



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

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

FINAL STATEMENT OF BASIS  
FOR  
AIR OPERATING PERMIT NUMBER 16AQ-E002  
BOISE CASCADE WOOD PRODUCTS, LLC.  
ARDEN LUMBER  
COLVILLE, WASHINGTON

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## LIST OF ABBREVIATIONS

AOP	Air Operating Permit
BACT	Best Available Control Technology
BCWP	Boise Cascade Wood Products, LLC
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
EPA	United States Environmental Protection Agency
ESP	Electrostatic Precipitator
°F	Degrees Fahrenheit
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 <sub>10</sub>	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

**Annual Potential To Emit in Tons Per Year (tpy)<sup>1</sup>**

Emission Units	PM-10 (tpy)	PM-2.5 (tpy)	CO (tpy)	NO <sub>x</sub> (tpy)	SO <sub>2</sub> (tpy)	VOC (tpy)	Individual HAP (if greater than > 5 tpy)
	(3750)*						
Hogged Fuel Boiler	5.87	3.42	415.49	40.73	5.36	1.80	
Natural Gas – Fired Boiler	1.09	1.09	0.26	4.73	0.07	0.60	
Lumber Drying Kilns	8.75	8.75	0	0	0	156.78 <sub>2</sub>	7.58 Acetaldehyde <sup>2</sup> 8.16 Methanol <sup>2</sup>
Planer Baghouse	0.0034	0.0033	0	0	0	0	
Truck Bin Baghouse	0.0007	0.0007	0	0	0	0	
Wood Residuals Collection System (cyclones)	5.14	3.02	0	0	0	0	
Emergency Fire Pump Engine	0.03	0.03	0.32	0.51	0.03		
Fugitive Emissions	26.89	2.71	0	0	0	0	
Facility Wide Totals	49.7	21.0	416	45.4	7.5	194.8	21.34 Combined HAPs

\* Indicates pre-controlled emissions from sources to which Compliance Assurance Monitoring is applicable – for more details see Section 11.

**1.0 General Information**

This document, the statement of basis, is required by Washington State regulations (Chapter 173-401 WAC) and summarizes the legal and factual basis for the permit conditions in the air quality operating permit issued by the State of Washington Department of Ecology to Boise Cascade Wood Products LLC (BCWP-Arden) for a lumber mill located in Arden, Washington. Unlike the air quality operating permit, this document is not legally enforceable. This statement of basis summarizes the emitting processes at the facility, air emissions, permitting and compliance history, the statutory regulatory provisions that relate to the facility, and the steps taken to provide opportunities for public review of the permit. The permittee is obligated to follow the terms of the permit. Any errors or omission in the summaries provided here do not excuse the permittee from the requirements in the permit.

**2.0 Permit Authority**

Title V of the Federal Clean Air Act Amendments required all states to develop a renewable operating permit program for industrial and commercial sources of air pollution. The Washington State Clean Air Act (Chapter 70.94 Revised Code of Washington) was amended in 1991 and 1993 to provide the Department of Ecology and Local Air Agencies with the necessary authority to implement a state-wide operating permit program. The law requires all sources emitting one hundred tons or more per year of a criteria pollutant, ten tons of an individual hazardous air pollutant, or twenty-five tons cumulative

<sup>1</sup> Annual potential to emit values updated January 23, 2015 and again on April 23, 2015 by BCWP-Arden.

<sup>2</sup> Dry kiln VOC and HAP potential to emit calculated from maximum dry kiln throughput of 110,000,000 board feet per year (VEL, NOC Permit 15AQ-E608), using December 2012 EPA Region 10 VOC and HAP emission factors. VOC calculations assume 100% western white pine (results in highest VOC emissions) and HAP calculations assume 100% cedar which results in the highest total HAP emissions and highest single HAP.

hazardous air pollutants, to obtain an operating permit. Criteria pollutants include sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and volatile organic compounds.

Chapter 173-401 of the Washington Administrative Code (WAC), which specified the requirements of Washington State's Operating Permit Regulation became effective November 4, 1993. United States Environmental Protection Agency (EPA) granted Washington's program interim approval December 9, 1994. Final approval of Washington's program was granted on August 13, 2001. The current version of the regulation was filed on August 10, 2011.

### 3.0 Facility Information

- 3.1 Company Name ----- Boise Cascade Wood Products, LLC
- 3.2 Facility Name----- Arden Lumber
- 3.3 ICIS-Air Number -----WA0000005306500006
- 3.4 Unified Business Identification Number ----- 409019938
- 3.5 NAICS----- 321113
- 3.6 Facility Address----- 634 Highway 395 South, Colville, Washington 99114
- 3.7 Responsible Official----- Robert Glover, Production Manager
- 3.8 Mailing address ----- 1274 S Boise Rd, Kettle Falls, WA 99141
- 3.9 Facility Contact ----- Eric Steffensen, Environmental Engineer
- 3.10 Facility Contact Phone Number ----- (509) 738-3219

### 4.0 Basis for Title V Applicability

Boise Cascade Wood Products LLC, Arden Lumber, is subject to Title V, Air Operating Permit Regulations, because they have the potential to emit carbon monoxide (CO) 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).

### 5.0 Attainment Classification

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

### 6.0 Facility Description

Boise Cascade Wood Products Arden Lumber is located at 634 Highway 395 South, Colville, Washington, Stevens County. The facility includes a log yard, lumber manufacturing and storage areas, maintenance facilities, offices, and hog fuel storage. The mill processes raw logs into dried finished lumber before shipping. Wood residue from the sawmill and planer mill is both used onsite as fuel and shipped offsite by truck and rail. The site contains facilities for repair and maintenance of log and lumber handling equipment as well as mobile and other miscellaneous equipment and vehicles used in mill operations.

*Debarker* – The logs are delivered by truck to the sawmill, where they are unloaded and either sent directly to one of the two debarkers or stored in the log storage yard for future processing. The debarkers remove bark from the logs. The logs are then cut to specified lengths before they enter the sawmill. Bark and sawdust from log debarking and sawing is transferred to the hog fuel pile or to the hog fuel truck bins.

*Sawmill* – The sawmill processes raw logs into dimensional lumber. Sawn wood is transferred to the onsite lumber drying kilns or shipped off site. Sawdust from the sawmill is conveyed and then transferred pneumatically to a sawdust truck bin. Cuttings from the sawmill sorter trimmer are chipped, screened and transferred pneumatically to one of two chip truck bins.

*Powerhouse* – The powerhouse boilers supply steam to the lumber drying kilns and to space heaters in winter. The Hogged Fuel Boiler is fired on a mixture of woody hog fuel (bark, chips, sawdust, and shavings) generated onsite. Fuel is primarily supplied to the hogged fuel boiler from the hogged fuel pile. The other boiler is natural gas fired.

*Lumber Drying* – Lumber handled by the facility is dried in steam kilns.

*Planer Mill* – Dried lumber from the kilns is delivered to the planer mill and fed to the planer to surface the lumber to specified sizes. The planer generates shavings that are transferred pneumatically to the planer shavings truck bin. Surfaced lumber is graded for quality and sent to trim saws for removal of defect trim pieces. Trim pieces and planer ends are sent to a chipper and then transferred pneumatically to a hog fuel pile or to the sawmill surge bin where they are screened and sent to one of two chip truck bins.

*Maintenance* – A sawmill maintenance shop provides space for repairing and maintaining production equipment. A mechanics shop provides space for repairing mobile equipment used at the facility. Some of the maintenance activities are also completed remotely in production areas.

*Miscellaneous* – Miscellaneous sources at the facility encompass a range of units (i.e., emergency fire pump diesel engine, a log yard, facility roads, and process water pond) and activities (i.e., fuel storage and finished lumber storage and shipping).

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

**7.1 Facility Wide** (Section 2.1 in AOP) The requirements in Section 2.1 in the operating permit apply to all units facility wide.

**7.2 Hogged fuel Boiler** (Section 2.2 in AOP) The hogged fuel boiler is a 200 psi Kipper spreader stoker built in 1976 with a rated heat input of 67 MMBtu/hr, rated at 40,000 pounds of steam per hour with a production capacity of 300 million pounds of steam per year based on an average steaming rate of 35,211 pounds of steam per hour. Prior to requesting a voluntary emissions limit the average boiler steam production was 32,000 pounds of steam per hour and 272 million pounds of steam per year which required burning ~7,935 pounds of dry hog fuel.

In 1993, a PPC Industries two-field modular electrostatic precipitator (ESP) was installed to replace a water scrubber on the exhaust of the boiler. At the same time, a Zurn-type multiple cyclone was installed to replace an existing multiple cyclone. Emissions from the hogged fuel boiler are routed through the multiple cyclone and ESP for control, then exhaust through a single emission point.

Hogged fuel boiler steam production is limited to 215,000,000 pounds of steam per 12-month rolling period to facilitate the voluntary emissions limit requested by BCWP-Arden (Approval Order 15AQ-E608, issued 07/21/2015).

This unit is currently permitted under Order No. 15AQ-E608, issued July 21, 2015.

- 7.3 Natural Gas Boiler** (Section 2.3 in AOP) The natural gas boiler is a 500 psi Combustion Engineering unit, built in 1954, rated at 20,000 pounds of steam per hour. When it was installed at the Arden facility in 1993 it was equipped with a low-NOx burner and flue gas recirculation. In 2006, an exhaust economizer by Cain Industries, rated at 22,500 pounds of steam per hour, was installed on the boiler exhaust to preheat boiler feed water. Emissions from the boiler exhaust through a single stack.

Natural Gas Boiler production is capped at 175.2 million pounds of steam per year based on an average steaming rate of 20,000 pounds of steam per hour and consumption of approximately 217 million cubic feet of natural gas per year.

This Natural Gas Boiler unit is currently permitted under Order No. 15AQ-E608, issued July 21, 2015.

- 7.4 Lumber Drying Kilns** (Section 2.4 in AOP) The facility has four double-track steam kilns, two single-track steam kilns. The steam kilns are indirectly heated by powerhouse steam. The kilns do not have exhaust stacks, but emissions from the kiln dried lumber are emitted fugitively. The total lumber throughput through the lumber drying kilns is limited to 110,000,000 board feet (110MMbf) per consecutive 12-month rolling period, as permitted under voluntary emissions limit Approval Order No. 15AQ-E608, issued July 21, 2015.

- 7.5 Wood Residuals Collection and Transport System** (Section 2.5 in AOP) There are two wood-residuals cyclones (#6 & #8) currently in operation that exhaust to atmosphere. Cyclone #6 receives sawdust from sawmill sorter trimmer. Chips from the planer ends chipper are routed to cyclone 3 and then in one of the two following ways: directly to the hog fuel pile target box or to cyclone 8 on the sawmill surge bin for screening and transport to either the chip truck bin target box or the rail car dust head target box.

There are no Orders issued by Ecology for operation of the wood residuals collection and transport system.

- 7.6 Planer and Truck Bin Baghouses** (Section 2.6 in AOP) Two baghouses control emissions from planer operations.

Shavings from the planers, cyclone 3 exhaust, and sawdust from the planer trim saws and specialty saws are pneumatically transferred to cyclone 1 or cyclone 2. The cyclone exhaust is sent to the planer baghouse, while the cyclone bottom fraction is sent to the shavings truck bin target box, which is equipped with the truck bin baghouse.

The planer baghouse is a Western Pneumatics Model 630 and provides 99.97% removal efficiency at 66,000 cfm with an air-to-cloth ratio of 8:1. The truck bin baghouse is a Mikro-Pul Model 64S“A” pulse air baghouse with 4500 cfm and an air-to-cloth ratio of 7:1.

The planer and truck bin baghouses are permitted in Approval Order No. 15AQ-E608, issued July 21, 2015

- 7.7 Emergency Fire Pump Engine** (new section in AOP) A diesel fired (compression ignition) emergency back-up engine is used to pump water from the fire pond in the event of a fire at the facility. The engine is rated at 185 horsepower, and is an 8 cylinder engine displacing 504 cubic inches (8.3 L).

There are no Orders issued by Ecology for operation of the Emergency Fire Pump engine.

## 8.0 Title V Timeline

- 8.1 December 8, 1994 -----Source became subject to Title V AOP Program
- 8.2 June 01, 2007 -----2<sup>nd</sup> Renewal Final Order No. 07AQ-E198 Effective
- 8.3 May 31, 2012----- 2<sup>nd</sup> Renewal Order No. 07AQ-E198 Expiration Date
- 8.4 May 26, 2011----- 3<sup>rd</sup> Renewal Application Received
- 8.5 July 29, 2011 ----- 3<sup>rd</sup> Renewal Application Deemed Complete
- 8.6 January 14, 2016----- Issuance of 3<sup>rd</sup> Renewal Draft AOP Order No. 16AQ-E002
- 8.7 January 25, 2016 – February 23, 2016 -----Public Comment Period
- 8.8 March 16, 2016 -----Issuance of 3<sup>rd</sup> Renewal Proposed AOP Order 16AQ-E002
- 8.9 March 17, 2016 – April 30, 2016 -----EPA Review Period
- 8.10 **May 04, 2016 -----3<sup>rd</sup> Renewal Final Order No. 16AQ-E002 Effective**

### AOP 3<sup>rd</sup> Renewal Summary of Changes and Determinations

An AOP renewal application (3<sup>rd</sup> renewal) was submitted to Ecology on May 26, 2011. The application was determined to be complete July 29, 2011.

## 9.0 Changes To Underlying Ecology New Source Review Orders of Approval

Since the last AOP renewal, the following Approval Orders issued to Arden Lumber have been modified:

On May 22, 2012, **Order No. DE93AQ-E113, 2<sup>nd</sup> Amendment** replaced Order No. DE93AQ-E113, 1<sup>st</sup> Amendment. This amendment allowed modification of the requirement for Boise to conduct performance testing on the hogged fuel boiler every 5 years. In the event of a temporary shutdown for an extended period of time due to market conditions, Boise may submit a written request to Ecology to allow performance testing to be conducted within 90 days of initial hogged fuel boiler re-start.

On February 12, 2013, **Order No. 13AQ-E486** replaced Order No DE92AQ-E145, 2<sup>nd</sup> Amendment. This new order allowed the modification of the requirement for Boise's Order to become void if construction wasn't commenced within 18 months of approval, or if construction or operation of the facility is discontinued for 18 months. The modification allows that the Order not be voided if Ecology receives notice in writing from Boise, and approves otherwise.

On February 12, 2013, **Order No. 13AQ-E487** replaced Order 00AQER-1615, 2<sup>nd</sup> Amendment. This new order allowed the modification of the requirement for Boise's Order to become void if construction wasn't commenced within 18 months of approval, or if construction or operation of the facility is discontinued for 18 months. The modification allows that the Order not be voided if Ecology receives notice in writing from Boise, and approves otherwise.

On July 21, 2015, **Order No. 15AQ-E608** rescinded and replaced Order No. DE93AQ-E113, 2<sup>nd</sup> Amendment; Order No. 13AQ-E486; and Order No 13AQ-E487. This new order, with BCWP-Arden's requested voluntary emissions limits, reduces Arden Lumber's PTE for HAPs below the Major Source designation. Arden Lumber is now an Area Source. This designation change makes Arden Lumber subject to the Boiler GACT instead of the MACT. See Boiler MACT/GACT subsection of Federal Regulation Applicability section of this document for discussion.



## 10.0 Changes to Underlying State Requirements

Since the last AOP renewal, Chapter 173-400, -401, -441, -455 and -460 WAC have been adopted or amended. Regulatory citations used throughout the permit were updated to reflect the effective date of these modified regulations. Below is a summary of the regulatory citation that was modified and its effective date.

Regulatory Citation	Name of Chapter or Section	Effective Date
WAC 173-400-020	Applicability	12/29/12
WAC 173-400-030	Definitions	12/29/12
WAC 173-400-035	Nonroad engines	04/01/11
WAC 173-400-040	General standards for maximum emissions	04/01/11
WAC 173-400-075	Emission standards for sources emitting hazardous air pollutants	12/29/12
WAC 173-400-081	Startup and shutdown	04/01/11
WAC 173-400-105	Records, monitoring, and reporting	12/29/12
WAC 173-400-107	Excess emissions	04/01/11
WAC 173-400-108	Excess emissions reporting	04/01/11
WAC 173-400-109	Unavoidable excess emissions	04/01/11
WAC 173-400-110	New source review for sources and portable sources;	12/29/12
WAC 173-400-111	Processing notice of construction applications for sources stationary sources and portable sources	12/29/12
WAC 173-400-112	Requirements for new sources in nonattainment areas – review for compliance with regulation	12/29/12
WAC 173-400-113	New sources in attainment and unclassifiable areas – review for compliance with regulations	12/29/12
WAC 173-400-114	Requirements for replacement or substantial alteration of emission control technology at an existing stationary source	12/29/12
WAC 173-400-115	Standards of performance for new sources	12/29/12
WAC 173-400-116	Increment protection	09/10/11
WAC 173-400-117	Special protection requirements for federal Class I areas	12/29/12
WAC 173-400-118	Designation of Class I, II, and III areas	12/29/12
WAC 173-400-131	Issuance of emission reduction credits	04/01/11
WAC 173-400-136	Use of emission reduction credits (ERC)	12/29/12
WAC 173-400-171	Public notice and opportunity for public comment	12/29/12
WAC 173-401-200	Definitions	12/31/12
Chapter 173-441 WAC	Reporting of emissions of greenhouse gases	03/01/15
Chapter 173-455 WAC	Air Quality Fee Rule	12/31/12
WAC 173-455-010	Overview	12/31/12

WAC 173-455-030	Applicability	12/31/12
WAC 173-455-036	Fee increases	12/31/12
WAC 173-455-038	Fees not included	12/31/12
WAC 173-455-100	Control technology fees	12/31/12
WAC 173-455-120	New source review fees	12/31/12
WAC 173-455-140	Nonroad engine permit fee	12/31/12
Chapter 173-460 WAC	Controls for new sources of toxic air pollutant	06/20/09

Three of these regulatory changes affect the issuance of this renewal permit: adoption of WAC 173-400-108 and -109 Excess Emission Reporting and Unavoidable Excess Emissions; and adoption of Chapter 173-441 WAC Reporting of Emissions of Greenhouse Gases. These changes are required to be addressed or incorporated into the renewal permit conditions.

Reporting of Emission of Greenhouse Gases

A new requirement, Condition 1.13.5, was added to the standard terms and condition section to address reporting greenhouse gases per Chapter 173-441 WAC.

Excess Emission Reporting and Unavoidable Excess Emissions

Condition 1.12 incorporates the requirements from WAC 173-400-107 Excess Emissions into the standard terms and conditions of the operating permit. WAC 173-400-108 and -109 were adopted April 1, 2011 and take effect on the effective date of EPA’s incorporation of the entirety of WAC 173-400-108 and -109 into the Washington state implementation plan as replacement for WAC 173-400-107.

Ecology has received notice from EPA that they will not be incorporating these sections, as currently written, into the Washington state implementation plan as a replacement for WAC 173-400-107. Therefore, Condition 1.12 was not modified to replace the requirements contained in WAC 173-400-107 with WAC 173-400-108 and -109 during this permit renewal.

**11.0 Federal Regulation Applicability Discussions**

Three National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply (potentially) to Arden Lumber at this renewal: 40 CFR 63 Subpart JJJJJ Industrial, Commercial and Institutional Boilers Area Sources; Subpart DDDD Plywood and Composite Products; and Subpart ZZZZ Reciprocating Internal Combustion Engines (RICE).

Five New Source Performance Standards (NSPS) apply (potentially) to Arden Lumber at this renewal: Subparts D, Da, Db, Dc Fossil-Fuel-Fired Steam Generators for which construction commenced after August 17, 1971, September 18, 1978, and June 9, 1989, respectively; and Subpart CCCC Commercial and Industrial Solid Waste Incineration Units.

Applicability of each standard is discussed below.

Boiler MACT/GACT

March 7, 2005 Ecology received an initial notification report for the Boiler MACT (40 CFR 63 Subpart DDDDD Industrial, Commercial and Institutional Boilers and Process Heaters) which identified Arden Lumber as an area source of HAPs. Area sources of HAPs are not subject to this rule.

May 29, 2013 Ecology received an initial notice of applicability for Arden Lumber stating HAP potential to emit had been recalculated using EPA Region 10 HAP emission factors for lumber drying kilns (April 2013) and determined that Arden Lumber is a major source of HAPs and therefore the hog

fuel boiler is subject to the requirements contained in 40 CFR 63 Subpart DDDDD Industrial, Commercial and Institutional Boilers and Process Heaters. The natural gas fired boiler is not an affected unit as defined in the rule and is therefore not subject to the boiler MACT.

In the same notification, Arden Lumber indicated their desire to limit their HAP emissions by requesting a federally enforceable limit on their lumber drying kiln production levels which will result in HAP PTEs below major source levels.

On February 02, 2015 Ecology received a voluntary emission limit request from BCWP-Arden to limit production through the lumber drying kilns, resulting in HAP PTEs below major source levels. EPA's "Potential to Emit for MACT Standards – Guidance on Timing" provides generally that a major source can become an area source before the first substantive compliance date of the relevant MACT standard. The compliance date, as it applies to BCWP-Arden, for the Boiler MACT (40 CFR 63 Subpart DDDDD) is January 31, 2016 as listed in 40 CFR 63.7495(b).

With the issuance of voluntary emission limit Order No. 15AQ\_E608 on July 21, 2015, BCWP-Arden is no longer subject to 40 CFR 63 Subpart DDDDD, but will instead be subject to 40 CFR 63 Subpart JJJJJ Industrial, Commercial and Industrial Boilers (GACT) area source rule. Conditions 2.2.13 through 2.2.15 in the permit address the applicable requirements for the hogged fuel boiler from the area source boiler GACT.

#### Plywood MACT

January 25, 2005 Ecology received an initial notification report for the Plywood MACT (40 CFR 63 Subpart DDDD Plywood and Composite Wood Products) which identified BCWP-Arden as an area source of HAPs. Area sources of HAPs are not subject to this rule.

May 29, 2013 Ecology received an initial notice of applicability for BCWP-Arden stating HAP potential to emit had been recalculated using EPA Region 10 HAP emission factors for lumber drying kilns (April 2013) and determined that BCWP-Arden is a major source of HAPs. Based on this determination, BCWP-Arden, as a major source of HAPs, would be subject to the Plywood MACT.

In the same notification, BCWP-Arden indicated their desire to limit their HAP emissions by requesting a federally enforceable limit on their lumber drying kiln production levels which will result in HAP PTEs below major source levels.

On February 02, 2015 Ecology received a voluntary emission limit request from BCWP-Arden to limit production through the lumber drying kilns, resulting in HAP PTEs below major source levels. With the issuance of this voluntary emission limit Order No 15AQ\_E608 on July 21, 2015, BCWP-Arden is no longer subject to 40 CFR 63 Subpart DDDD Plywood and Composite Wood Products.

#### Reciprocating Internal Combustion Engine (RICE) MACT

Arden Lumber installed a Cummins 504 cubic inch V8, 185 horsepower diesel fired (compression ignition) fire water back-up pump engine in 1977. This unit had previously been identified as an insignificant emission unit, but it is considered an existing affected source at an area source of HAPs subject to the requirements of 40 CFR 63 Subpart ZZZZ Reciprocating Internal Combustion Engine requirements, which have been added to the permit in conditions 2.7.1 through 2.7.10.

#### 40 CFR 60 Subparts D, Da, Db, Dc Small Industrial-Commercial-Institutional Steam Generating Units Applicability Discussion

BCWP-Arden operates a hogged fuel boiler installed in 1976 with a rated maximum heat input of 67 MMBtu/hr and a natural gas fired boiler built in 1954 and installed at the Arden facility in 1993, rated at 24.8 MMBtu/hr maximum heat input.

Neither the hogged fuel boiler, nor the natural gas boiler, are rated at levels that trigger applicability of either 40 CFR 60 Subpart D, Da, or Db (> 250 MMBtu/hr, > 250 MMBtu/hr, > 100 MMBtu/hr, respectively).

The hogged fuel boiler was installed prior to the applicability date of June 9, 1989 for 40 CFR 60 Subpart Dc, therefore this subpart is not applicable to the hogged fuel boiler.

The natural gas boiler was installed in 1993, but was an existing boiler, built in 1954 that was relocated to BCWP-Arden. Natural Gas Fired Boiler Order Number DE 92AQ-E145 1st and 2nd Amendments and Order Number 13AQ-E486, state that the project shall comply with all requirements of 40 CFR 60, Subpart Dc. The 2002 and 2007 AOP renewals (Orders 02AQER-4008 1<sup>st</sup> and 2<sup>nd</sup> Revisions and 07AQ-E198) included 40 CFR 60 Dc. While Order number 15AQ-E608 does not reiterate the statement, the reference to Dc is included in its accompanying Technical Support Document (TSD). There are only two requirements in Subpart Dc that apply, 60.48c(g) which requires recording and maintaining records of amount of fuel combusted each operating day or each calendar month and 60.48c(i), which requires records to be kept for two years following the date of such record. The five-year recordkeeping requirement included in Standard Condition 1.27 of this AOP takes precedence over the two-year requirement in Subpart Dc.

#### 40 CFR 60 Subpart CCCC Commercial-Industrial Solid Waste Incineration (CISWI) Units Applicability Discussion

This subpart applies to CISWI units that commence construction after November 30, 1999 or commence modification or reconstruction after June 1, 2001. The hogged fuel boiler does not burn solid waste and was installed in 1976, prior to the applicability dates, therefore 40 CFR 60 Subpart CCCC is not applicable to the hogged fuel boiler.

#### Title 40 CFR Part 241 Solid Wastes Used as Fuels or Ingredients in Combustion Units (NHSM Rule)

The hogged fuel boiler is fired on residuals generated from the debarker, sawmill and planer systems. Subpart A of this rule defines traditional fuels. The clean cellulosic biomass generated from operations onsite at BCWP-Arden is considered traditional fuel. Traditional fuels are not a solid waste, therefore the hogged fuel boiler is not subject to regulation under the NHSM Rule.

#### Other Changes

1.13.4 Emission Inventory in the Standard Terms and Condition section has been updated to include the emission information that Ecology is required to collect from the source per 40 CFR Part 51, Subpart A, Appendix A, Air Emission Reporting Requirements, 7/1/13 as part of the facility's annual emission inventory.

**12.0 Compliance Assurance Monitoring Applicability Analysis**

Is source major?	No									
Emission Unit	EU Control Device	Pollutant	Is pollutant controlled to meet a limit?	Pollutant Limit	Citation for Limit	Is limit exempt from CAM?	Are precontrolled PTE > 100 tpy? (if limited or no source test data, calc PTE by using limit & backing it out for 8760 hrs)	Are post-control potential emissions < 100 tpy? unit is subject to 40 CFR 64.3(b)(4)(i)	Are post-control potential emissions > 100 tpy? unit is subject to 40 CFR 64.3(b)(4)(ii)	CAM applicable?
Hogged fuel Boiler	Multiclone/ESP	PM	yes	VE measured by RM 9 ≤10% opacity averaged over a 6 minute period	NOC 15AQ-E608, Issued 07/21/15, Approval Condition 5.3.2	no	yes, 6910 tpy for PM <sub>10</sub>	yes, 5.9 tpy for PM <sub>10</sub>	no, 5.9 tpy for PM <sub>10</sub>	yes - major source, controlled by a device to limit PM emissions, subject to requirement(s) that limit PM, has pre-controlled PM emissions > 100 tpy, post-control emissions of < 100 tpy
	Multiclone/ESP	PM	yes	VE measured by COM ≤ 10% for 10 consecutive 6 minute averaging periods	NOC 15AQ-E608, Issued 07/21/15, Approval Condition 5.3.3					
	Multiclone/ESP	PM	yes	0.030 gr/dscf @7% O <sub>2</sub>	NOC 15AQ-E608, Issued 07/21/15, Approval Condition 5.3.1					
	Multiclone/ESP	PM	yes	4.25 lbs/hr	NOC 15AQ-E608, Issued 07/21/15, Approval Condition 5.3.1					
	Multiclone/ESP	HAPS	no	none	n/a					
Natural Gas Fired Boiler	no control device									no
Drying Kilns	no control device									no
Wood Residuals System	Planer and Truck Bin Baghouses	PM	yes	VE ≤5% opacity averaged over a 6 minute period	Order 15AQ-E608, Issued 07/21/15, Approval Condition 4.1.1	no	no, 18.2 tpy - cyclones and target boxes considered inherent process equipment - material recovery equipment. Precontrolled emissions are calculated at the outlet of this equipment, before any control devices.			no
	Planer and Truck Bin Baghouses	PM	yes	0.010 gr/dscf	Order 15AQ-E608, Issued 07/21/15, Approval Condition 4.1.2	no	no, 18.2 tpy - cyclones and target boxes considered inherent process equipment - material recovery equipment. Precontrolled emissions are calculated at the outlet of this equipment, before any control devices.			no
	Planer and Truck Bin Baghouses	HAPS	no	no	n/a					no

The table (above) charts the compliance assurance monitoring (CAM) emission unit applicability evaluation for BCWP-Arden. The hogged fuel boiler is the only pollutant specific emission unit subject to an emission limit or standard, equipped with a control device(s) and has the potential to emit (PTE) pre-controlled PM<sub>10</sub> emissions above 100 tons per year at the facility.

### 13.0 Compliance Assurance Monitoring Explanations

Hogged fuel boiler permit conditions 2.2.1, 2.2.2, and 2.2.3 require compliance with particulate emission limits. The proposed CAM relies on two performance indicators: ESP secondary voltage and visible emissions. This emission units' post-control PM<sub>10</sub> emissions are below 100 ton per year, therefore CAM parameter monitoring frequencies must be at least once per 24 hour period.

ESP secondary voltage was selected by BCWP-Arden as the performance indicator most indicative of efficient operation and performance of the ESP. BCWP-Arden provided statements from an expert in ESP manufacturing and an EPA combustion process instructor to support their selection. BCWP-Arden proposed the following indicator ranges and monitoring frequency.

Secondary voltage of transformer/rectifier 1 (TR1)  $\geq 20$  kV for any two consecutive daily averages. TR1 secondary voltage will be recorded at least 3 times per day on an ESP log and the daily average calculated. If the daily average remains  $< 20$  kV for any two consecutive daily averages, BCWP-Arden will initiate action to identify and correct the problem with the TR1 cell as soon as, but no later than, 4 hours after discovery.

Secondary voltage of transformer/rectifier 2 (TR2)  $\geq 30$  kV for any two consecutive daily averages. TR2 secondary voltage will be recorded at least 3 times per day on an ESP log and the daily average calculated. If the daily average remains  $< 30$  kV for any two consecutive daily averages, BCWP-Arden will initiate action to identify and correct the problem with the TR2 cell as soon as, but no later than, 4 hours after discovery.

Secondary voltage of TR2  $\geq$  TR1 for any 48 hour period. BCWP-Arden will verify that the voltage of TR2 is greater than or equal to TR1 each time the voltages are recorded (at least 3 times per day) and initiate an investigation of any deviation from this parameter if it persists for 48 hours or more.

Visible emissions was selected as one of the performance indicators because Order 15AQ-E608, Approval Condition 5.5.1 requires the use of "Continuous Emissions Monitoring System (CEMS) to measure opacity" on the hogged fuel boiler to demonstrate compliance with the visible emission standard. This Air Operating Permit uses the term "continuous opacity monitoring system (COMS)," in reference to the same monitoring equipment.

40 CFR 64.3(d) states that if a COMS is required under the Act or state or local law, the owner or operator shall use such system to satisfy the requirements of the CAM rule. BCWP-Arden is required to monitor visible emissions from the hogged fuel boiler with a COMS and utilize data processing and recording equipment meeting the requirements of 40 CFR 60, Appendix B, Performance Specification 1. The COMS must be operated using the quality assurance procedures conforming to EPA 340/.1-86-010, Recommended Quality Assurance Procedures of COMS.

The selected indicator for identifying an exceedance is visible emissions of 10% opacity for any six minute interval since the previous days' review. Visible emissions shall be measured and recorded continuously by the COMS. Visible emission monitoring data shall be reviewed every day of operation to determine if any measured visible emissions exceeded 10% opacity for any six (6) minute interval(s) since the previous day's review. If visible emissions exceed 10% opacity for one or more consecutive six (6) minute interval(s), an exceedance has occurred. Corrective actions shall be taken:

- a. As soon as possible, but no later than 4 hours after discovery of the exceedance. The permittee shall initiate corrective actions that are designed to return the equipment to normal operation as soon as possible and to prevent the likely recurrence of the cause of the exceedance.
- b. Corrective action taken may include, but will not be limited to, checking rappers and vibrators for proper operation, checking multiclone and rotary screen for possible problems, checking bottom hoppers for buildup, checking ESP electrical systems, increasing sonic blowdown, turning on the bottom vibrator, dumping the T/R set for an appropriate amount of time, obtaining manufacturer advice, and ESP shutdown and internal inspection along with appropriate subsequent maintenance and/or repair.
- c. In the event of an exceedance of the visible emission standard, records shall be maintained documenting corrective action taken and the results of the correction action.
- d. Any exceedance of the visible emission standard measured by the COM must be reported to Ecology within 30 days following the end of the month in which the exceedance occurred or according to the monthly deviation reporting required in 1.13.1, whichever is sooner. The report shall include the date, time and duration of the exceedance, the magnitude of the exceedance, an estimate of any excess emissions, probable cause of the exceedance, a description of the corrective action taken and the results of the corrective action taken.

**14.0 Insignificant Emission Units (IEU) and Activities**

**14.1** The following insignificant emission units were proposed 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.

<b>Emission Unit Description</b>	<b>Basis/Justification for IEU Designation</b>
Lubricating oil storage tanks	WAC 173-401-532(3)
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)
Pressurized storage of oxygen, nitrogen, carbon dioxide, air, or inert gases	WAC 173-401-532(5)
Storage of solid material, dust-free handling	WAC 173-401-532(6)
Vehicle exhaust from auto maintenance and repair shops	WAC 173-401-532(7)
Vents from rooms, buildings and enclosures that contain permitted emissions units or activities from which local ventilation, controls and separate exhaust are provided	WAC 173-401-532(9)
Internal combustion engines for propelling or powering a vehicle	WAC 173-401-532(10)
Brazing, soldering and welding equipment and oxygen-hydrogen cutting torches for use in cutting metal where in components of the metal do not generate HAPs or HAPs precursors	WAC 173-401-532(12)
Metal melting and molten metal holding equipment and operations wherein the components of the metal do not generate HAPs or HAP precursors. Electric arc furnaces are not considered for listing as	WAC 173-401-532(21)

insignificant	
Plant upkeep including routine housekeeping, preparation for and painting of structures or equipment, re-tarring roofs, applying insulation to buildings in accordance with applicable environmental and health and safety requirements and paving or stripping parking lots	WAC 173-401-532(33)
Cleaning and sweeping of streets and paved surfaces	WAC 173-401-532(35)
Steam cleaning operations	WAC 173-401-532(39)
Portable drums and totes	WAC 173-401-532(42)
Lawn and landscaping activities	WAC 173-401-532(43)
General vehicle maintenance including vehicle exhaust from repair facilities	WAC 173-401-532(45)
Comfort air conditioning or air cooling systems, not used to remove air contaminants from specific equipment	WAC 173-401-532(46)
Natural draft hoods, natural draft stacks, or natural draft ventilators for sanitary and storm drains, safety valves, and storage tanks subject to size and service limitations expressed elsewhere in this section	WAC 173-401-532(47)
Natural and forced air vents and stacks for bathroom/toilet facilities	WAC 173-401-532(48)
Office activities	WAC 173-401-532(49)
Personal care activities	WAC 173-401-532(50)
Firefighting and similar safety equipment and equipment used to train fire fighters excluding fire drill pits	WAC 173-401-532(52)
Materials and equipment used by, and activity related to operation of infirmary; infirmary is not the source's business activity	WAC 173-401-532(53)
Fuel and exhaust emissions from vehicles in parking lots	WAC 173-401-532(54)
Structural changes not having air contaminant emissions	WAC 173-401-532(67)
Photographic process equipment by which an image is reproduced upon material sensitized to radiant energy, e.g., blueprint activity, photocopiers, mimeograph, telefax, photographic developing, and microfiche	WAC 173-401-532(70)
Repair and maintenance activities, not involving installation of an emission unit and not increasing potential emissions of a regulated air pollutant	WAC 173-401-532(74)
Batteries and battery charging	WAC 173-401-532(77)
Solid waste (as defined in the Washington Administrative Code) containers	WAC 173-401-532(79)
Totally enclosed conveyors	WAC 173-401-532(86)
Steam vents and safety relief valves	WAC 173-401-532(87)



Air compressors, pneumatically operated equipment, systems and hand tools	WAC 173-401-532(88)
Steam leaks	WAC 173-401-532(89)
Process water and white water storage tanks	WAC 173-401-532(94)
Demineralizer tanks	WAC 173-401-532(95)
Clean condensate tanks	WAC 173-401-532(96)
Chipping	WAC 173-401-532(112)
Debarking	WAC 173-401-532(113)
Pond dredging	WAC 173-401-532(116)
Non-PCB oil filled circuit breakers, oil filled transformers and other equipment that is analogous to, but not considered to be, a tank	WAC 173-401-532(118)
Electric or steam-heated drying ovens and autoclaves	WAC 173-401-532(119)
Sewer manholes, junction boxes, sumps and lift stations associated with wastewater treatment systems	WAC 173-401-532(120)

**14.2** The following insignificant emission units were proposed 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.

<b>Emission Unit Description</b>	<b>Basis/Justification for IEU Designation</b>
6,000 gallon capacity gasoline storage tank	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
1,000 gallon propane storage tanks (2)	WAC 173-401-533(2)(d), Operation, loading and unloading of butane, propane, or LPG storage tanks, vessel capacity under forty-thousand gallons
Natural gas heaters in the planer shop and sawmill; propane heater in the maintenance shop	WAC 173-401-533(2)(e), Combustion sources less than five million BTU/hr exclusively using natural gas, butane, propane, or LPG
20,000 gallon capacity (two compartment) diesel fuel storage tank	WAC 173-401-533(2)(t), Equipment used exclusively to pump, load, unload or store high boiling organic material, material with initial boiling point not less than 150°C, or vapor pressure not more than 5mm Hg at 21°C, with lids or other appropriate closure

**14.3** The following insignificant emission units were proposed by the permittee and have been found by Ecology to meet the requirements outlined in WAC 173-401-530(4) as insignificant on the basis of actual emissions.

Emission Unit Description	Basis/Justification for IEU Designation
Portable debris screener in log yard – emission calculations acceptable to Ecology establish that PM10 emissions are below 0.75 tons per year.	WAC 173-401-530(4)

**15.0 Comments and Corresponding Responses**

**15.1** Ecology received two comments via email during the public comment period, one comment from the permittee (Comment 1.) and one comment from an Ecology representative (Comment 2.). Ecology’s responses to those comments are summarized below:

**Comment 1.**

The following comment applies to the Boise Cascade Wood Products, LLC Arden Lumber Air Operating permit renewal listed on the WA Department of Ecology AOP Register dated February 10, 2016 – Volume 17, Number 3.

Monitoring, Recordkeeping, and Reporting Requirement (MRRR) 12M(1) states that the biennial tuning and compliance certification report shall contain the following statement: “This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler’s time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer’s recommended procedures or procedures specified for a boiler of similar design if manufacturer’s recommended procedures are not available.”

The required language does not apply because §§63.11214(d) and 63.11223(g) only apply to boilers subject to emission limits in Table 1 of 40 CFR Part 63 Subpart JJJJJ.

Ecology Response to Comment 1.

Quoted text removed because the permitted facility’s boiler does not belong to a boiler subcategory subject to emission limits in Table 1 of 40 CFR Part 63 Subpart JJJJJ.

**Comment 2.**

Please accept this as a comment to Boise Arden’s draft AOP #16AQ-E002, condition 1.13.1. The draft AOP, condition 1.3.1, states “The permittee shall report deviations from permit requirements, including excess emissions as defined in this permit, with the following information ...”

Excess emissions defined in the permit are specific to section 1.11 (excess emissions due to an emergency – affirmative defense) and section 1.12 (excess emissions that are determined to be unavoidable and excused from penalty). I agree that excess emissions means (generally) exceeding an emissions limit. My concern is that if the permit limits excess emissions to those defined in the permit, exceeding an emissions limit during a source test or deviations that result in excess emissions not reported in time or not having adequate demonstration to be considered unavoidable may not be considered excess emissions because they are not due to an emergency and may not be considered unavoidable & excused.

In other words, all excess emissions, not only those defined in the permit (sections 1.11 & 1.12), should be reported as deviations from permit requirements.

Suggested wording would be something along the line of ... “The permittee shall report deviations from permit requirements, including deviations that result in excess emissions, with

the following information ...' or add that excess emissions include exceeding any emissions limit.

Ecology Response to Comment 2.

Text changed to: "The permittee shall report deviations from permit requirements, including deviations that result in excess emissions, with the following information..."

- 15.2** Comments received during the EPA review period and Ecology's responses to those comments will be summarized below after the EPA review period has ended:

**16.0 Applicable and Inapplicable Requirements Determinations/Explanations**

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

**16.1.1** Order No. DE92AQ-E145 2<sup>nd</sup> Amendment, Approval Condition 6, Site specific O&M manuals for all equipment that has the potential to affect emissions to the atmosphere shall be developed. O&M manual development shall be completed within 90 days of issuance of this order and a copy sent to Ecology for approval (natural gas fired boiler).

**16.1.1.1** All O&M manuals and related information is included in the O&M Report file, located at Ecology's Eastern Regional Office in Spokane, Washington. The manual is dated April 19, 1993.

**16.1.2** Order No. DE92AQ-E145 2<sup>nd</sup> Amendment, Approval Condition 7.1, Within 60 days of achieving the maximum production rate at which the boiler will be operated, but not later than 180 days after initial startup of the boiler, an independent testing firm shall conduct RM 7.

**16.1.2.1** This testing occurred on November 3-4, 1993, and was conducted by Horizon Engineering. A copy of the Emissions Test Report is located in the source test file at Ecology's Eastern Regional Office in Spokane, Washington.

**16.1.3** Order No. DE92AQ-E145 2<sup>nd</sup> Amendment, Approval Condition 8.6, Source must notify Ecology in writing at least thirty (30) days prior to construction, and thirty (30) days prior to startup of the new systems (natural gas boiler).

**16.1.3.1** While no correspondence was located which explicitly states compliance with this permit condition, it is clear from the exchange of correspondence during the permitting process that Ecology personnel were kept informed as to the state of the boiler.

- 16.2** 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.

**16.2.1** Order No. DE92AQ-E145 2<sup>nd</sup> Amendment – Approval Condition 3, Interlocks.

**16.2.1.1** This approval condition stated that no interlocks were required as part of this Order.

**16.2.2** Order No. DE92AQ-E145 2<sup>nd</sup> Amendment – Approval Condition 4, Fugitive Dust.

**16.2.2.1** This approval condition stated that fugitive dust problems are not associated with steam production.

**16.2.3** Order No. DE93AQ-E113 1<sup>st</sup> Amendment – Approval Condition 3, Interlocks.

**16.2.3.1** This approval condition stated that no interlocks were required as part of this Order.

**16.3** The following requirements were listed as applicable (procedural) in the renewal application. No action on the part of the source is required. These regulations have therefore not been included in the AOP as ongoing applicable requirements.

- 16.3.1** WAC 173-400-010 -----Policy and purpose
- 16.3.2** WAC 173-400-020 -----Applicability
- 16.3.3** WAC 173-400-030 -----Definitions
- 16.3.4** WAC 173-400-081 -----Startup and Shutdown
- 16.3.5** WAC 173-400-091 -----Voluntary limits on emissions
- 16.3.6** WAC 173-401-161 -----Compliance Schedules
- 16.3.7** WAC 173-400-230 -----Regulatory actions
- 16.3.8** WAC 173-400-240 -----Criminal penalties
- 16.3.9** WAC 173-400-250 -----Appeals
- 16.3.10** 40 CFR 52 Subpart WW (52.2470-52.2498) ----- Washington SIP Approval

**16.4** The permittee included in their application a list of requirements for which they requested Ecology to determine inapplicability and grant the permit shield to Arden Lumber. 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 lumber mill. Including this long list in the permit as inapplicable would serve no purpose and could make it difficult for the public, EPA, and even the permittee to identify and evaluate those few standards which could truly be in question.

**17.0** **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 criteria is that each MRRR must be sufficient to assure compliance with the associated condition, emission standard or work practice.

**17.1** **MRRR 1M** – 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.

- 17.2** MRRR 2M – 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.
- 17.3** MRRR 3M – 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. 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.
- 17.4** MRRR 4M – 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.
- 17.5** MRRR 5M – The monitoring has been designed to require periodic reviews of Operation and Maintenance manuals, the Ash Handling and Disposal Plan, and the original Notice of Construction application materials 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.
- 17.6** MRRR 6M – 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. 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.
- 17.7** MRRR 7M – This monitoring has been specified to include the estimation of emissions based on the use of emission factors as described above. In addition, periodic source testing has been added to the monitoring due to the size of the emission unit.
- 17.8** MRRR 8M – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient.
- 17.9** MRRR 9M – The recordkeeping information required is considered to be sufficient.
- 17.10** MRRR 10M – 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.
- 17.10.1** 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 2.2 Hogged Fuel Boiler of the AOP.

- 17.10.2** 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 emissions of the PSEU are controlled by a multiple cyclone (aka: multiclone) and a dry ESP.
- 17.10.3** 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 3750 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 ESP secondary voltage. Through published information and consultation with the ESP manufacturer, secondary voltage was identified as the primary indicator of ESP particulate matter removal efficiency. The particular trigger limits were set based on data obtained during the most recent source test as well as manufacturer advice and engineering judgment. Specifically, the trigger limits were proposed by the manufacturer as sufficient to ensure that the ESP is operating at design efficiency. These proposed trigger limits were evaluated with respect to the values recorded during source testing and the values recorded by the source over the past few years. It was generally agreed that the trigger limits proposed by the manufacturer were sufficient to ensure high efficiency ESP performance.

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.

- 17.11** MRRR 11M – 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.
- 17.12** MRRR 12M – This MRRR contains the minimum boiler tune-up requirements and subsequent compliance status reporting requirements of the Boiler GACT, applicable to the permittee. The Boiler GACT is applicable due to the permittee obtaining a voluntary emissions limit to change the BCWP-Arden facility from a Major Source of HAPs (Boiler MACT applicable) to an Area Source of HAPs (Boiler GACT applicable)
- 17.13** MRRR 13M – This MRRR establishes the minimum actions and reporting necessary for compliance with energy assessment requirements for hogged fuel boilers located at an area source for HAPs (Boiler GACT).
- 17.14** MRRR 14M – This MRRR lists the initial notification requirements associated with the permittee requesting and obtaining a voluntary emissions limit to change the BCWP-Arden facility from a Major Source of HAPs (Boiler MACT applicable) to an Area Source of HAPs (Boiler GACT applicable).
- 17.15** MRRR 15M – 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 and the increased importance of nitrogen oxide emissions from natural gas fired boilers in relation to emissions of other pollutants.
- 17.16** MRRR 16M – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient.

- 17.17** MRRR 17M – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the natural gas boiler updated.
- 17.18** MRRR 18M – The monitoring is included specifically as required by 40 CFR 60.
- 17.19** MRRR 19M – This MRRR establishes the minimum monitoring, recordkeeping and reporting information necessary for reasonable assurance of compliance with the appropriate requirements applicable to the baghouses.
- 17.20** MRRR 20M – This MRRR establishes the minimum monitoring, recordkeeping and reporting information necessary for reasonable assurance of compliance with the appropriate requirements applicable to the Emergency Fire Pump Engine.
- 17.21** MRRR 21M – This MRRR establishes the monitoring, recordkeeping and reporting information necessary for reasonable assurance of compliance with the appropriate requirements applicable to the Lumber Drying Kilns.

## **18.0 Streamlining Explanations**

- 18.1** WAC 173-400-050(1), (3) – Emissions of particulate matter from the hogged fuel boiler – This section of the WAC applies to the hogged fuel boiler by limiting emissions of particulate matter to 0.2 grains per dry standard cubic foot corrected to seven percent oxygen. This applicable requirement has not been included in the AOP due to the fact that Order No. 15AQ-E608 includes a condition (Approval Condition 5.3.1) that limits particulate matter emissions from the hogged fuel boiler to 0.030 grains per dry standard cubic foot corrected to seven percent oxygen. Since the condition included in the NOC order is clearly more stringent and is expressed in the same units as WAC 173-400-050(1), (3), it is appropriate to apply streamlining to this requirement.
- 18.2** WAC 173-400-070(2)(a) – Opacity from the hogged fuel boiler – This section of the WAC applies to the hogged fuel boiler by limiting opacity to twenty percent (20%) except for fifteen (15) minutes every eight (8) hours to allow for soot blowing and grate cleaning. This applicable requirement has not been included in the AOP due to the fact that Order No. 15AQ-E608 includes conditions (Approval Conditions 5.3.2 and 5.3.3) that limit opacity to ten percent (10%) and do not include an exception for soot blowing or grate cleaning. Since the conditions included in the NOC order are clearly more stringent than the standard included in this section of the WAC, it is appropriate to apply streamlining to this requirement.
- 18.3** WAC 173-400-050(1), (3) – Emissions of particulate matter from the natural gas boiler – This section of the WAC applies to the natural gas boiler by limiting emissions of particulate matter to 0.1 grains per dry standard cubic foot corrected to seven percent oxygen. This applicable requirement has not been included in the AOP due to the fact that Order No. 15AQ-E608 includes a condition (Approval Condition 3.2.3) that limits particulate matter emissions from the natural gas boiler to 0.01 grains per dry standard cubic foot corrected to seven percent oxygen. Since the condition included in the NOC order is clearly more stringent and is expressed in the same units as WAC 173-400-050(1), (3), it is appropriate to apply streamlining to this requirement.
- 18.4** WAC 173-400-040(6) – Emissions of sulfur dioxide from the natural gas boiler – This section of the WAC applies to the natural gas boiler by limiting emissions of sulfur dioxide to 1000 ppm corrected to seven percent oxygen and based on an average of any sixty consecutive minutes. This applicable requirement has not been included in the AOP due to the fact that Order No. 15AQ-E608 includes a condition (Approval Condition 3.2.2) that limits sulfur dioxide to 1 ppm

or 0.017 lbs/hr. (It is important to point out that in this case, the oxygen content and averaging period have been added to the NOC requirement under the authority of 173-401-630(1) as gapfilling.) Since the condition included in the NOC order is clearly more stringent and is expressed in the same units and averaging times as WAC 173-400-040(6), it is appropriate to apply streamlining to this requirement.

## 19.0 Clarifications and Interpretations

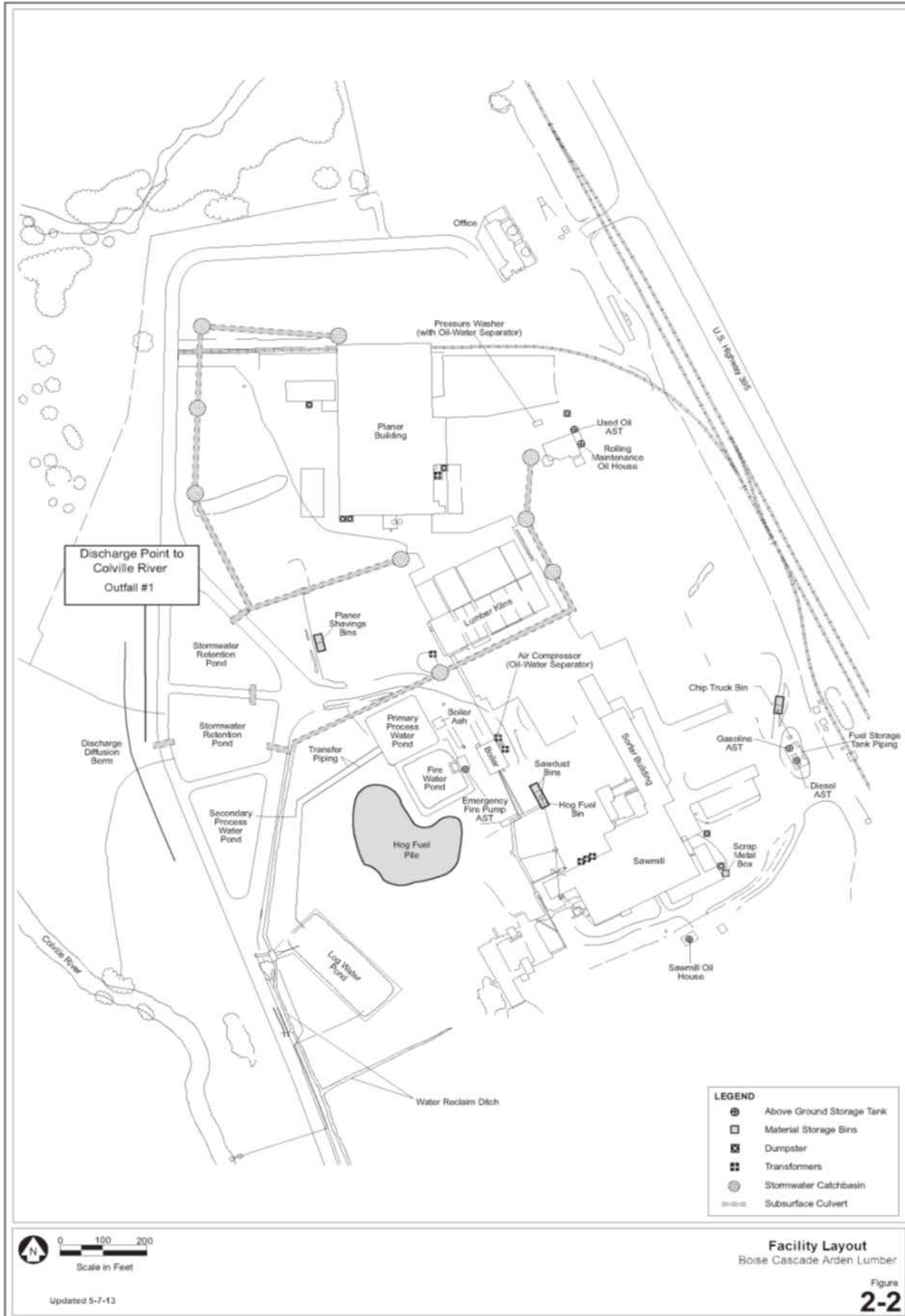
- 19.1** Section 1 - Standard Conditions – For permit conditions required by Washington State regulations that have been included in the SIP, two dates are given. The first date is the date for the regulation that was adopted into the SIP. The second date is for the most up-to-date version of the regulation. State-only enforceable permit conditions are identified with the symbol (S).
- 19.2** Recordkeeping retention time – The NOC permit that applies to BCWP-Arden (Order No. 15AQ-E608) includes a condition which requires applicable recordkeeping/reporting to be maintained for a period of two 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 permit 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 condition that this applies to is listed below.
- 19.2.1** Order No. 15AQ-E608 – Approval Condition 5.5.1
- 19.3** 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.
- 19.4** 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.
- 19.5** 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. However, Order No. 15AQ-E608 Condition 8.3 prohibits open burning on the facility site. The purpose of this statement is to clarify that while Chapter 173-425 WAC does apply to the permittee, the specific condition in the Order cited is more restrictive and thus takes precedence over Chapter 173-425 WAC.
- 19.6** 40 CFR 60, Subpart Dc, Natural Gas Fired Boiler – A requirement in the Natural Gas Fired Boiler Order Number DE 92AQ-E145 1<sup>st</sup> and 2<sup>nd</sup> Amendments and Order No. 13AQ-E486, stated that the project shall comply with all requirements of 40 CFR 60, Subpart Dc. These orders were rescinded and replaced by 15AQ-E608. While Order No. 15AQ-E608 does not reiterate the statement, the reference to Dc is included in 15AQ-E608's accompanying TSD. There are only two requirements in Subpart Dc that apply, 60.48c(g) which requires recording and maintaining records of amount of fuel used each day or month and 60.48c(i), which requires records to be kept for two years following the date of such record. The five-year recordkeeping requirement included in Standard Condition 1.27 of this AOP takes precedence over the two-year requirement.
- 19.7** Notice of Violation No. DE96AQ-E141 – On November 25, 1996, Stimson Lumber Company was issued Notice of Violation No. DE 96AQ-E141 for the Hogged Fuel Boiler opacity violations. Follow-up actions by Stimson Lumber Company included a compliance plan and



schedule. All required actions have been completed and do not represent ongoing requirements. No changes to the AOP were made.

- 19.8** Ecology Approved Emission Factors – Some of the MRRR’s in the AOP require emissions calculations to be performed using emission factors that have been approved by Ecology. The determination as to whether emission factors are approvable is made in accordance with the guidance found in WAC 173-400-103(1), specifically that each emission factor must be a “published, verifiable emission factor that is applicable to the source.” With regards to the emission factors utilized by the permittee, the emission factors included in the AOP renewal application have been found to be Ecology approvable. However, this does not preclude Ecology from requiring a modification in emission factors used as better information becomes available.
- 19.9** 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 **3M**. 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 **3M**.

**20.0 Appendix A – Site Plan of Boise Cascade Wood Products, LLC Arden Lumber (BCWP-Arden)**



**21.0 Appendix B – General Process Flow Diagram, BCWP-Arden**

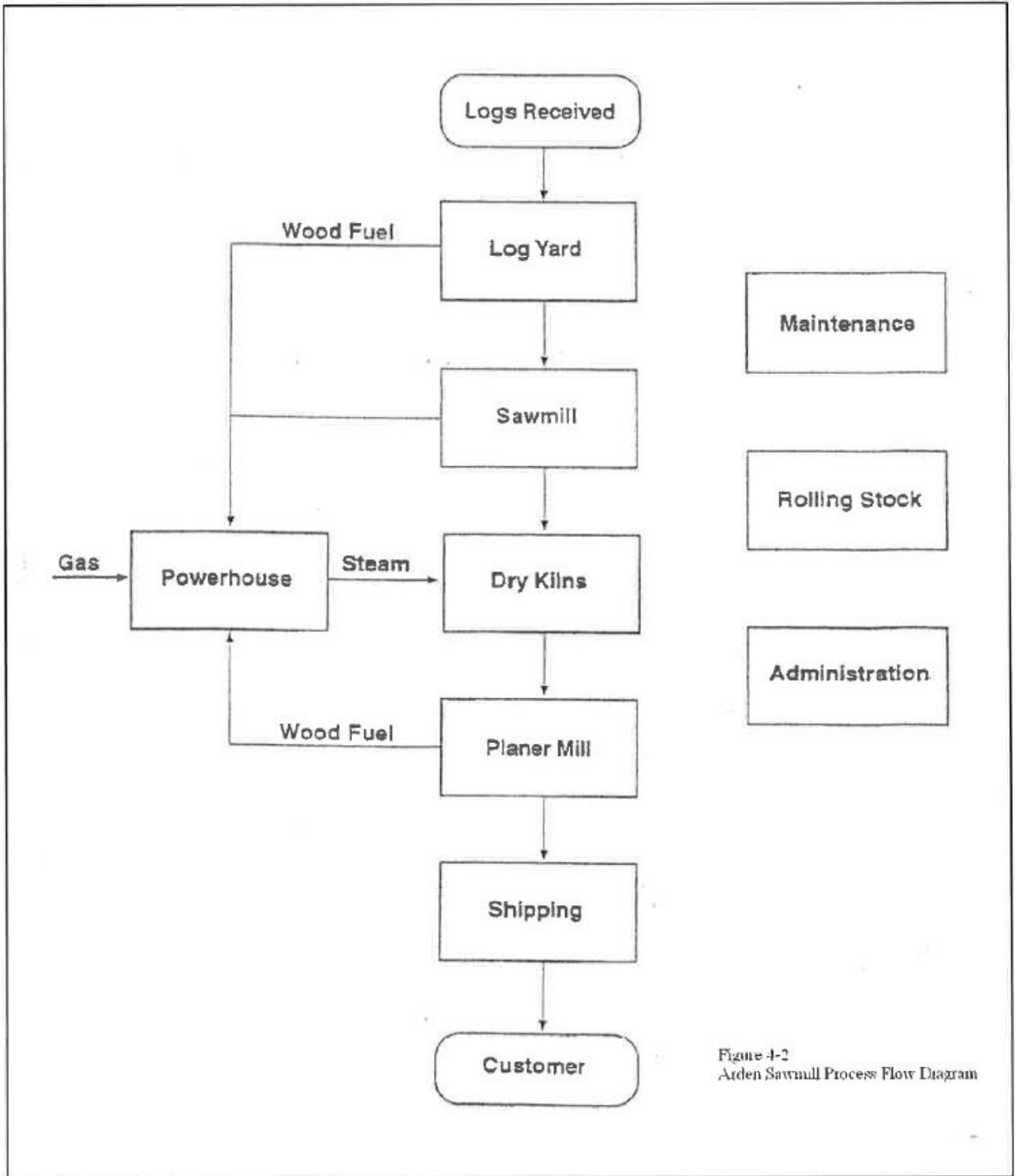


Figure 4-2  
Arden Sawmill Process Flow Diagram

