

PRELIMINARY DRAFT APPROVAL ORDER FORKS BIOMASS PROJECT

February 7, 2008

1. TECHNICAL SPECIFICATIONS: The boiler shall:

- a. Burn only clean wood fuel consisting of bark, sawdust, chips, or other wood waste from wood products industries, land clearing or storm debris clean-up activities. The wood fuel shall be suitably dry and in no case shall exceed 45% (need to “fine-tune”) moisture content, and shall be free of contamination including, but not limited to, non-wood man-made materials, painted wood, wood treated with creosote or other wood preservatives, wood from construction/demolition activities, and wood contaminated with petroleum products.
- b. Be equipped with high-efficiency mechanical separators capable of meeting particulate emissions limits.
- c. Incorporate adequate combustion and fuel feed control systems capable of maintaining good combustion at all anticipated boiler load levels and swings.
- d. Be equipped with a stack with a discharge height high enough to substantially avoid downwash of the plume onto school grounds (**NOTE:** This determination is to be based on evaluation of results from an air dispersion modeling analysis using the EPA-approved air dispersion model, AERMOD).
- e. The wood fuel storage and delivery system shall be fully enclosed.

2. BOILER EMISSION LIMITS. The following limits shall apply:

- a. **Particulate concentration.** Emissions of particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀) shall not exceed 0.2 lbs/MMBtu and 0.15 grains per dry standard cubic foot of exhaust, corrected to 7% oxygen, as determined by EPA Reference Methods 5/202 and 19 from 40 CFR Part 60, Appendix A.
- b. **Opacity.** Visible emissions from the boiler stack shall not exceed 5% opacity during any six minute average period in accordance with EPA Reference Method 9 of 40 CFR Part 60 Appendix A.
- c. **Nitrogen oxides.** Emissions of nitrogen oxides (NO_x) shall not exceed 22 lbs/MMBtu as determined by EPA reference Methods 7 and 19 from 40 CFR Part 60 Appendix A.
- d. **Carbon Monoxide.** Emissions of carbon monoxide (CO) shall not exceed 0.14 lbs/MMBtu as determined by EPA Reference Methods 10A and 19 from 40CFR Part 60 Appendix A.

3. OPERATION OF AIR POLLUTION CONTROL DEVICES. Pollution control methods and devices including combustion controls, the multiclone and equipment for maintaining maintain fuel quality, shall be operated and maintained to assure pollution control to the maximum extent possible.

4. COMPLIANCE ASSURANCE PLAN. The owner or operator shall develop, implement and update when necessary a Compliance Assurance Plan (Compliance Plan). The plan should contain:

- a. **Proper Combustion.** Plan for maintaining proper combustion in the boiler.
- b. **Boiler Excess Oxygen.** An adopted acceptable excess oxygen range for the boiler exhaust.
- c. **Boiler Startup/Shutdown.** Plan for minimizing emissions during startup and shutdown of the boiler. The startup/shutdown plan shall sufficiently describe the typical startup and shutdown scenarios

5. MONITORING: To be determined.

6. REQUIRED RECORDS: To be determined.

7. COMPLIANCE TESTING REQUIRED: The owner or operator shall conduct an initial compliance test for purposes of determining compliance with the boiler emission limitations contained in condition #2 of this Approval Order. The initial compliance test shall be conducted within 60 days after initial start-up. [Test methods and procedures used for initial and subsequent compliance testing shall conform to Condition 8 requirements.]

8. TEST METHODS AND PROCEDURES: Compliance testing required by this order shall be conducted in accordance with the following methods and procedures:

- a. At least 30 days prior to any required compliance test, the owner or operator shall submit to ORCAA for approval, a Test Plan containing descriptions of the proposed test methods, equipment and procedures proposed to be used.
- b. Compliance with particulate, NO_x and CO emissions limits in this Approval Order shall be determined based on the average of measured emissions from 3 separate test runs, and each test run shall be a minimum of 60 minutes in duration.
- c. The average hog fuel moisture content shall be determined for each boiler test run.
- d. Readings from pollution control equipment gages and monitors shall be recorded at appropriate frequencies during each test run.
- e. The boiler NO_x concentration for each test run shall determined using EPA Reference Methods 1, 2, 3A, 4, and 7E.
- f. The boiler CO concentration for each test run shall be determined using EPA Reference Methods 1, 2, 3A, 4, and 10.
- g. The boiler particulate grain loading, in terms of grains/dscf_{7%O₂}, shall be determined using EPA Reference Methods 1, 2, 3A, 4 and 5/202.
- h. The boiler particulate emission factor, in terms of lbs/MMBtu, shall be determined using the particulate “front half “ results only and the EPA F-factor calculation procedures.
- i. The boiler exhaust opacity shall be determined based on EPA Method 9 readings.
- j. The owner or operator shall submit to ORCAA results from any initial or subsequent compliance test within 60 days from conducting the test unless prior approval is granted by ORCAA.

9. REQUIRED REPORTS: To be determined.