ~~boiler and dryer~~. The waiver request shall be submitted prior to the required annual V.E. observations and must include documentation justifying such action. Documentation should include, but is not limited to, the results of the prior V.E. observations indicating compliance by a wide margin, documentation of continuing compliance, and documentation that ~~boiler veneer dryer~~ operation has not changed since the previous **annual** V.E. observations. Please note that if the annual V.E. observations requirement is waived, monthly V.E. observations must still be performed in accordance with Special Condition E.5.c.

- The permittee is required to install, operate, calibrate and maintain the Continuous Opacity Monitoring System. The following Special Condition was added to Section E the Monitoring and Recordkeeping Requirements of the permit:

7. Boiler Continuous Monitoring System

- a. Prior to the date of initial startup and thereafter, the permittee shall at its own expense install, operate, calibrate, and maintain the following continuous monitoring systems (CMS) for the boiler to measure and record the following parameters or data. The associated date and time of the monitored data shall also be recorded.
 - i. Continuous Opacity Monitoring System (COMS)

Stack percent opacity using a Continuous Opacity Monitoring System (COMS) shall be measured. The COMS shall meet U.S. EPA monitoring performance standards as specified in Attachment II, Special Condition Nos. E.7.b. and E.7.c. The span value of the COMS shall be between 60 and 80 percent.
- b. The procedures under 40 CFR §60.13 shall be followed for the installation, evaluation, and operation of the CMS.

c. The CMS shall also be operated according to the performance specifications of 40 CFR Part 60, Appendix B.

- The permittee must conduct a performance specification test on the COMS as required by the regulations. Special Condition F.5. of the Notification and Reporting Requirements of the permit was modified:

5. Source Performance Testing and Performance Specification Testing

- a. At least **thirty (30) days prior to conducting a source performance test** pursuant to Section G, the permittee shall submit a written performance test plan to the Department of Health in accordance with Special Condition G.5.
- b. Written reports of the results of the source performance tests conducted to demonstrate compliance shall be submitted to the Department of Health **within sixty (60) days after the completion of the performance test**, and shall be in conformance with Special Condition G.8~~10~~.
- c. At least thirty (30) days prior to conducting a performance specification test on the continuous opacity monitoring system the permittee shall notify the Department of Health, in writing, of its performance. The testing date shall be in accordance with the performance test date identified in 40 CFR Part 60, Section 60.13.

- The addition of the Continuous Opacity Monitoring System for the boiler triggers the following additional reporting requirements. The following Special Condition was added to Section F the Notification and Reporting Requirements of the permit:

9. Boiler Excess Emissions and Monitor Downtime Reporting

- a. The permittee shall submit to the Department of Health and U.S. EPA Region 9 an **Excess Emissions and Monitoring Systems Performance Report** in accordance with 40 CFR Part 60, § 60.7(c). Excess emissions and monitor downtimes shall be reported for all periods of unit operation, including startup, shutdown, and malfunction. The **Excess Emissions and Monitoring Systems Performance Report** shall include the following:
 - i. The magnitude of excess emissions computed in accordance with 40 CFR Part 60, §60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period;
 - ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
 - iii. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

- iv. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 - b. For the purposes of this permit, excess emissions and monitor downtimes shall be defined as follows:
 - i. Excess Emissions

Any opacity measurements, as measured by the transmissometer continuous monitoring system, exceeding the opacity limits set forth Special Condition No. C.1.
 - ii. Monitor Downtime

A period of monitor downtime shall be any six (6) minute period in which sufficient data are not obtained to validate the opacity.
 - c. The enclosed **Excess Emissions and Monitoring System Performance Summary Report** form or an equivalent form shall be submitted in conjunction with the **Excess Emissions and Monitoring Systems Performance Report** of Attachment II, Special Condition No. F.89.a. The reports shall be postmarked by the **30th day following the end of each semiannual calendar period.**
 - d. Excess emissions exceeding the emission limit set forth in Attachment II, Special Condition No. C.1. indicated by the continuous opacity monitoring system shall be considered violations of the opacity limit.
 - Due to the addition of the COMS, Special Condition G.2. of the Testing Requirements of the permit was modified as follows:
 - f. ~~Performance tests for determining the opacity of stack emissions shall be conducted using EPA Method 9.~~

During the initial performance test, compliance with the opacity standard of Attachment II, Special Condition No. C.1. shall be determined in accordance with 40 CFR § 60.45c(a)(8). The permittee shall record COMS monitoring data produced during the initial performance test and shall furnish the Department of Health a written report of the monitoring results along with the Method 9 and 40 CFR § 60.8 performance test results; and
 - g. During the annual performance tests, compliance with the opacity standard of Attachment II, Special Condition No. C.1. shall be determined with COMS data collection in accordance with 40 CFR § 60.11(e)(5).
3. In response to public comments made pertaining to Hydrogen Chloride emissions from the boiler and its potential impact on the synthetic minor status of the facility, the following proposed conditions have been added to the permit to ensure emissions of HCl do not exceed 10 tons per year and emissions of all hazardous air pollutants combined do not exceed 25 tons per year. The revised draft permit includes a heat input limit for the

combustion of wood in the boiler. As demonstrated in the conditions shown below, compliance with the heat input limit reflects compliance with the proposed HCl emission rate.

Testing requirements for additional hazardous air pollutant emissions from the boiler and the veneer dryer have been added to the draft permit. In addition, the Monitoring Report Form: Boiler Heat Input, Boiler Fuel, and Boiler and Veneer Dryer ESP Voltage was modified to require reporting of the total heat input from firing wood fuel in the boiler on a monthly and rolling 12-month basis.

- The permittee used a proposed emission rate equal to 5.7 tons of HCl per rolling twelve month period to evaluate potential HCl emissions from the facility. The following was added to Section C the Emission Limits of the permit, Special Condition C.1. to demonstrate emissions would not exceed the proposed emission rate:

b. HCl emissions from the boiler shall not exceed 5.7 tons per rolling 12-month period. The permittee shall demonstrate compliance with this emission limit by demonstrating compliance with the wood fuel heat input limit of Special Condition D.5.

- The following condition was added to Section D the Operational Limits of the permit, Special Condition D.5., to derive the wood combustion heat input limit from source performance test results:

5. Wood Fuel Heat Input Limit

The total heat input to the boiler from the wood fuel of Special Condition D.1.c., shall not exceed the following calculated maximum heat input per rolling 12-month period:

Boiler maximum heat input per rolling 12-month period, when firing wood fuel = 11,400 lb HCl/per rolling 12-month period ÷ A

11,400 lb HCl/per rolling 12-month period = 5.7 tons of HCl per rolling 12-month period

A = boiler HCl lb/MMBtu emission rate from the initial source performance test x 1.20

The HCl lb/MMBtu emission rate is from initial source performance test and shall be based on the average of three runs.

- The following condition was modified to track wood fuel consumption and to determine wood fuel characteristics. Special Condition E.2.c. of the Monitoring and Recordkeeping Requirements of the permit was modified as follows:

c. Wood Fuel

i. Wood Feed Rate

(1) The permittee shall operate and maintain a non-resetting weigh scale for the continuous and permanent recording of the total amount of wood fuel fed to the boiler, in pounds. All wood fuel fed to the boiler shall be recorded by the weigh scale monitoring system.

(a) The following information shall be recorded on a daily basis:

- (i) Date of the meter reading;
- (ii) Beginning meter reading for the day;
- (iii) Ending meter reading for the day; and
- (iv) Total amount of wood fed to the boiler, in pounds, for the day.

(b) The following information shall be recorded on a monthly basis:

- (i) Total amount of wood fed to the boiler, in pounds, for each month; and
- (ii) Total amount of wood fed to the boiler, in pounds, on a rolling 12-month basis.

(c) The permittee shall record on a calendar annual basis the total amount of wood fed to the boiler, in pounds, to determine the annual capacity factor and to report on annual emissions.

(d) The weigh scale shall be calibrated on a monthly basis or more frequently as recommended by the manufacturer. Each calibration of the weigh scale shall be recorded on the Inspection, Maintenance, and Repair Log of Special Condition E.4.

~~Records on the total pounds (or tons) of wood fuel combusted shall be maintained on a daily, monthly, and annual basis to determine the annual capacity factor and to report on annual emissions.~~

ii. Wood Heat Input

Total wood heat input to the boiler shall be recorded on a monthly and rolling 12-month basis for the purpose of demonstrating compliance with Special Condition D.5. and shall be determined as follows:

(1) Samples of wood shall be collected and analyzed for the wood's higher heating value (in MMBtu/lb wood) in accordance with Special Condition E.2.c.iii.(2) and the wood sampling and analysis protocol of Special Condition F.4.a.;

(2) The total monthly wood heat input to the boiler shall be determined by multiplying the total pounds of wood fed to the boiler for each month from Special Condition E.2.c.i.(1)(b)(i) by the wood's higher heating value of Special Condition E.2.c.iii.(2) for the month; and

iii. Wood Sampling and Analysis

- (1) The permittee shall submit a wood sampling and analysis protocol for the boiler in accordance with the Special Condition F.4.a.;
- (2) On a monthly basis, the wood shall be sampled and analyzed in accordance with the wood sampling protocol of Special Condition F.4.a. to determine the higher heating value of the fuel. Samples shall be collected for analysis at least once per calendar month. Samples shall be collected at least 20 days from the last sample collected or less as approved by the Department of Health. The results of the wood sampling analysis shall be submitted to the Department of Health in accordance with Special Condition F.4.b.; and
- (3) On a quarterly basis, the wood shall be sampled and analyzed in accordance with the wood sampling protocol of Special Condition F.4.a. to determine the proximate and ultimate analysis, and the chlorine content of the fuel. Samples shall be collected for analysis at least once per calendar quarter. Samples shall be collected at least 60 days from the last sample collected or less as approved by the Department of Health. The results of the wood sampling analysis shall be submitted to the Department of Health in accordance with Special Condition F.4.b.

- The following condition was modified to provide information on the types of wood fuel accepted for use in the boiler. Special Condition E.2.f. of the Monitoring and Recordkeeping Requirements of the permit was modified as follows:

f. Vendors or Sources of Wood Fuel

Records shall be maintained on vendors or sources furnishing wood fuel for use in the boiler, provided for under Special Condition A.1.a. Records shall include:

- i. Date that wood fuel for the boiler is delivered to the facility;
- ii. Name of the vendor or source;
- iii. Description of the wood fuel accepted for use in the boiler (the description shall include tree species and tree section such as bark, leaves, branches, trunk, etc.); and
- iv. Amount of wood fuel (pounds or tons).

- The following condition was added to the permit to determine wood fuel characteristics and to define submittal dates of the results of the analysis. The following Special Condition was added to Section F the Notification and Reporting Requirements of the permit:

4. Wood Sampling and Analysis

a. Protocol

At least sixty (60) days prior to first fire of the boiler, the permittee shall submit to the Department of Health for approval, in writing, a wood sampling

and analysis protocol for determining the wood's proximate and ultimate analysis, the chlorine content, and higher heating value of the fuel. The protocol shall address in detail the sampling and testing methodology to ensure the samples collected are representative of the wood fired in the boiler during the sampling period. The protocol shall also identify the requirement that the collection of each sample include a recorded description of the wood samples collected (such as the tree species and tree section such as bark, leaves, branches, trunk, etc.). The permittee shall obtain approval for the sampling protocol prior to the first fire of the boiler.

Manufacturer's literature on the weigh scale required by Special Condition E.2.c.i.(1) shall be submitted to the Department of Health along with the wood sampling and analysis protocol. The literature should include information on the accuracy, manufacturer's recommended calibration methods and frequency, and operating details of the weigh scale.

b. Submittal of Sampling and Analysis Results

Results of the wood sampling and analysis shall be submitted to the Department of Health **within sixty (60) days** after the end of each semi-annual calendar period (January 1 - June 30 and July 1 - December 31). The results shall include the sampling collection date, analyzed date, the proximate and ultimate analysis, the chlorine content of the fuel, the higher heating value of the fuel, a description of the wood samples collected and certification that the wood samples were collected and analyzed according to the wood sampling protocol of Special Condition F.4.a.

- The following was added to Section F the Notification and Reporting Requirements of the permit, Special Condition 6.a.:
 - i. The wood fuel heat input limit of Special Condition D.5.;
 - ii. The total wood fuel heat input to the boiler on a monthly and rolling 12-month basis;
- In addition to defining HCl emissions testing requirements, the following conditions include source testing requirements for additional hazardous air pollutants from the boiler. The following was added to Section G the Testing Requirements of the permit, Special Condition G.1. Boiler Performance Testing:

b. HCl Emissions

i. Initial Testing

Within **sixty (60) days after** achieving the maximum production rate of the boiler, provided for under Special Condition A.1.a., but not later than **one-hundred eighty (180) days after** initial start-up of the boiler the permittee shall conduct, or cause to be conducted an initial performance tests on the boiler to determine the emission rate of HCl for the purpose of determining compliance with the emission limit provided for under Special Condition C.1.a. and to establish the maximum wood fuel heat input of Special

Condition D.5. The source test for HCl emissions shall be performed with the boiler firing wood fuel.

- 1) The test report (as required by Special Condition G.10.) for the initial source performance test for HCl shall include:
 - (a) The operating conditions of the boiler at the time of the test;
 - (b) The HCl emission rate in lb/MMBtu and lb/hr;
 - (c) The boilers calculated wood fuel heat input limit of Special Condition No. D.5.;
 - (d) The proximate and ultimate analysis, the chlorine content of the fuel, the higher heating value of the fuel, and a description of the wood samples collected for each of the three (3) test runs. The collection of the wood sample and the analysis shall follow the wood sampling protocol of Special Condition F.4.a. to ensure the samples collected during the test are representative of the fuel fired in the boiler at the time of the test; and
 - (e) The records or a summary of the records containing all of the information maintained in accordance with Special Condition E.2.f. from the start of boiler operations up until the performance date of the test.

ii. Annual Testing

On an **annual** basis, the permittee shall conduct, or cause to be conducted performance tests on the boiler to determine the HCl emission rate for the purpose of determining compliance with the emission limit of Special Condition C.1.a. The source test for HCl shall be performed with the boiler firing wood fuel.

- 1) The test report (as required by Special Condition G.10.) for each annual HCl source performance test shall include:
 - (a) The operating conditions of the boiler at the time of the test;
 - (b) The proximate and ultimate analysis, the chlorine content of the fuel, the higher heating value of the fuel, and a description of the wood samples collected for each of the three (3) test runs. The collection of the wood sample and the analysis shall follow the wood sampling protocol of Special Condition F.4.a. to ensure the samples collected during the test are representative of the fuel fired in the boiler at the time of the test; and
 - (c) The records or a summary of the records containing all of the information maintained in accordance with Special Condition E.2.f. starting from the date of the prior source performance test up to the date of the current test.

c. Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene Emissions

i. Initial Testing

Within **sixty (60) days** after achieving the maximum production rate of the boiler, provided for under Special Condition A.1.a, but not later than **one hundred eighty (180) days** after initial start-up of the boiler the permittee shall conduct, or cause to be conducted, performance tests on the boiler to determine the emission rates of Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene Emissions in lb/MMBtu and lb/hr. The source test for Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene emissions shall be performed with the boiler firing wood fuel.

ii. Annual Testing

The Department of Health may at any time require additional source tests be performed, including the requirement for annual source testing, for Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene emissions.

- The following condition has been added to the permit to define testing methods for the additional hazardous air pollutants subject to source testing. The following has been added to Section G the Testing Requirements of the permit, Special Condition G.2. Boiler Test Methods:

e. Performance tests for Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene Emissions shall be conducted using EPA Method 320.

h. The performance tests for CO, NO_x, PM, HCl, Acetaldehyde, Acrolein, Benzene, Chlorine, Formaldehyde, Manganese, Styrene, and Toluene shall consist of three (3) separate runs for each pollutant using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

- The following condition has been added to the permit to define the hazardous air pollutants from the veneer dryer that are subject to source testing and to specify the frequency of testing. The following has been added to Section G the Testing Requirements of the permit, Special Condition G.4. Veneer Dryer Performance Testing:

b. Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol Emissions

i. Initial Testing

Within **sixty (60) days** after achieving the maximum production rate of the veneer dryer, provided for under Special Condition A.1.d, but not later than

one hundred eighty (180) days after initial start-up of the boiler the permittee shall conduct, or cause to be conducted, performance tests on the veneer dryer to determine the emission rates of Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol in lb/MMBtu and lb/hr.

ii. Annual Testing

The Department of Health may at any time require additional source tests be performed, including the requirement for annual source testing, for Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol emissions.

- The following condition has been added to the permit to define source test methods. The following Special Condition has been added to Section G the Testing Requirements of the permit, Special Condition G.5. Veneer Dryer Test Methods:

5. Veneer Dryer Test Methods

Performance tests shall be conducted and the results reported in accordance with test methods set forth in 40 CFR 60, Part 60.8 and Appendix A. The following test methods or U.S. EPA approved equivalent methods or other methods with prior written consent from the Department of Health shall be used:

a. Performance tests for VOC emissions shall be conducted using EPA Method 25A.

b. Performance tests for Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol emissions shall be conducted using EPA Method 320.

c. The performance tests for VOC, Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol shall consist of three (3) separate runs for each pollutant using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

- Special Condition G.6. of the Testing Requirements of the permit has been modified:

6. Test Expense and Monitoring

The performance tests shall be made at the expense of the permittee and shall be conducted at the maximum expected operating capacityies of the boiler and the veneer dryer, provided for under Special Condition A.1.a and A.1.d. All performance tests may be monitored by the Department of Health.

- 4. In response to public comments pertaining to veneer dryer VOC emission rates used in the application and addressed in the permit review, and the existence of two sets of emission factors for VOC in the AP-42 (Section 10.5 Plywood Manufacturing and Section 10.9 Engineered Wood Products), the draft permit has been revised to include the following proposed conditions to ensure VOC emissions from the facility do not exceed the

significant level of 40 tons per year, which would trigger a Best Available Control Technology analysis.

- The following Special Condition has been added to Section C the Emission Limits of the permit:

5. Veneer Dryer VOC Emissions

The permittee shall not discharge or cause the discharge into the atmosphere from the operation of the veneer dryer volatile organic compound (VOC) emissions in excess of the following specified limit:

<u>Veneer Dryer Emission Limit</u>	
<u>Pollutant</u>	<u>Emission Limit 3-hour average (lb/hour)</u>
<u>Volatile Organic Compound (VOC) as propane</u>	<u>6.65</u>

Emissions averaged over any three (3) hour period shall not exceed the specified limit. Total emissions from the veneer dryer heating and cooling sections shall be combined to determine compliance with the emission limit.

- Special Condition E.6. of the Monitoring and Recordkeeping Requirements of the permit has been modified as follows:

6. Performance Test

~~An initial~~ source performance tests for the boiler and veneer dryer, provided for under Special Condition A.1.a. and A.1.ed, as well as annual source performance tests, thereafter, shall be conducted pursuant to Section G. Records of test plans, summaries and results shall be maintained.

- The following Special Condition has been added to Section G the Testing Requirements of the permit:

4. Veneer Dryer Performance Testing

a. VOC Emissions

Within **sixty (60) days** after achieving the maximum production rate of the veneer dryer, provided for under Special Condition A.1.d, but not later than **one hundred eighty (180) days** after initial start-up of the veneer dryer, and annually thereafter, the permittee shall conduct, or cause to be conducted, performance tests on the veneer dryer to determine the emission rate of volatile organic compounds (VOC) for the purpose of determining compliance with the emission limits of Special Condition C.5.

5. Veneer Dryer Test Methods

Performance tests shall be conducted and the results reported in accordance with test methods set forth in 40 CFR 60, Part 60.8 and Appendix A. The following test methods or U.S. EPA approved equivalent methods or other methods with prior written consent from the Department of Health shall be used:

- a. Performance tests for VOC emissions shall be conducted using EPA Method 25A.
- b. Performance tests for Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol emissions shall be conducted using EPA Method 320.
- c. The performance tests for VOC, Acetaldehyde, Formaldehyde, Methanol, Methyl Isobutyl Ketone, and Phenol shall consist of three (3) separate runs for each pollutant using the applicable test method. For the purpose of determining compliance with an applicable regulation, the arithmetic mean of the results from the three (3) runs shall apply.

6. Test Expense and Monitoring

The performance tests shall be made at the expense of the permittee and shall be conducted at the maximum expected operating capacityies of the boiler and the veneer dryer, provided for under Special Condition A.1.a and A.1.d. All performance tests may be monitored by the Department of Health.

5. In response to public comments on the quality of biodiesel allowed to be burned in the boiler, the draft permit has been revised to add conditions limiting the use of S500 biodiesel to ensure sulfur dioxide emissions from the firing of biodiesel do not exceed the amount assessed in the permit review. No limit is needed for S15 biodiesel since it has a fuel sulfur content of 0.0015% by weight which is the lowest of any of the permitted fuels. In addition to modifying the permit conditions, the Monitoring Report Form was modified to add the reporting of Biodiesel S500 usage on a monthly and rolling 12-month basis.
 - Special Condition D.1.b.iii. of the Operational Limits of the permit was modified to identify the two grades of biodiesel:
 - iii. Biodiesel Grades S15 or S500, as provided for under Special Condition D.1.e.
 - Special Condition D.1.d. of the Operational Limits of the permit was modified as follows:
 - i. Fuel oil no. 2 usage shall not exceed a maximum of 68,854 gallons per rolling 12-month period. For each six gallon quantity of S500 grade biodiesel used, the fuel consumption limit for fuel oil no. 2 shall be reduced by one gallon over each rolling 12-month period.
 - Special Condition D.1.e. of the Operational Limits of the permit was modified as follows:
 - i. Biodiesel S500 usage (maximum fuel sulfur content of 0.05% by weight) shall not exceed a maximum of 413,124 gallons per rolling 12-month period. For each

gallon of fuel oil no. 2 used, the fuel consumption limit for biodiesel S500 shall be reduced by six gallons over each rolling 12-month period.

- Special Condition E.2.d. of the Monitoring and Recordkeeping Requirements of the permit was modified as follows:

d. Fuel Oil No. 2 and Biodiesel Fuel Meters

The permittee shall install, operate, and maintain non-resetting fuel meters on the boiler, provided for under Special Condition A.1.a, record meter readings, and determine the number of gallons of fuel oil no. 2, biodiesel S500, and biodiesel S15 fired in the boiler. Records shall include:

- i. Date of meter reading;
- ii. Time of meter reading;
- iii. Reading at the beginning of each day;
- iv. Total gallons of fuel oil no. 2 used each day and each month; ~~and~~
- v. Total gallons of fuel oil no. 2 used on a rolling 12-month basis;
- vi. The fuel oil no. 2 limit adjusted according to the amount of biodiesel S500 used during each rolling 12-month period (see Special Condition D.1.d.i.) for the end of each month;
- vii. Total gallons of biodiesel S500 used on a monthly and rolling 12-month basis;
- viii. The biodiesel S500 limit adjusted according to the amount fuel oil no. 2 used during each rolling 12-month period (see Special Condition D.1.e.i.) for the end of each month; and
- ix. Total gallons of biodiesel S15 used on a monthly and annual basis.

Records on the gallons of fuel oil no. 2 used shall be used to determine compliance with Special Condition D.1.d.i, to determine the annual capacity factor, and to report on annual emissions. Records on the gallons of biodiesel S500 used shall be used to determine compliance with Special Condition D.1.e.i. and to report on annual emissions. Records on the gallons of biodiesel S15 used shall be used to report on annual emissions.

- Special Condition F.6. of the Notification and Reporting Requirements of the permit has been modified to require the permittee to report the total gallons of biodiesel S500 fired in the boiler in addition to the biodiesel S500 and fuel oil no. 2 limits:

6. Monitoring Report Forms

The permittee shall submit **semi-annually** the following reports to the Department of Health. The reports shall be submitted **within sixty (60) days** after the end of

each semi-annual calendar period (January 1 - June 30 and July 1 - December 31).

- a. For the *Monitoring Report: Boiler Heat Input, Boiler Fuel, and Boiler and Veneer Dryer ESP Voltage*, report on:
 - i. The wood fuel heat input limit of Special Condition D.5.;
 - ii. The total wood fuel heat input to the boiler on a monthly and rolling 12-month basis;
 - iii. The total gallons of biodiesel S500 fired in the boiler each month and each rolling 12-month period;
 - iv. The biodiesel S500 limit adjusted according to the amount of fuel oil no. 2 used during each rolling 12-month period for the end of each month;
 - v. The total Ggallons of fuel oil no. 2 fired in the boiler each month and each rolling 12-month period;
 - vi. The fuel oil no. 2 limit adjusted according to the amount of biodiesel used during each rolling 12-month period;
 - vii. Sulfur and nitrogen contents (percent by weight) of the fuel oil no. 2 fired in the boiler during the reporting period;
 - viii. Any instances where treated wood (e.g., painted or chemically treated wood) was fired in the boiler. If no such instances occurred, state so on the report; and
 - ix. Any instances where ESP operating voltages were below the normal range. If there were no such incidents, state so on the report.