



WASHINGTON STATE DEPARTMENT OF ECOLOGY  
EASTERN REGIONAL OFFICE  
4601 NORTH MONROE  
SPOKANE, WASHINGTON 99205-1295

**FINAL STATEMENT OF BASIS**  
FOR  
AIR OPERATING PERMIT NUMBER 03AQER-5613, 2<sup>nd</sup> Revision  
BOISE BUILDING SOLUTIONS MANUFACTURING, LLC  
KETTLE FALLS PLYWOOD FACILITY  
KETTLE FALLS, WASHINGTON

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## LIST OF ABBREVIATIONS

AOP	Air Operating Permit
BACT	Best Available Control Technology
BTU	British Thermal Units
°C	Degrees Celsius
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
dscf	Dry Standard Cubic Foot
dscf/m	Dry Standard Cubic Foot per minute
Ecology	Washington State Department of Ecology
E.I.T.	Engineer in Training
EPA	United States Environmental Protection Agency
°F	Degrees Fahrenheit
FBC	Fluid Bed Combustor
FCAA	Federal Clean Air Act
ft <sup>3</sup>	Cubic foot
gr/dscf	Grains per dry standard cubic foot
hr	Hour
lb	Pound
MMBtu	Million British Thermal Units
MRRR	Monitoring, Recordkeeping, and Reporting Requirement
NOC	Notice of Construction
NO <sub>x</sub>	Oxides of Nitrogen
NSPS	New Source Performance Standard
O <sub>2</sub>	Oxygen
O&M	Operation & Maintenance
P.E.	Professional Engineer
PM	Particulate Matter
PM-10	Particulate Matter with aerodynamic diameter ≤ 10 micrometers
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
RM	EPA Reference Method from 40 CFR Part 60, Appendix A
scfm	Standard Cubic Feet per Minute
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
T	Temperature
TAP	Toxic Air Pollutant
TPD	Tons Per Day
TPY	Tons Per Year
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
w%	Percentage by Weight
yr	Year

**Selected Emission Units – Annual Potential To Emit in Tons Per Year (tpy)**

Emission Units	PM (tpy) <sup>1</sup>	Condensable PM-10 (tpy)	CO (tpy)	NO <sub>x</sub> (tpy)	SO <sub>2</sub> (tpy)	VOC (tpy)
Hogged Fuel Boiler – Electrified Filter Bed	19 1900*	2 <sup>2</sup>	1,085 <sup>2</sup>	55 <sup>2</sup>	3 <sup>2</sup>	8 <sup>2</sup>
Fluid Bed Combustors/Veneer Dryers – Wet Venturi Scrubber	29 <sup>2</sup> >100*	55.6 <sup>1</sup> >100*	67.67 <sup>3</sup>	98.07 <sup>3</sup>	3.68 <sup>3</sup>	118.86 <sup>1</sup>
Baghouse #1	0.198	-	-	-	-	-
Baghouse #2	0.20	-	-	-	-	-

\* Indicates pre-controlled emissions from sources to which Compliance Assurance Monitoring is applicable.

**Selected Emission Units – Annual Potential To Emit in Tons Per Year (tpy)<sup>2</sup>**

Emission Units	Filterable PM (tpy)	Condensable PM (tpy)	VOC* as propane (tpy)	Methanol (tpy)	Other HAP's (tpy)
Plywood Press	6	2	12	6	<1

\* PTE values for methanol and other HAP's are included in the VOC total.

**1.0 Introduction**

This document sets forth the legal and factual basis for the permit conditions in a FINAL AOP issued by the State of Washington Department of Ecology for a plywood facility located in Kettle Falls, Washington. This document is called a “statement of basis” and is required by Washington State regulations [chapter 173-401 WAC]. A statement of basis does not contain enforceable permit conditions. Enforceable permit conditions are contained in the AOP itself.

**2.0 Facility Identifying Information**

- 2.1 Company Name -----Boise Building Solutions Manufacturing, LLC
- 2.2 Facility Name ----- Kettle Falls Plywood Facility
- 2.3 Unified Business Identification Number----- 409-009-025
- 2.4 Facility Address ----- 1274 South Boise Road, Kettle Falls Washington 99141
- 2.5 Facility Contact-----Jennifer Wasley, Region Environmental Engineer
- 2.6 Facility Contact Phone Number----- (509) 738-3219

<sup>1</sup> Annual potential to emit values as submitted by the permittee as part of the AOP renewal application.

<sup>2</sup> Annual potential to emit as calculated based on operational limitations, production capacity, and emission factors derived from source testing or AP-42 – rounded to the nearest ton.

<sup>3</sup> Annual potential to emit as reported in 2001 Emission Inventory.

### 3.0 Basis for Title V Applicability

Boise Building Solutions Manufacturing, LLC (BBSM), Kettle Falls Plywood Facility, is subject to Title V, Air Operating Permit Regulations, due to the potential to emit carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), particulate matter with aerodynamic diameter less than 10 micrometers (PM-10) and volatile organic compounds (VOC's) in excess of 100 tons per year. WAC 173-401-200(17)(b) identifies any source that directly emits or has the potential to emit one hundred tpy or more of any air pollutant as a major source. Major sources are required to obtain Title V permits under 173-401-300(1)(a)(i).

### 4.0 Attainment Classification

The facility is located in an area that is classified as attainment for all criteria pollutants as of November 2004.

### 5.0 Title V Facility Timeline

- 5.1 December 8, 1994 -----Source became subject to Title V AOP Program
- 5.2 August 26, 1997 ----- Original Title V AOP is issued (Order No. DE 96AQ-E137)
- 5.3 August 26, 2002 -----Original Title V AOP expired
- 5.4 August 29, 2001 ----- Title V AOP Renewal application is deemed complete
- 5.5 June 27, 2003 ----- Final Renewal Permit Issued (Order No. 03AQER-5613)
- 5.6 July 1, 2003 -----Order No. 03AQER-5613 Effective
- 5.7 December 8, 2004 ----- Request for Administrative Amendment Received
- 5.8 December 28, 2004 ----- Final Order No. 03AQER-5613, 1<sup>st</sup> Revision Issued & Effective
- 5.9 January 26, 2005 ----- Request for Administrative Amendment Received
- 5.10 April 25, 2005 ----- Administrative Amendment Application Complete
- 5.11 April 25, 2005 -----Final Order No. 03AQER-5613, 2<sup>nd</sup> Revision Issued & Effective
- 5.12 July 1, 2008 ----- Order No. 03AQER-5613, 2<sup>nd</sup> Revision Expiration Date

### 6.0 Facility Description

6.1 BBSM, Kettle Falls Plywood Facility is located at 1274 South Boise Road, Kettle Falls, Washington 99141 in Stevens County. The facility consists of a plywood plant as well as a small log mill. The various components of the facility are discussed below:

6.1.1 *The Sawmill* – The sawmill is located on the west side of the property. Logs are delivered to the infeed of the small log mill debarker by loader. The small log mill debarker has a hydraulic log handler that loads the logs onto a mechanical conveyor and then strips off the bark. The bark drops to a conveyor leading to the small log mill hog which grinds up the bark before it is mechanically conveyed via bucket conveyor to a fuel surge bin. The hog fuel in the surge bin is then pneumatically conveyed to the Fluid Bed Combustor (FBC) fuel silos. After the logs are debarked, they pass through the sawmill and go through primary and secondary log breakdown (i.e. the canter twin saw, gang saw, and edger) yielding rough cut green lumber. The green scrap wood and sawdust drop to a conveyor leading to a small log mill chipper. The wood chips are then mechanically conveyed to a surge bin followed by a screen that separates out the fines (sawdust).

This green sawdust can be diverted via two (2) separate pathways. The green sawdust can be mechanically transferred back to the small log mill hog, mechanically transferred to the fuel surge bin, and pneumatically transferred to the FBC fuel silos. The other pathway involves pneumatically transferring the green sawdust to either an existing rail car loadout or to cyclone 13 located atop a set of existing 30 unit truck bins. When the demand for short fiber by area paper mills warrant sawdust segregation, the green sawdust is transferred to either the rail car loadout or truck bins. The same set of rail car loadout and truck bins can also handle wood chips from the small log mill. The system allows sawdust to be diverted to the truck bins while wood chips are being sent to rail car loadout, and vice versa.

The rough lumber is then conveyed to the trim saws to be cut into useable lengths. The trimmed ends go to the small log mill chipper and the sawdust is pneumatically conveyed by cyclone 5 to the small log mill hog. The rough green lumber is conveyed to the sorting and stacking section of the sawmill building. Here the lumber is stacked in bundles. The bundles of green lumber are then transferred either to temporary storage or shipped offsite for further processing.

**6.1.2** *The Plywood Plant* – Logs are delivered to the infeed of the plywood debarker using a loader. The plywood debarker has a hydraulic log handler that loads the logs onto a mechanical conveyor then strips off the bark. The bark drops to a conveyor leading to the plywood hog, located in the small log mill, which grinds up the bark before it is pneumatically conveyed to a three way switch that can send the hogged fuel to either the boiler fuel silo by cyclone 6, the fuel surge bin by cyclone 12, or truck bins. The debarked logs continue along the conveyor. Saw blades lower and cut the log into blocks (the number depending on the length of the log). The waste ends of the log, commonly referred to as lily pads, and the sawdust from the cutoff saws are then sent to the lily pad chipper. The chips generated are pneumatically conveyed to cyclone 4 atop the plywood plant chip surge bin. The chips then pass over a screen, removing the fines which are sent to cyclone 1. The screened chips are pneumatically conveyed to either a chip truck bin or rail car loadout. There is also an option to send plywood chips to the hog fuel truck bins.

The blocks are mechanically tipped into block bins where they are transferred to storage or conditioning vats (log vats). The log vats use hot water to raise the core temperature of the log to a desired temperature. The heated blocks are then transferred to the infeed of the plywood plant where each block is mechanically loaded onto the lathe. The lathe uses a knife to peel a continuous piece of veneer of pre-selected thickness (generally 1/8 in.) from the log leaving the core. The veneer is then conveyed to a clipper that optically reads its quality and clips the veneer into sections, removing imperfections and damaged pieces. The clipped veneer is sorted and stacked using vacuum handlers and fed to the veneer dryers. The cores are sent to the core chipper and the clipped veneer scrap is sent to the veneer chipper. The chips are then sent to the plywood plant surge bin and combined with the lily pad chips, screened, and conveyed to either a truck bin or rail car loadout.

There are three veneer dryers at the plywood plant. As the first dryer has two zones, plant personnel refer to it as two dryers. Thus the dryers are called Dryers 1, 2, 3, and 4. All of the dryers are direct fired with heat provided from two hog fuel fired FBCs. Fuel for the FBCs is a combination of plytrim waste and bark. The fuel is stored in FBC fuel silos or the hog fuel storage pile. The hot air produced by the FBCs passes

through the dryer. Each dryer zone has circulating fans to circulate the air around the veneer. Exhaust from the dryers is then either recirculated and mixed with the incoming FBC hot air or sent to the wet scrubber system and vented through the scrubber stack. After drying, the veneer is sent to either the end trim saw generally to be cut into 8 foot lengths or to the core saw to be cut in half as 4 foot lengths. The trimmed pieces of dry veneer and sawdust are collected by cyclone 1 and subsequently routed through baghouse 2.

After trimming, the veneer is fed through the lay-up line where the veneer is combined with adhesive using vacuum handlers with suction through cyclone 2. At the lay-up line, an adhesive is applied to one side of a sheet of veneer, then another sheet is laid on top of it followed by more adhesive and an additional sheet, until a desired number of sheets are adhered together forming a sheet of plywood. (The number of sheets used in a piece of plywood is commonly referred to as the ply of the plywood. Thus, 3-ply plywood would be 3 sheets of veneer.) The plywood is then trimmed as necessary with the flying saw and sent to a “plywood press” where the plywood is compressed between hot plates to cause the adhesive to harden, and to strengthen the bond between the veneer sheets and adhesive.

There are currently two presses: a 44 opening and a 24 opening. The plywood is removed from the plywood press and sent to the panel saws where it is sawed to specification length and width. The plytrim waste generated by the flying saw and any wood scraps from the lay-up line are routed through the small dry hog to cyclone 15 and subsequently, baghouse 1. The panel saw trimmings and sawdust are also routed through the large dry hog to cyclone 15 and subsequently, baghouse 1. A stand-alone tongue and groove machine and its associated sander are controlled by cyclone 1 and subsequently, baghouse 2. The bottoms of cyclone 1 are combined with the bottoms from cyclone 2 and the material collected in baghouses 1 and 2 and then transferred to either the hog fuel surge bin (controlled by cyclone 12) or the boiler hog fuel silo (controlled by cyclones 6 and 7). The plywood is then graded, banded, and stenciled before being transferred to temporary storage or shipped offsite by truck or rail.

**6.1.2.1 Lay-up Line Adhesive** – The ingredients required for the adhesive, utilized in the lamination process are automatically mixed. There are six primary components of the adhesive:

**6.1.2.1.1 Resin** (MSDS provided in Appendix B to the SOB)

**6.1.2.1.2 Caustic NaOH**

**6.1.2.1.3 Water**

**6.1.2.1.4 Wheat Flour**

**6.1.2.1.5 Dried Animal Blood**

**6.1.2.1.6 Foaming Agent**

**6.1.2.2 Hogged Fuel Boiler** – The hog fuel boiler has a spreader stoker type furnace and was manufactured by Riley Stoker. The boiler provides steam to the plywood presses, block conditioning vats, and unit heaters. The hogged fuel is fed to the boiler by conveyor from the boiler fuel silo. The emissions from the boiler are controlled by fly ash re-injection, a multiclone, and an Electrified Filter Bed (EFB) before being vented from the stack. The boiler ash is conveyed to a small

storage area located east of the boiler building. This storage area is controlled by cyclone C-14.

**6.1.2.3 Fluid Bed Combustors and Veneer Driers** – There are four veneer dryers (see section 13.8 for an explanation of veneer dryer numbering) at the plywood plant. The moisture from the drying process is removed from the veneer through contact with warm dry air from two FBCs. In the FBCs, hot gas is generated by the combustion of hog fuel which primarily includes bark and plytrim. Hot exhaust gas from the FBC is mixed with a recycle stream of cooler gas from the dryers to make a warm gas. This warm gas is either sent to a multiclone and then vented to the veneer dryers, where the air removes moisture from the veneer, or is sent to the wet scrubber system and vented to the atmosphere through the scrubber stack. The moisture laden gas exiting the dryers is recycled and mixed with the hot gas from the FBC thus completing the cycle. Appendix A of this SOB contains a schematic of the FBC and veneer dryer exhaust gas system.

**6.1.3 Maintenance** – Some of the maintenance activities taking place at the Kettle Falls Plywood Facility include an automotive maintenance shop including a gasoline and diesel dispensing tank and facility maintenance - groundskeeping, carpentry, painting, etc.

**6.1.4 Miscellaneous** – Miscellaneous sources at the facility encompass a range of units (i.e., a log yard, facility roads, and process water pond) and activities (i.e., fuel storage and lumber and plywood storage and shipping).

## **7.0 Facility Emission Units/Processes**

### **7.1 Facility Wide (Section 2.1 in AOP)**

**7.1.1** Point source emission units specifically subject to the requirements in Section 2.1 of the AOP include the following.

**7.1.1.1** Cyclone C-1 – End Trim Saw, Tongue & Groove, and Sander

**7.1.1.2** Cyclone C-4 – Lilly Pad Chipper

**7.1.1.3** Cyclone C-5 – Trimmer at Small Log Sawmill

**7.1.1.4** Cyclones C-6 and C-7 – Boiler Hogged Fuel Silo

**7.1.1.5** Cyclones C-11 and C-12 – Clarke Surge Bin

**7.1.1.6** Cyclone C-13 – Sawdust Truck Bins

**7.1.1.7** Cyclone C-14 – Boiler Ash Storage Pile

**7.1.1.8** Cyclone C-15 – Upstream of Baghouse #1

**7.1.1.9** Building vents – The focus in terms of monitoring shall be on vents located above or near to the veneer dryers and hot plywood presses.

**7.1.1.10** Plywood Press

**7.2** Cyclone C-2 – Lay-up Line Vacuum Fans (Section 2.2 in AOP)

**7.3** Baghouse #1 – Lay-up Line and Small and Large Dry Hogs (Section 2.3 in AOP)

**7.4** Baghouse #2 – End Trim Saw, Tongue & Groove, and Sander (Section 2.4 in AOP)

**7.5** Veneer Dryer #3 (Section 2.5 in AOP)

- 7.6 Veneer Dryer #4 (Section 2.6 in AOP)
- 7.7 Fluid Bed Combustors and Venturi Scrubber (Section 2.7 in AOP)
- 7.8 Hogged Fuel Boiler and Electrified Filter Bed (Section 2.8 in AOP)

## 8.0 Insignificant Emission Units and Activities

- 8.1 The following insignificant emission units were proposed by the permittee in the Title V Renewal Application materials submitted to Ecology and have been found by Ecology to meet the requirements outlined in WAC 173-401-532 as categorically insignificant.

Storage tanks, reservoirs and pumping and handling equipment of any size, limited to soaps, lubricants, hydraulic fluid, vegetable oil, grease, animal fat, aqueous salt solutions or other materials and processes using appropriate lids and covers where there is no generation of objectionable odor or airborne particulate matter (WAC 173-401-532(4)) – Six (6) such tanks have been found to qualify as insignificant. The six tanks all contain hydraulic fluid and are termed T4, T5, T8, T9, T10, and T12.

- 8.2 The following insignificant emission units were proposed by the permittee in the Title V Renewal Application materials submitted to Ecology and have been found by Ecology to meet the requirements outlined in WAC 173-401-533 as insignificant on the basis of size or production rate.

- 8.2.1 Two caustic soda storage tanks containing sodium hydroxide (WAC 173-401-533(2)(s), Tanks, vessels, and pumping equipment, with lids or other appropriate closure for storage or dispensing of aqueous solutions of inorganic salts, bases and acids excluding 99% or greater sulfuric acid or phosphoric acid, 70% or greater nitric acid, 30% or greater hydrochloric acid, or liquid phase combinations where the top phase is more than 1% VOC's.

- 8.2.2 One 6,000 gallon capacity gasoline storage tank (T1), two 10,000 gallon capacity diesel storage tanks (T2, T3), and one 1,000 gallon capacity motor/hydraulic oil storage tank (T6) (WAC 173-401-533(2)(c), Operation, loading and unloading of VOC storage tanks (including gasoline storage tanks), ten thousand gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than 80 mm Hg at 21°C).

- 8.2.3 Two 550 gallon capacity used oil storage tanks (T7, T11) (WAC 173-401-533(2)(b), Operation, loading, and unloading of storage tanks, not greater than one thousand one hundred gallon capacity, with lids or other appropriate closure, not for use with hazardous air pollutants, maximum vapor pressure 550 mm Hg.

- 8.3 The following emission units were proposed by the permittee as outlined in WAC 173-401-530(4) as insignificant on the basis of actual emissions.

- 8.3.1 The permittee used an AP-42 equation to propose that the emission units listed below are insignificant and thus not subject to monitoring, recordkeeping and reporting requirements contained within the AOP. Ecology has determined that while emissions *as calculated by the AP-42 equation* do fall below the limits cited in WAC 173-401-530(4), the permittee is still responsible to maintain the equipment and proper operational practices associated with the emission units and/or process locations to ensure that they function properly and do not exhibit excess emissions. Without proper maintenance, repair, etc., the emissions from these sources could easily exceed the insignificance levels.

- 8.3.1.1** Truck Dump (TP1)
- 8.3.1.2** Rail Car Loadout (TP2, TP3)
- 8.3.1.3** Vents on Truck Bins #1 and #2 (TP4)
- 8.3.1.4** Vents on Truck Bins #3 and #4 (TP5)
- 8.3.1.5** Vents on Truck Bins #5 and #6 (TP6)
- 8.3.1.6** Vent on FBC Fuel Silo #1 (TP7)
- 8.3.1.7** Vent on FBC Fuel Silo #2 (TP8)
- 8.3.1.8** Truck Bin Loadout (TP9, TP10, TP11, TP12, TP13, TP14)
- 8.3.1.9** Fuel Storage Pile (S1)
- 8.3.1.10** Boiler Ash Storage Pile (S2)

**8.3.2** The permittee utilizes a phenol-formaldehyde (PF) resin as a component of the plywood glue. The PF resin is stored in two 8,500 gallon tanks (T13 and T14) that are located within the plywood building and kept at a fairly constant temperature. The resin is predominantly a polymer, but contains approximately 0.1% free formaldehyde and 0.05 % phenol by weight. Emission calculations submitted by the permittee estimate the potential formaldehyde emissions to vary between <1 pound to approximately 23 pounds per year depending on the calculational method used.

The maximum emission threshold for emissions of formaldehyde as specified under WAC 173-401-531(1) is 0.5 tons per year. Due to the estimated emissions as discussed above, the storage tanks can be established as insignificant emission units.

**8.3.3** The permittee uses four steel tanks (capacities of 8,300, 6,800, 1,000, and 800 gallons) to store the mixed glue used as adhesive in plywood production. Information submitted by the permittee indicates that the glue is made up of the following components: PF resin as discussed in Section 8.3.2 above, caustic NaOH, water, wheat flour, dried animal blood, and foaming agent. Based on submitted information, it has been determined that the mixed glue is approximately 54% PF resin. The other components of the glue are not expected to produce significant emissions of any hazardous air pollutant.

Based on the formaldehyde emissions calculations performed in support of the discussion in Section 8.3.2 above, the annual emissions of free formaldehyde from the mixed glue storage tanks is estimated to be <0.5 tons.

The maximum emission threshold for emissions of formaldehyde as specified under WAC 173-401-531(1) is 0.5 tons per year. Due to the estimated emissions as discussed above, the storage tanks can be established as insignificant emission units.

## **9.0 Comments and Corresponding Responses**

**9.1** Comments received during the public comment period and EPA review period are on file at Ecology's Eastern Region Office in Spokane, along with Ecology's response to the comments.

## **10.0 Applicable and Inapplicable Requirements Determinations/Explanations**

**10.1** Initial or one-time NOC requirements that have not been included in the AOP as ongoing applicable requirements.

- 10.1.1** Order No. DE 93AQ-E114 First Amendment, Issued 03/15/95, Approval Condition 8.4, Order No. DE 93AQ-E114 becomes void if construction of the project is not commenced within eighteen (18) months after receipt of the final Order.
- 10.1.1.1** Correspondence dated February 17, 1995 from Mr. Larry Hester of BBSM (then Boise Cascade Corporation) addressed to Mr. Greg Ryan of Ecology states that the new system is in operation. This correspondence is located within the permit file at Ecology's Eastern Regional Office in Spokane.
- 10.1.2** Order No. DE 93AQ-E114 First Amendment, Issued 03/15/95, Approval Condition 8.6, BBSM must notify Ecology prior to construction and startup of the systems.
- 10.1.2.1** No such notification was identified within the facility files. However, an Ecology inspection was conducted on September 14, 1994 and no mention was made with regard to the startup of the cyclone system.
- 10.1.3** Order No. DE 94AQ-E111, Issued 03/11/94, Approval Condition 6, An O&M manual for baghouse #1 shall be developed. O&M manual development shall be completed within ninety (90) days of startup of the system and a copy shall be sent to Ecology.
- 10.1.3.1** The required O&M manual could not be located within the facility files. However, in correspondence dated October 20, 1995, Mr. Greg Ryan of Ecology informed the permittee that the O&M manual submitted for a similar baghouse at the nearby lumber sawmill would suffice to satisfy the requirement.
- 10.1.4** Order No. DE 94AQ-E111, Issued 03/11/94, Approval Condition 8.6, The permittee must notify Ecology prior to construction and startup of baghouse #1.
- 10.1.4.1** While no specific correspondence was identified that provided the required notification, the Ecology permit engineer, Mr. Greg Ryan, conducted a site inspection shortly after issuance of the permit. This inspection was documented in a letter from Mr. Ryan to the permittee dated October 20, 1995 and within the letter, Mr. Ryan states that the permittee is determined to be in compliance with the Order. This indicates that notification was provided as required.
- 10.1.5** Order No. DE 99AQ-E103, Issued 01/19/99, Approval Conditions 4 and 5.2, An O&M manual for baghouse #2 shall be developed. O&M manual development shall be completed within ninety (90) days of startup of the system and a copy shall be sent to Ecology.
- 10.1.5.1** In correspondence received by Ecology's Eastern Regional Office on July 1, 1999, the permittee provided notification that the O&M manual was complete.
- 10.1.6** Order No. DE 99AQ-E103, Issued 01/19/99, Approval Condition 5.1, The permittee shall provide written notification to Ecology of the actual date of initial startup of baghouse #2, postmarked within fifteen (15) days of such date.
- 10.1.6.1** In correspondence received by Ecology's Eastern Regional Office on July 1, 1999, the permittee provided notification that the baghouse was put into service on Monday, June 28, 1999.
- 10.1.7** Order No. DE 99AQ-E103, Issued 01/19/99, Approval Condition 9.2, The Order shall become void if construction of the baghouse #2 is not commenced within eighteen (18) months of final issuance of the Order.

- 10.1.7.1** In correspondence received by Ecology's Eastern Regional Office on July 1, 1999, the permittee provided notification that the baghouse was put into service on Monday, June 28, 1999. This indicates that construction of the baghouse was commenced within the eighteen (18) month period.
- 10.1.8** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 2.6, The previously existing veneer dryer #3 (Prentice, 1979) shall be removed and replaced by the new veneer dryer.
- 10.1.8.1** No correspondence was identified in the facility files specifically documenting the removal of the 1979 Prentice veneer dryer. However, Order 01AQER-1920 required an initial source test to be conducted on the venturi scrubber stack following installation of the new dryer. This source test occurred on July 31, 2001. The fact that the initial source test took place indicates that the dryer replacement occurred in accordance with the permit.
- 10.1.9** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 5, An O&M manual shall be developed for the new veneer dryer #3 and associated equipment. The manual shall be completed within ninety (90) days of issuance of Order 01AQER-1920.
- 10.1.9.1** No correspondence was identified specifically notifying Ecology of O&M manual completeness.
- 10.1.10** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 6.1, Initial source testing of the venturi scrubber stack shall be conducted within one hundred twenty (120) days of initial startup of the new veneer dryer #3.
- 10.1.10.1** This source test occurred on July 31, 2001 and included all required EPA test methods.
- 10.1.11** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 6.2, Stack testing of the venturi scrubber stack shall be conducted every twelve (12) months for two (2) years following initial startup of the new veneer dryer #3.
- 10.1.11.1** The initial source test occurred on July 31, 2001. The second required source test occurred on August 27, 2002.
- 10.1.12** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 7.2, The permittee is required to utilize appropriate fugitive dust control techniques during the construction of the new veneer dryer #3.
- 10.1.12.1** While no correspondence related to this issue was located, no complaints were received by Ecology related to fugitive dust caused by construction of the new veneer dryer.
- 10.1.13** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 7.3, This Order becomes void if construction on the new veneer dryer #3 is not commenced within eighteen (18) months of issuance of this Order.
- 10.1.13.1** No correspondence specifically documenting the date that construction began on the replacement of veneer dryer #3. However, the initial source testing took place on July 31, 2001. This indicates that the dryer was completely installed and operational as of this date.

- 10.1.14** Order No. 01AQER-1920, Issued 02/02/01, Approval Condition 7.5, The permittee must notify Ecology in writing within thirty (30) days of the startup of the new veneer dryer #3.
- 10.1.14.1** No correspondence specifically documenting the date that veneer dryer #3 was started up. However, the initial source testing took place on July 31, 2001. This indicates that the dryer was completely installed and operational as of this date.
- 10.1.15** Order No. DE 92AQ-E152 Second Amendment, Issued 01/25/94, Approval Condition 5, The permittee shall complete an O&M manual for veneer dryer #4 and a copy of the completed manual shall be submitted to Ecology within ninety (90) days of issuance of the Order.
- 10.1.15.1** In correspondence dated January 11, 1994, Mr. Greg Ryan of Ecology informs the permittee that the O&M manual was received by himself on May 10, 1993 and was reviewed and found to be complete on May 12, 1993.
- 10.1.16** Order No. DE 92AQ-E152 Second Amendment, Issued 01/25/94, Approval Condition 7.1, Initial source testing of the venturi scrubber stack shall be conducted within one hundred eighty (180) days of initial startup of the veneer dryer #4.
- 10.1.16.1** This source test occurred on April 22, 1992 and included all required EPA test methods.
- 10.1.17** Order No. DE 92AQ-E152 Second Amendment, Issued 01/25/94, Approval Condition 8.3, This Order becomes void if construction on the veneer dryer #4 is not commenced within eighteen (18) months of issuance of this Order.
- 10.1.17.1** No correspondence specifically documenting the date that construction began on the replacement of veneer dryer #4. However, the initial source testing took place on April 22, 1992. This indicates that the dryer was completely installed and operational as of this date.
- 10.1.18** Order No. DE 92AQ-E152 Second Amendment, Issued 01/25/94, Approval Condition 8.5, The permittee must notify Ecology in writing at least thirty (30) days prior to construction and thirty (30) days prior to startup of the veneer dryer #4.
- 10.1.18.1** No correspondence specifically documenting the date that veneer dryer #4 was started up or the date that construction began. However, the initial source testing took place on April 22, 1992. This indicates that the dryer was completely installed and operational as of this date.
- 10.1.19** Order No. DE 79-421, Issued 09/18/79, Approval Condition 1, The permittee shall conduct initial source testing shall be conducted and a copy sent to Ecology within ninety (90) days of the boiler becoming operational.
- 10.1.19.1** The initial source testing occurred on March 20, 22 and 26, 1980 and notification as well as testing results were submitted to Mr. Carl J. Nuechterlein dated April 9, 1980.
- 10.1.20** PSD-X80-01 First Amendment, Issued 02/14/03, Approval Condition 4, This approval Order shall become void if construction, once initially commenced, discontinues for a period of eighteen (18) months.

- 10.1.20.1** No record documenting the construction dates could be located within the facility files at Ecology's Eastern Regional Office.
- 10.1.21** Order No. DE 78-459, Issued 10/24/78, This Order contained several conditions whose purpose it was to return the operation of the hogged fuel boiler to compliance status with respect to state air regulations. These requirements included a schedule of steps to be taken to attain compliance and associated notifications to Ecology, a requirement that the boiler operation not be increased, a prohibition on open burning, and requirements relating to fugitive emissions during the work.
- 10.1.21.1** Limited correspondence was located relating to the compliance schedule imposed by this Order. However, it is apparent that Ecology and the permittee were involved in an ongoing conversation regarding the compliance status of the boiler.
- 10.1.22** Order No. DE 91AQ-E123, Issued 11/08/91, Approval Condition 9, A solid waste disposal plan shall be submitted to the Ecology Air Program no later than January 1, 1992 for all ash generated by the hogged fuel boiler. Procedures to minimize ash entrainment and comply with all requirements of WAC 173-400-040 shall be included in the plan.
- 10.1.22.1** Correspondence from the permittee received by Ecology on April 9, 1992 stated that the required solid waste disposal plan was being delayed due to issues related to the pH of the boiler ash. The letter stated that the Air Program would receive a copy of the plan as soon as it is available.
- Correspondence from Ecology dated January 13, 1993 acknowledges the difficulty in preparing the final waste disposal plan due to waste designation issues. This letter requires that an interim waste disposal plan be submitted within thirty (30) days of the letter.
- Ecology received a response on January 25, 1993, and an interim waste disposal plan on April 16, 1993. The interim plan basically consisted of burning the EFB ash in the FBCs.
- Ecology stated in correspondence dated August 27, 1993 that all requirements of Order No. DE 91AQ-E123 (specifically including condition 9) had been satisfied. It appears that the interim waste disposal plan has become the permanent disposal plan.
- 10.1.23** Order No. DE 91AQ-E123, Issued 11/08/91, Approval Condition 1(b), The COMS (monitoring opacity out of the hogged fuel boiler/EFB stack) shall be installed and operating, and a QA Plan conforming with EPA PS-1 shall be submitted no later than one hundred eighty (180) days after issuance of the Order.
- 10.1.23.1** The original submittal of the QA Plan was received by Ecology on June 2, 1992. A modified version of the QA Plan was received by Ecology on April 16, 1993.
- 10.1.24** Order No. DE 91AQ-E123, Issued 11/08/91, Approval Condition 1(c), During initial source testing, the permittee shall measure and record, on an hourly basis, baseline production equipment and control device parameters.
- 10.1.24.1** This data was recorded and is located in the test report submitted for the emission testing that took place on April 23, 1992. Some additional data is

located within an inspection report from the date of the test located in the facility general correspondence file dated April 23, 1992.

**10.1.25** Order No. DE 91AQ-E123, Issued 11/08/91, Approval Condition 2, Within one hundred eighty (180) days after this Order is issued, performance testing shall be conducted on the EFB exhaust.

**10.1.25.1** The initial source testing for the EFB controlled hogged fuel boiler occurred on April 23, 1992 and the test report was received by Ecology on May 26, 1992.

**10.1.26** Order No. DE 91AQ-E123, Issued 11/08/91, Approval Condition 4, Within one hundred eighty (180) days after this Order is issued, the permittee shall submit to Ecology an O&M manual for the hogged fuel boiler, multiclone, and EFB.

**10.1.26.1** No record documenting completion of the O&M manual could be located within the facility files at Ecology's Eastern Regional Office.

**10.2** The following NOC requirements clarified miscellaneous issues with regard to the applicable emission unit and were not, in actuality, approval conditions. These NOC requirements therefore have not been included in the AOP as ongoing applicable requirements.

**10.2.1** Order No. DE 93AQ-E114 First Amendment – Approval Condition 3, Interlocks.

**10.2.1.1** This approval condition stated that no interlocks are required.

**10.2.2** Order No. DE 93AQ-E114 First Amendment – Approval Condition 5, Emission Control Monitors.

**10.2.2.1** This approval condition stated that no emission control monitors are required.

**10.2.3** Order No. DE 93AQ-E114 First Amendment – Approval Condition 6, Manuals.

**10.2.3.1** This approval condition stated that no manuals are required.

**10.2.4** Order No. DE 94AQ-E111 – Approval Condition 4, Fugitive Dust.

**10.2.4.1** This approval condition states that no fugitive dust is expected based on the configuration of the baghouse catch system.

**10.2.5** Order No. DE 99AQ-E103 – Approval Condition 1.

**10.2.5.1** This approval condition states that there are no limitations on the annual operating hours of baghouse #2 imposed by the Order.

**10.2.6** Order No. 01AQER-1920 – Approval Condition 3, Interlocks.

**10.2.6.1** This approval condition stated that no interlocks are required.

**10.2.7** Order No. 01AQER-1920 – Approval Condition 4, Fugitive Dust.

**10.2.7.1** This approval condition states that fugitive dust is not applicable to the replacement of the third veneer dryer.

**10.2.8** Order No. DE 92AQ-E152 Second Amendment – Approval Condition 3, Interlocks.

**10.2.8.1** This approval condition stated that no interlocks are required.

**10.2.9** Order No. DE 92AQ-E152 Second Amendment – Approval Condition 4, Fugitive Dust.



- 10.3.7** 40 CFR 61 National Emission Standards for Hazardous Air Pollutants – The permittee is not subject to any NESHAPS at the time of permit issuance. There is the possibility that the permittee will be subject to the MACT for plywood plants which is scheduled for promulgation during early 2004.
- 10.3.8** WAC 173-400-045 Control Technology Fees – This regulation does not include any ongoing specific requirements for the permittee.
- 10.3.9** WAC 173-400-075 Emission Standards for Sources Emitting Hazardous Air Pollutants – The permittee is not subject to any NESHAPS at the time of permit issuance.
- 10.3.10** WAC 173-400-115 Standards of Performance for New Sources – This regulation does not include any ongoing specific requirements for the permittee.
- 10.3.11** WAC 173-430 Agricultural Burning – The permittee does not practice agriculture on the facility site.
- 10.3.12** WAC 173-460 Controls for New Sources for Toxic Air Pollutants – This regulation does not include any ongoing specific requirements for the permittee.
- 10.3.13** RCW 70.94.610 Burning Used Oil in Land-Based Facilities – This law does not include any ongoing specific requirements for the permittee.
- 10.3.14** WAC 173-435-040 Source Emission Reduction Plans (SERP) – This regulation contains requirements which do not apply to the permittee in an ongoing manner at the time of permit issuance.
- 10.3.15** WAC 173-435-050(2) SERP Action Procedures – This regulation contains requirements which do not apply to the permittee in an ongoing manner at the time of permit issuance.
- 10.4** The following requirements were listed as applicable when triggered and/or inapplicable by the source, but have been found to be generally or specifically applicable by Ecology.
- 10.4.1** Order No. DE 99AQ-E103 Installation of the baghouse on the planer exhaust – The permittee remains required to have the baghouse installed.
- 10.4.2** Order No. DE 99AQ-E103 Monitoring instrumentation on the baghouse – The permittee remains required to have the specified instrumentation on the baghouse.
- 10.4.3** 40 CFR 52.21(b-w) Prevention of Significant Deterioration of Air Quality – The permittee is currently subject to PSD.
- 10.4.4** WAC 173-400-141 Prevention of Significant Deterioration – The permittee is currently subject to PSD.
- 10.4.5** RCW 70.94.152(10) Notice of Construction – This law includes ongoing specific requirements that apply to the permittee.

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| <b>10.4.6</b>  | RCW 70.94.153   | <u>Replacement or Substantial Alteration of Emission Control Technology</u> – This law includes ongoing specific requirements that apply to the permittee.   |
| <b>10.4.7</b>  | WAC 173-400-171 | <u>Public Involvement</u> – This regulation contains requirements which apply to the permittee in an ongoing manner. The permittee must continually comply with the specific requirements.                 |
| <b>10.4.8</b>  | 40 CFR 64       | <u>Compliance Assurance Monitoring</u> – This regulation contains requirements which apply to the permittee in an ongoing manner. The permittee must continually comply with the specific requirements.    |
| <b>10.4.9</b>  | 40 CFR 50       | <u>National Ambient Air Quality Standards</u> – The National Ambient Air Quality Standards apply generally nationwide. They do not, however, include specific requirements applying to the permittee.      |
| <b>10.4.10</b> | WAC 173-425     | <u>Open Burning</u> – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.                     |
| <b>10.4.11</b> | RCW 70.94.650   | <u>Open Burning Permits</u> – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.             |
| <b>10.4.12</b> | RCW 70.94.743   | <u>Outdoor Burning Prohibited Areas</u> – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee. |
| <b>10.4.13</b> | RCW 70.94.775   | <u>Outdoor Burning Fire Prohibition</u> – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee. |
- 10.5** The permittee included in their application a long list of requirements for which they requested Ecology to determine inapplicability and grant the permit shield to the Kettle Falls plywood mill. Except for the requirements listed in section 4 of the AOP, Ecology has not included any of the other requirements in the permit either as applicable or inapplicable. The intent of the permit shield is to address situations where there is a question of applicability. The requirements in section 4 of the AOP are good examples of requirements that reasonably might apply and for which an inapplicability determination is both useful and appropriate to document for the public record. Other requirements listed in the application either don't meet the definition of applicable requirement because they are requirements on Ecology, EPA, or a local regulatory agency rather than on the source or because they are obviously not relevant to the operations of a plywood mill. Including this long list in the permit as inapplicable would serve no purpose and could obfuscate the determination of inapplicability for the relevant standards by making it difficult for the public, EPA, and even the permittee to pick out and carefully evaluate the few standards which could truly be in question. Instead, each requirement has been included below, with a brief explanation of it's inapplicability to the permittee.

<b>10.5.1</b>	FCAA § 183(e)	<u>Standards for VOC Emitting Sources</u> – The permittee is not currently required to take any action under this regulation.
<b>10.5.2</b>	40 CFR 63	<u>Emission Standards for Sources Emitting Hazardous Air Pollutants</u> – The permittee is not subject to any NESHAPS at the time of permit issuance. There is the possibility that the permittee will be subject to the MACT for plywood plants which is scheduled for promulgation during early 2004.
<b>10.5.3</b>	40 CFR 68	<u>Risk Management for Chemical Accidental Release</u> – The permittee does not store the listed chemicals in amounts that exceed a threshold quantity.
<b>10.5.4</b>	RCW 70.94.531	<u>Transportation Demand Management</u> – This section of the RCW governs commute trip reduction plans and their implementation and does not include any specific requirements applying to the permittee.
<b>10.5.5</b>	chapter 173-490 WAC	<u>Emission Standards and Controls for Sources Emitting VOC's</u> - The permittee is not located in an ozone nonattainment area or included in the WAC 173-490-030 listing.
<b>10.5.6</b>	chapter 173-481 WAC	<u>Ambient Air Quality and Environmental Standards for Fluorides</u> - The permittee is not currently required to take any action under this regulation.
<b>10.5.7</b>	chapter 173-480 WAC	<u>Ambient Air Quality Standards and Emission Limits for Radionuclides</u> - The permittee is not currently required to take any action under this regulation.
<b>10.5.8</b>	chapter 173-475 WAC	<u>Ambient Air Quality Standards for Carbon Monoxide, Ozone, and Nitrogen Dioxide</u> - The permittee is not currently required to take any action under this regulation.
<b>10.5.9</b>	chapter 173-474 WAC	<u>Ambient Air Quality Standards for Sulfur Oxides</u> - The permittee is not currently required to take any action under this regulation.
<b>10.5.10</b>	chapter 173-470 WAC	<u>Ambient Air Quality Standards for Particulate Matter</u> - The permittee is not currently required to take any action under this regulation.
<b>10.5.11</b>	chapter 173-434 WAC	<u>Solid Waste Incineration</u> – The permittee is not in this source category.
<b>10.5.12</b>	chapter 173-422 WAC	<u>Motor Vehicle Emission Inspection</u> – This regulation inherently does not apply to this source.
<b>10.5.13</b>	chapter 173-421 WAC	<u>Motor Vehicle Emission Control Systems</u> – This regulation inherently does not apply to this source.
<b>10.5.14</b>	WAC 173-400-151	<u>Retrofit Requirements for Visibility</u> – The affected facility has not been identified as subject to this requirement.

- 10.5.15** WAC 173-400-115 New Source Performance Standards – This regulation does not include any ongoing specific requirements for the permittee.
- 10.5.16** WAC 173-400-112 Requirements for New Sources in Non-Attainment Areas – As of permit issuance, the permittee is located in an area classified attainment for all criteria pollutants.
- 10.5.17** WAC 173-400-105(6) Changes in Raw Materials or Fuels for Sources Not Subject to Requirements of the Operating Permit Program – The permittee is subject to requirements of the Operating Permit Program.
- 10.5.18** WAC 173-400-100 Source Registration Program – AOP sources are exempt from registration (WAC 173-400-101(7)).
- 10.5.19** WAC 173-400-050(2) Emission Standards for Incinerators – The permittee does not operate an incinerator.
- 10.5.20** WAC 173-400-070(1), (3), (4), (5), (6), (7), (8), (9)
- 10.5.20.1** Emission standards for certain source categories – Facility does not operate sources in these specific categories.

**10.6** The following requirements have been subsumed by subsequent over-riding requirements and therefore are no longer applicable to the facility.

- 10.6.1** Order No. DE 93AQ-E114, First Amendment, Issued 03/15/95, Approval Condition 1 – This condition limits the total annual plywood production to 247 million square feet of 3/8” equivalent plywood.
- 10.6.1.1** Order No. 01AQER-1920 was issued on 02/02/01 permitting the installation of an additional veneer dryer. As part of this NOC process, the total plywood production limit was raised to 280 million square feet of 3/8” equivalent plywood. Due to this, the 247 million square foot limit no longer applies.
- 10.6.2** Order No. DE 94AQ-E111, Issued 03/11/94, Approval Condition 1 – This condition limits the total annual plywood production to 247 million square feet of 3/8” equivalent plywood.
- 10.6.2.1** Order No. 01AQER-1920 was issued on 02/02/01 permitting the installation of an additional veneer dryer. As part of this NOC process, the total plywood production limit was raised to 280 million square feet of 3/8” equivalent plywood. Due to this, the 247 million square foot limit no longer applies.
- 10.6.3** Order No. DE 92AQ-E152, Second Amendment, Issued 01/25/94, Approval Condition 1 – This condition limits total annual plywood production to 246,682,000 square feet of 3/8” equivalent plywood.
- 10.6.3.1** Order No. 01AQER-1920 was issued on 02/02/01 permitting the installation of an additional veneer dryer. As part of this NOC process, the total plywood production limit was raised to 280 million square feet of 3/8” equivalent plywood. Due to this, the 246,682,000 square foot limit no longer applies.

**11.0** **Monitoring, Recordkeeping, and Reporting Requirement (MRRR) Sufficiency Explanations** – The following section provides brief discussions regarding the reasoning behind the MRRR’s included as

part of the AOP. The criterion is that each MRRR must be sufficient to assure compliance with the associated condition, emission standard or work practice.

- 11.1 **MRRR 1M** – No specific monitoring can reasonably be required for these requirements. The nature of the requirements makes it necessary to rely on the good faith of the permittee to conscientiously monitor site operations and to promptly report any deviations.
- 11.2 **MRRR 2M** – This monitoring is used for conditions that require the source to maintain a certain status quo (e.g., O&M manual accessible to employees in operation of the equipment; maintaining replacement parts for routine repairs to monitoring equipment). To assure compliance with these provisions, the permittee is simply required to check that there has been no change in the status quo. Since such a change is unlikely, an annual inspection was deemed adequate.
- 11.3 **MRRR 3M** – This MRRR was designed to provide sufficient response to complaints regarding facility emissions affecting the landowners neighboring or in the affected vicinity of the facility. Timeframes were chosen to provide the permittee with adequate time to respond appropriately as well as ensuring that complaints not go unnoticed.
- 11.4 **MRRR 4M** – A monthly visible emission observation is considered to be sufficient monitoring for general process units with regard to the opacity standard. The specifics of the monitoring described have been designed to provide relatively frequent evaluation of each potential emission point, while requiring visible emission testing using EPA RM 9 only when visible emissions are observed and cannot be eliminated within twenty-four (24) hours. The monitoring was designed with the goal of providing the permittee with sufficient opportunity to respond to upsets appropriately while at the same time avoiding significant, prolonged environmental degradation. With regard to the use of visible emission evaluation surveys as a monitoring technique related to particulate matter standards, the method was chosen due to the fact that most of the general process units to which this is applicable are not large enough to justify performance testing using EPA RM's 5 and/or 202. Visible emission observations provide a convenient alternative method to source testing for the purpose of evaluating the performance of such units.
- 11.5 **MRRR 5M** – The monitoring has been designed to require periodic reviews of Operation and Maintenance manuals, etc. in order to evaluate whether current operational practices are being conducted in a manner consistent with the information upon which permitting has been based. The recordkeeping and reporting required ensure that practices which are not consistent with the submitted information will be addressed in a timely manner.
- 11.6 **MRRR 6M** – The monitoring has been designed to require periodic walk-around surveys as the most simple and direct method to determine the presence of such emissions. These surveys, in conjunction with a good faith effort on the part of the permittee to operate in accordance with the conditions of the AOP, are considered sufficient monitoring.
- 11.7 **MRRR 7M** – The monitoring as specified has been designed based on the condition that all associated equipment is maintained in proper working condition. Using emission factors in conjunction with operational parameters is a feasible method of estimating emissions from an emission unit for which performance testing may not be feasible. Provision of the relevant operational data by the permittee allows Ecology to evaluate emissions over the six month reporting period. The monitoring was designed with the goal of providing the permittee with sufficient opportunity to respond to upsets appropriately while at the same time avoiding significant environmental degradation.

- 11.8** MRRR 8M – This monitoring has been specified to include the estimation of emissions based on the use of emission factors, as described in 11.7 above. In addition, periodic source testing has been added to the monitoring due to the size of the emission unit.
- 11.9** MRRR 9M – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient. The MRRR contains additional requirements that have been included to provide added assurance that the facility is being operated in accordance with the permitted limits and good operational practices for controlling air emissions.
- 11.10** MRRR 10M - This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the baghouses updated.
- 11.11** MRRR 11M – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient. The MRRR contains additional requirements that have been included to provide added assurance that the facility is being operated in accordance with the permitted limits and good operational practices for controlling air emissions.
- 11.12** MRRR 12M – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the veneer dryers #3, #4 and the emissions control system updated.
- 11.13** MRRR 13M – This monitoring has been specified to rely on periodic source testing in order to gain a reasonable assurance of compliance with the various pollutant limits that apply to the emissions from the scrubber stack. Source testing is the most reliable method for determining emissions, and due to the size of the emission unit, periodic testing is deemed reasonable.
- 11.14** MRRR 14M – This monitoring has been specified to apply generally to units subject to Compliance Assurance Monitoring (CAM). The monitoring is included specifically as required by 40 CFR 64.
- 11.15** MRRR 15M – The monitoring described is specifically applicable to the fluid bed combustors (FBC) and veneer dryers for the purposes of Compliance Assurance Monitoring (CAM). Compliance Assurance Monitoring must be designed to provide reasonable assurance of compliance with emission limitations or standards for the pollutant specific emission unit. In order for a pollutant specific emission unit (PSEU) to be subject to CAM, the three (3) conditions described below must be met. The manner in which they are met by the FBCs and veneer dryers is discussed below.
- 11.15.1** The PSEU must be subject to an emission limit for the applicable pollutant. In the case of the FBCs and veneer dryers, the gas stream containing the pollutants produced by the FBCs is used as drying air in the veneer dryers prior to passing through a wet venturi scrubber and then being exhausted to the atmosphere. The wet venturi scrubber emissions are subject to emission limitations on volatile organic compounds (VOC's) produced mainly by the veneer dryers as well as particulate matter (PM); both filterable produced mainly by the FBCs and condensable produced mainly by the veneer dryers. These applicable requirements are included in Section 2.7 Fluid Bed Combustors and Venturi Scrubber of the AOP.
- 11.15.2** The PSEU must utilize air pollution control equipment to reduce emissions of the applicable pollutant to a level that meets the established emission limit(s). In the case of the FBCs and veneer dryers, the emissions of all three pollutants are controlled by a wet venturi scrubber.

**11.15.3** The PSEU must have pre-controlled emissions of the specific pollutant that meet or exceed the major source thresholds established in WAC 173-401-200(17). In the case of the FBCs and veneer dryers, the pre-controlled emissions of each pollutant have been calculated to be > 100 tons per year (tpy). This exceeds the major source threshold of 100 tpy established in WAC 173-401-200(17).

The proposed CAM monitoring has been designed to rely on venturi pressure drop and water supply flowrate. Differential pressure and water flowrate have been established as the key operational parameters that indicate that a venturi scrubber is achieving its design efficiency. The specific acceptable ranges for each operational parameter were determined based on the original manufacturer's design recommendations, significant source testing results, as well as engineering and operator judgment. The MRRR has required that data be taken and recorded at least once every fifteen (15) minutes due to the fact that post control potential to emit for VOC's and filterable PM exceeds 100 tons per year.

- 11.16** MRRR 16M – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient. The MRRR contains additional requirements that have been included to provide added assurance that the facility is being operated in accordance with the permitted limits and good operational practices for controlling air emissions.
- 11.17** MRRR 17M – This monitoring has been specified to rely on periodic source testing in order to gain a reasonable assurance of compliance with the various pollutant limits that apply to the emissions from the hogged fuel boiler. Source testing is the most reliable method for determining emissions, and due to the size of the emission unit, periodic testing is deemed reasonable.
- 11.18** MRRR 18M – A Continuous Opacity Monitor provides real time opacity information. The monitor must be calibrated and maintained in accordance with the quality assurance procedures in order to ensure that the data produced is valid. Because of its nature, this type of monitoring is sufficient.
- 11.19** MRRR 19M – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the hogged fuel boiler, multiclone and EFB updated.
- 11.20** MRRR 20M – This MRRR has been designed to calculate the allowable peak steam generation rate based on the most recent performance testing as well as the limitations imposed when the boiler was originally de-rated.
- 11.21** MRRR 21M – This MRRR has been designed to provide reasonable assurance that the abort gate on the hogged fuel boiler is utilized in a manner consistent with the provisions of Order No. DE 91AQ-E123.
- 11.22** MRRR 22M – The monitoring described is specifically applicable to the hogged fuel boiler for the purposes of Compliance Assurance Monitoring (CAM). Compliance Assurance Monitoring must be designed to provide reasonable assurance of compliance with emission limitations or standards for the pollutant specific emission unit. In order for a pollutant specific emission unit (PSEU) to be subject to CAM, the three (3) conditions described below must be met. The manner in which they are met by the hogged fuel boiler is discussed below.
- 11.22.1** The PSEU must be subject to an emission limit for the applicable pollutant. In the case of the hogged fuel boiler, the PSEU is subject to multiple emission limits specific to particulate matter. These applicable requirements are included in Section 2.8 Hogged Fuel Boiler and Electrified Filter Bed of the AOP.

- 11.22.2** The PSEU must utilize air pollution control equipment to reduce emissions of the applicable pollutant to a level that meets the established emission limit(s). In the case of the hogged fuel boiler, the particulate matter emissions of the PSEU are controlled by a multiple cyclone and an electrified filter bed (EFB).
- 11.22.3** The PSEU must have pre-controlled emissions of the specific pollutant that meet or exceed the major source thresholds established in WAC 173-401-200(17). In the case of the hogged fuel boiler, the pre-controlled emissions of particulate matter have been calculated to be 1900 tons per year (tpy). This exceeds the major source threshold of 100 tpy established in WAC 173-401-200(17).

The proposed CAM monitoring has been designed to rely on multiclone differential pressure (in. w.c.), EFB differential pressure (in. w.c.), EFB bed voltage (kV), EFB ionizer current (mA), and EFB ionizer voltage (kV). The differential pressure across the pre-cleaning multiclone was deemed important due to the fact that an increase in EFB inlet PM loading can significantly increase emissions. Multiclone differential pressure was identified as the operational parameter that best gives an indication that the multiclone is achieving the design efficiency for removal of particulate matter. With regard to the four EFB operating parameters, these and as well as the appropriate operational ranges, were identified through consultation with the EFB manufacturer as well as analysis of past source testing data combined with engineering and operator judgment.

## 12.0 Streamlining Explanations

- 12.1** Order No. DE 92AQ-E152 Second Amendment, Approval Condition 2.1 – Emissions of VOC’s from the venturi scrubber stack – This Order limits emissions of VOC’s to 204,100 lbs/year and 24.3 lbs/hour. This applicable requirement has not been included in the AOP due to the fact that Order No. 01AQER-1920 1<sup>st</sup> Amendment includes a condition (Approval Condition 2.1) that limits VOC emissions from the scrubber stack to 237,720 lbs/year and 28.3 lbs/hour. Order No. 01AQER-1920 was issued as a NSR permit approving the expansion of veneer dryer capacity and was later amended to correct a calculational error and thus supercedes the previous limit found in Order No. DE 92AQ-E152 Second Amendment. It is therefore appropriate to apply streamlining to this requirement.
- 12.2** Order No. DE 92AQ-E152 Second Amendment, Approval Condition 2.2 – Emissions of condensable organic compounds from the venturi scrubber stack – This Order limits emissions of condensable organic compounds to 119,940 lbs/year and 14.28 lbs/hour. This applicable requirement has not been included in the AOP due to the fact that Order No. 01AQER-1920 includes a condition (Approval Condition 2.1) that limits VOC emissions from the scrubber stack to 111,160 lbs/year and 13.23 lbs/hour. Since the condition included in Order No. 02AQER-1920 is clearly more stringent and is expressed in the same units as the requirement in Order No. DE 92AQ-E152 Second Amendment, it is appropriate to apply streamlining to this requirement.
- 12.3** Order No. DE 93AQ-E114 First Amendment, Issued 03/15/95, Approval Condition 1 – Plywood production limitation – This condition limits total production to 247 million square feet of 3/8” equivalent plywood per year. This applicable requirement has not been included in the AOP due to the fact that Order No. 01AQER-1920 includes a condition (Approval Condition 1) that limits total annual production to 280 million square feet of 3/8” equivalent plywood. Order No. 01AQER-1920 was issued as a NSR permit approving the expansion of veneer dryer capacity and thus supercedes the previous limit found in Order No. DE 93AQ-E114 First Amendment. It is therefore appropriate to apply streamlining to this requirement.
- 12.4** Order No. DE 94AQ-E111, Issued 03/11/94, Approval Conditions 1, 5, and 6 – Plywood production limitation – This condition limits total production to 247 million square feet of 3/8”

equivalent plywood per year. This applicable requirement has not been included in the AOP due to the fact that Order No. 01AQER-1920 includes a condition (Approval Condition 1) that limits total annual production to 280 million square feet of 3/8" equivalent plywood. Order No. 01AQER-1920 was issued as a NSR permit approving the expansion of veneer dryer capacity and thus supercedes the previous limit found in Order No. DE 94AQ-E111. It is therefore appropriate to apply streamlining to this requirement.

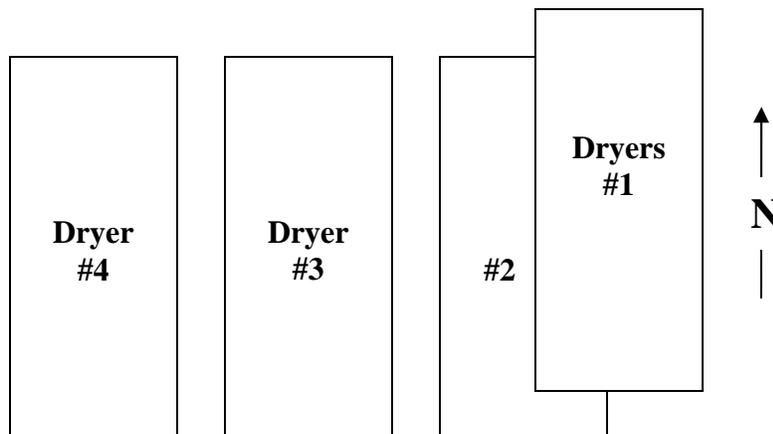
- 12.5** WAC 173-400-050(1) – Particulate matter emissions concentration from the hogged fuel boiler stack – This provision of the WAC limits emissions of particulate matter to 0.2 gr/dscf of exhaust gas. This applicable requirement has not been included in the AOP due to the fact that Order No. PSD-X80-01 includes a condition (Approval Condition 1) that limits particulate matter emissions from the boiler stack to 0.04 gr/dscf of exhaust gas. Since the condition included in the Order is clearly more stringent and is expressed in the same units as the requirement in the WAC, it is appropriate to apply streamlining to this requirement.

### **13.0 Clarifications and Interpretations**

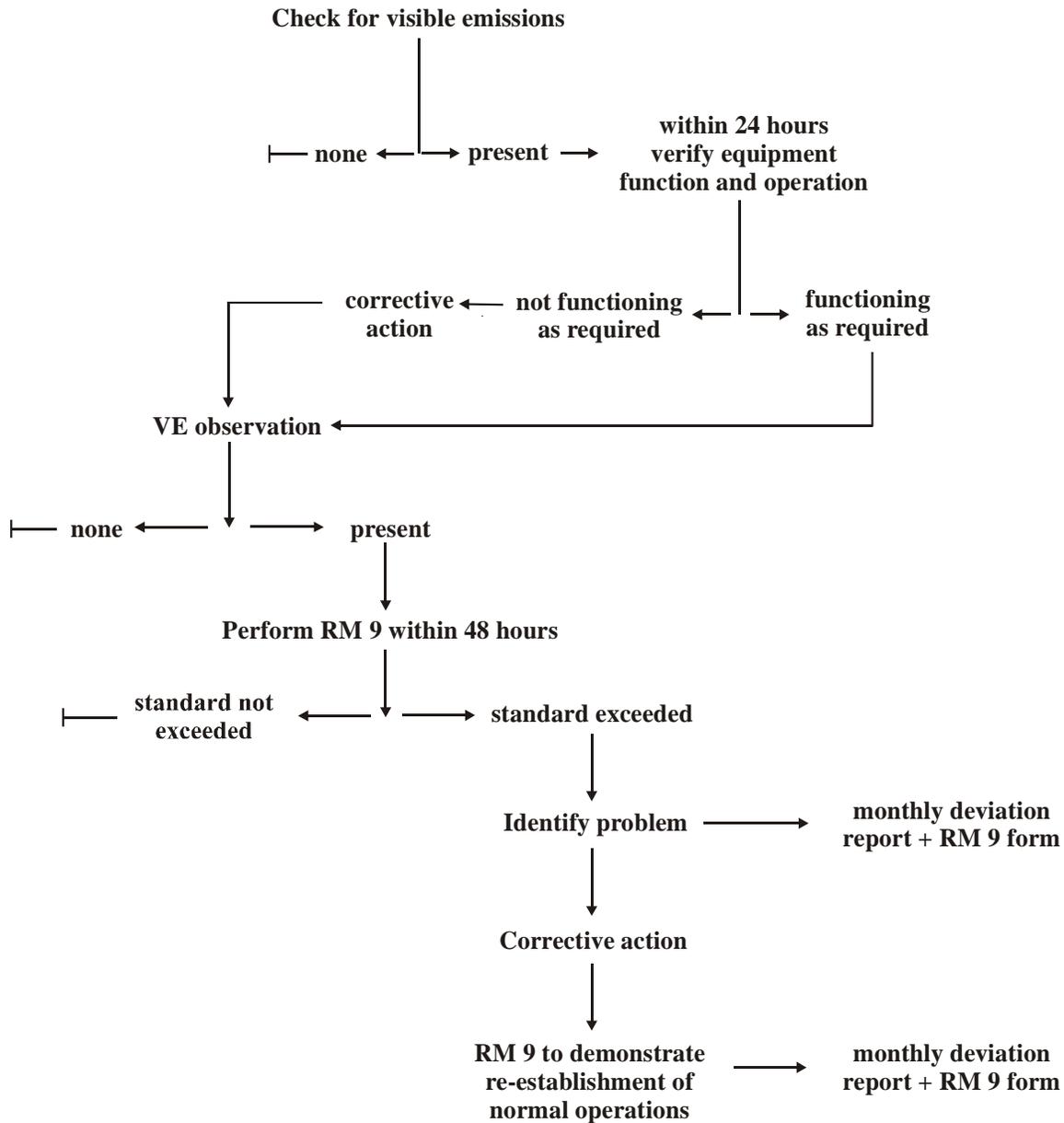
- 13.1** Section 1 - Standard Conditions – For permit conditions required by Washington State regulations that have been included in the SIP, two dates are given. The first date is the date for the regulation that was adopted into the SIP. The second date is for the most up-to-date version of the regulation. State-only enforceable permit conditions are identified with the symbol (S).
- 13.2** Recordkeeping retention time – Several of the NOC permits that apply to the permittee (Order No. DE 93AQ-E114 First Amendment, Order No. DE 94AQ-E111, Order No. 01AQER-1920, Order No. DE 92AQ-E152 Second Amendment, PSD-X80-01...) include conditions which require applicable recordkeeping/reporting to be maintained for a period of less than five years. However, Standard Condition 1.27.3 of the AOP requires that the permittee retain all records or information of this type for a period of at least five (5) years. Due to the fact that the five (5) year requirement included in the standard condition is more stringent, this is the requirement that has been included in the appropriate MRRR's. However, the conditions included in the NOC permits still apply to the permittee and therefore have been included in the AOP under the column labeled Condition, Emission Standard, or Work Practice. The specific NOC conditions that this applies to are listed below.
- 13.2.1** Order No. DE 93AQ-E114 First Amendment – Approval Condition(s) 1
- 13.2.2** Order No. DE 94AQ-E111 – Approval Condition(s) 1 and 6
- 13.2.3** Order No. 01AQER-1920 – Approval Condition(s) 1, 5 and 6.5
- 13.2.4** Order No. DE 92AQ-E152 Second Amendment – Approval Condition(s) 1, 5, and 7.4
- 13.2.5** PSD-X80-01 – Approval Condition(s) 6b
- 13.3** WAC 173-401-620(1) – Acid Rain Provisions. The permittee is not an affected source as specified in the referenced section of the WAC. Due to this, no permit conditions relating to the acid rain provisions of the FCAA have been included in the AOP.
- 13.4** WAC 173-401-510(2)(h)(i) – Compliance Plan. At the time of permit issuance, no ongoing applicable requirements have been identified with which the permittee is not currently in compliance. However, this does not preclude Ecology from taking future action on past non-compliance.
- 13.5** Chapter 173-425 WAC, Open Burning – The requirements restricting open burning in the State of Washington apply to the source, and therefore Chapter 173-425 has been included as an applicable requirement under Section 2.1 Facility Wide Requirements. Additionally, Order Nos.

DE 93AQ-E114 First Amendment, DE 94AQ-E111, and DE 99AQ-E103 include permit conditions that prohibit open burning on the facility site with the exception of special conditions as outlined in Chapter 173-425 WAC, and Order No. DE 92AQ-E152 Second Amendment prohibits all open burning at the site.

- 13.6** Condition 2.1.1 of AOP, Visible Emissions – WAC 173-400-040(1), (1)(a), and (1)(b) restrict visible emissions from all sources of air emissions throughout the source to 20% opacity for no longer than three (3) minutes in any one hour. While it is clear from the time periods contained within the regulation that Ecology Method 9A (“Source Test Manual – Procedures for Compliance Testing”, State of Washington, Department of Ecology, 07/12/90) was the test method intended to be used to verify compliance, this permit has specified EPA Reference Method 9 as the test method utilized as part of MRRR **4M**. Ecology has determined that reasonable assurance of compliance with the regulation may be obtained by conducting RM 9 upon observance of visible emissions, as specified within **4M**.
- 13.7** Condition 2.8.3 of AOP, Order No. DE 91AQ-E123, Approval Condition 1(a) – This approval condition limits the PM-10 emissions from the hogged fuel boiler. The EPA definition of PM-10 includes condensable particulate matter with an aerodynamic diameter less than 10 micrometers. Judging from this definition, one would conclude that the appropriate testing method to be used for compliance determination should include RM 5 (filterable PM-10) as well as RM 202 (condensable PM-10). However, the original condition 1(a) within Order No. DE 91AQ-E123 specifically calls for use of RM 5 only for compliance determination. Therefore, emissions from the EFB stack as measured by RM 5 should be compared to the 0.030 gr/dscf limit after being corrected to 7% O<sub>2</sub> in order to determine compliance.
- 13.8** Number of Veneer Dryers – There are currently three (3) separate veneer dryers at the plywood facility. The first dryer (farthest east) is broken down into a “top” dryer and a “bottom” dryer. Plant personnel have historically referred to the “top” dryer as “dryer #1” and the “bottom” dryer as “dryer #2”. This AOP and SOB have been written to reflect this historical reference. Therefore, for purposes of this AOP and SOB, there are four (4) veneer dryers. Dryers #1 and #2 as discussed above, as well as dryer #3 and dryer #4 as we proceed toward the west. Dryers #1 and #2 are currently the oldest of the dryers, being installed in 1988. Dryer #4 was installed in 1992, and dryer #3 was replaced in 2001.



- 13.9** Condition 2.8.4 of the AOP, PSD-X80-01, Approval Condition 1 – This approval condition limits PM emissions from the hogged fuel boiler. The original approval condition in the PSD Order does not specify that the test results be corrected for % O<sub>2</sub>. Therefore, this approval condition is interpreted to apply to emissions before any O<sub>2</sub> correction is done. Compliance determination shall be made by comparing emissions as measured by RM 5 to the 0.04 gr/dscf limit.
- 13.10** Order No. DE 91AQ-E123, Approval Condition 3 – This approval condition requires that source testing for the hogged fuel boiler (controlled by a multiclone followed by an EFB) be conducted on an annual basis unless the first two tests indicate satisfactory operation and the permittee requests an alternative schedule that is approved by Ecology. The initial compliance test took place on April 23, 1992. Following this test, the permittee requested in correspondence dated January 22, 1993 that the testing schedule be modified to require testing every three years based on the fact that the initial test had indicated that the boiler emissions were below the permit limitation. Ecology approved this schedule in correspondence dated March 5, 1993.
- 13.11** MRRR 7M and 8M of AOP – The correction for oxygen content as prescribed by 7M and 8M should be performed according to the method outlined in 40 CFR 60 Appendix A, Reference Method 19.
- 13.12** Condition 2.8.1 of AOP – There are two opacity limitations contained within this requirement that apply to the hogged fuel boiler/EFB stack. The first is based on RM 9 testing, while the second is based on opacity as measured by the COMS unit. The MRRR contained within **4M** has been designated as the monitoring with respect to the RM 9 opacity limit, and the specific requirements that apply to operation of the COMS (**18M**) have been designated as the monitoring with respect to the COMS opacity limit. It is important to realize that the opacity limit as measured by the COMS is based on an hourly average of the opacity. The data recording equipment for the COMS unit should therefore be set to provide data that can easily be evaluated with respect to an hourly average opacity limit of 10%.
- 13.13** “Plywood” production limit vs. “Dryer” production limit – In 2001, the permittee underwent NSR permitting for a veneer dryer replacement project that increased the production capacity of the plant. Order No. 01AQER-1920 permitted the dryer replacement project and included a new “dryer” production limit of 280,000,000 square feet of 3/8” equivalent plywood. The previous limit, included in the original Order No. DE 94AQ-E111 limited “plywood” production to 247,000,000 square feet of 3/8” equivalent plywood. It is clear from correspondence that took place during the 2001 permitting that both the permittee and Ecology considered the primary purpose of the permitting to be the increase of the production limit from 247 million to 280 million b.f. of 3/8” equivalent plywood. Order No. DE 94AQ-E111 has been modified accordingly to update the plywood production limit to be consistent with the dryer production limit contained within Order No. 01AQER-1920.
- 13.14** Visible Emission Monitoring Flowchart – The following flow chart is intended to provide clarification regarding the sequence of actions that should be followed when conducting the visible emissions monitoring required by MRRR **4M** of the AOP.



**13.15 Responsible Official Identification** – As part of the 2<sup>nd</sup> Revision to this AOP, all references to the name and specific position of the responsible official have been removed. This has been done in order to eliminate the necessity of permit revisions when this information changes. Since the AOP will no longer specify a responsible official, any individual who meets the definition contained within WAC 173-401-200(29) or is approved in advance by Ecology as allowed may perform the certification.

**14.0 Appendix A – Kettle Falls Plywood Facility Maps, Site Layout, and Process Flow Diagrams**

**14.1** Area Map

**14.2** Plywood Facility Layout Map

**14.3** Plywood Process Flow Diagram

**14.4** Small Log Sawmill Process Flow Diagram

**14.5** Plywood FBC and Veneer Dryer Gas Flow Diagram