JELD-WEN
WINDOWS & DOORS

Via FedEx

4/12/2018

Mr. William "Fred" Durham, Director
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th St.
Charleston, WV 25304-2943

Re: Title V Renewal Application Submission

Dear Mr. Durham:

On behalf of JELD-WEN, Inc. please find the Title V Renewal application associated with Title V Operating Permit: R30-006700095-2013 (SM01) on the enclosed CD for your review. This renewal application is submitted in accordance with 45CSR§30-4.1.a.3.

As part of the renewal application JELD-WEN, Inc. is requesting coverage under the 40 CFR Part 63 Subpart JJJJJJ (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources), as the facility is no longer considered to be a major source of HAP emissions. The facility's potential to emit is beneath the threshold of 10 tons/year or more of any individual HAP or 25 tons/year of aggregate HAP, therefore MACT standards are no longer applicable to the facility per the recent memorandum released by the EPA on January 25, 2018. The proposed applicable requirements of 40 CFR Part 63 Subpart JJJJJJ to the facility are noted in both Attachments E and J.

If you have any questions regarding this submittal please contact me at (304) 742-5180.

Respectfully submitted,

JELD-WEN, Inc.

Eric Rapp
Director of Environmental Compliance

TITLE V PERMIT RENEWAL
JELD-WEN, INC.
WOOD FIBER DIVISION – CRAIGSVILLE, WEST VIRGINIA
PERMIT NO. R30-06700095-2013 (SM01) & R13-2192P

JELD-WEN ENVIRONMENTAL AFFAIRS
3250 Lakeport Blvd
Klamath Falls, OR 97601
(541) 883-3373

April 2018

JELD-WEN WINDOWS & DOORS

TABLE OF CONTENTS

APPLICATION FOR TITLE V PERMIT APPLICATION I

ATTACHMENT A: AREA MAP 2

ATTACHMENT B: PLOT PLAN 3

ATTACHMENT C: PROCESS FLOW DIAGRAM 4

ATTACHMENT D: EQUIPMENT TABLE 5

ATTACHMENT E: EMISSION UNIT FORMS 6

ATTACHMENT F: SCHEDULE OF COMPLIANCE FORM 7

ATTACHMENT G: AIR POLLUTION CONTROL DEVICE FORMS 8

ATTACHMENT H: COMPLIANCE ASSURANCE MONITORING PLAN FORMS 9

ATTACHMENT I: SUPPORTING EMISSION CALCULATIONS 11

ATTACHMENT J: PROPOSED REQUIREMENTS PER 40 CFR PART 63 SUBPART JJJJJJ 12

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE

Charleston, WV 25304

Phone: (304) 926-0475

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. **Name of Applicant (As registered with the WV Secretary of State's Office):**
JELD-WEN, inc.
DBA JELD-WEN Fiber of West Virginia

2. Facility Name or Location:
500 JELD-WEN Road
Craigsville, WV 26205

3. DAQ Plant ID No.:
0 6 7 — 0 0 0 9 5

4. Federal Employer ID No. (FEIN):
9 3 0 4 9 6 3 4 2

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence? 05/01/1998
☒ Permit Renewal — What is the expiration date of the existing permit? 10/17/2018
☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity:

☒ Corporation ☐ Governmental Agency ☐ LLC
☐ Partnership ☐ Limited Partnership

7. Is the Applicant the:

☐ Owner ☐ Operator ☒ Both

If the Applicant is not both the owner and operator, please provide the name and address of the other party.

_____
_____
_____

8. Number of onsite employees:
70

9. Governmental Code:

☒ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☐ Yes ☒ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: PO Box 1769		
City: Craigsville	**State:** WV	**Zip: 26205-**
Telephone Number: (304) 742-5180	**Fax Number:** (304) 742-5188	

12. Facility Location		
Street: 500 JELDWEN Road	**City:** Craigsville	**County:** Nicholas
UTM Easting: 529749.6 km	**UTM Northing:** 4244034 km	**Zone:** ☒ 17 or ☐ 18

Directions:

Take I-79N from Charleston	59 mi.
Take exit **57** and turn right on **US-19 S**	21 mi.
Take the **W Virginia 55** and turn left on E	1 mi.
Turn right to stay on **W Virginia 55 E**	11.7 mi.
Turn left at the turn lane onto Columbia Forest Products Rd.	0.1 mi
Turn left onto JELD-WEN Road	0.2 mi

Portable Source? ☐ Yes ☒ No

Is facility located within a nonattainment area? ☐ Yes ☒ No	**If yes, for what air pollutants?**
Is facility located within 50 miles of another state? ☐ Yes ☒ No	**If yes, name the affected state(s).**
Is facility located within 100 km of a Class I Area[1]? ☐ Yes ☒ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☒ No	**If yes, name the area(s).**

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Jay Borrell		**Title:** Plant Manager
Street or P.O. Box: PO Box 1769		
City: Craigsville	**State:** WV	**Zip: 26205-**
Telephone Number: (304) 742-5180	**Fax Number:** (304) 742-5188	
E-mail address: jborrell@jeldwen.com		
Environmental Contact: Jeffrey Todd		**Title:** Regional Environmental Manager
Street or P.O. Box: PO Box 1769		
City: Craigsville	**State:** WV	**Zip: 26205-**
Telephone Number: (304) 742-5180	**Fax Number:** (304) 742-5188	
E-mail address: jtodd@jeldwen.com		
Application Preparer: Eric Rapp		**Title:** Director of Environmental Compliance
Company: JELD-WEN, Inc.		
Street or P.O. Box: PO Box 1769		
City: Craigsville	**State:** WV	**Zip: 26205-**
Telephone Number: (304) 742-5180	**Fax Number:** (304) 742-5188	
E-mail address: erapp@jeldwen.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Wood Fiber Door Skin Mfg.	Wood Fiber Door Skins	321219	2493
Paint & Coating Manufacturing	Coatings	325510	2851

Provide a general description of operations.

The facility manufactures wood fiber door skins in a process similar to the hardboard manufacturing process. Wood chips are mechanically separated in to individual fibers at the refiner and dried in a steam and natural gas heated tube dryer. Next, the fiber is blended with MDI resin and formed into a fiber mat. The mat continues through an unheated precompressor followed by a series of saws that cut each mat to size. Mats are consolidated in a steam-heated press. After the press, the door skins are cut to the final dimensions and coated with waterborne primer.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☒ NESHAP (45CSR34)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS	☒ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☒ 45CSR27 State enforceable only rule
☒ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☒ **C**ompliance **A**ssurance **M**onitoring (40CFR64)
☐ CAIR NO_x Annual Trading Program (45CSR39)	☐ CAIR NO_x Ozone Season Trading Program (45CSR40)
☐ CAIR SO_2 Trading Program (45CSR41)	

19. Non Applicability Determinations
List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies. The non-applicability determinations in the existing permit remain unchanged.
☒ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*).

3.1.1., 45CSR§6-3.1.

3.1.2., 45CSR§6-3.2.

3.1.3., 40 C.F.R. §61.145(b) and 45CSR34

3.1.4., 45CSR§4-3.1

3.1.5., 45CSR§11-5.2

3.1.6., W.Va. Code § 22-5-4(a)(14)

3.1.7., 40 C.F.R. 82, Subpart F

3.1.8., 40 C.F.R. 68

3.1.9., 45CSR §7-5.1.]

3.1.10., 45CSR §7-5.2.

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

3.3.1., WV Code § 22-5-4(a)(14-15), 45CSR2, 45CSR7, 45CSR10, 45CSR16, 40CFR§60.45c.and 45CSR13

3.4.1., 45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1

3.4.2., 45CSR§30-5.1.c.2.B., 40 CFR §60.48c(i)

3.4.3., 45CSR§30-5.1.c.

3.4.4., 45CSR§30-5.1.c.

3.5.1., 45CSR§§30-4.4. *and* 5.1.c.3.D.

3.5.2., 45CSR§30-5.1.c.3.E.

3.5.4., 45CSR§30-8.

3.5.5., 45CSR§30-5.3.e.

3.5.6., 45CSR§30-5.1.c.3.A.

3.5.8., 45CSR§30-5.1.c.3.C. & 45CSR§30-5.1.c.3.B.

3.5.9., 45CSR§30-4.3.h.1.B.]

3.7.1., 45CSR§30-5.6.

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
R13-2192P	08/13/2013	
R30-067-00095-2013	10/17/2013	
Civil Action No. 11-453 ST	08/04/2011	
R30-067-00095-2013 (SM-01)	01/17/2018	

22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number
NA	MM/DD/YYYY	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	92.6
Nitrogen Oxides (NO_X)	172.8
Lead (Pb)	0.01
Particulate Matter ($PM_{2.5}$)[1]	18.5
Particulate Matter (PM_{10})[1]	23.0
Total Particulate Matter (TSP)	39.2
Sulfur Dioxide (SO_2)	6.6
Volatile Organic Compounds (VOC)	155.0
Hazardous Air Pollutants[2]	Potential Emissions
See Attachment J, Table 18	
Regulated Pollutants other than Criteria and HAP	Potential Emissions
N20	2.5
CH4	19.0
CO2	90,117

[1]$PM_{2.5}$ and PM_{10} are components of TSP.
[2]For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)		
☒	1.	Air compressors and pneumatically operated equipment, including hand tools.
☒	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☒	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☒	4.	Bathroom/toilet vent emissions.
☒	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☒	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☒	8.	Boiler water treatment operations, not including cooling towers.
☒	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☒	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☒	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☒	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☐	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☒	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☐	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: Rotary Classifier (RS) – no emissions, completely enclosed Resin Storage Tank (ST1) – Less than 0.01 lbs/hr Resin Storage Tank (ST2) – Less than 0.01 lbs/hr Wax Storage Tank (ST3) – Less than 0.01 lbs/hr Paint Manufacturing Baghouse ((BH5) – PM Emissions 0.01 lbs/hr; 0.02 tons/yr _____ _____ _____

24. Insignificant Activities (Check all that apply)		
☒	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis: Resin Storage Tank (ST1) – Less than 0.01 lbs/hr Resin Storage Tank (ST2) – Less than 0.01 lbs/hr Wax Storage Tank (ST3) – Less than 0.01 lbs/hr _____ _____
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☐	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☒	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☒	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☒	26.	Fire suppression systems.
☐	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☒	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☐	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☒	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☐	33.	Hydraulic and hydrostatic testing equipment.
☒	34.	Indoor or outdoor kerosene heaters.
☒	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☒	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☒	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.

24. Insignificant Activities (Check all that apply)		
☒	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
☐	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☒	43.	Process water filtration systems and demineralizers.
☒	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☒	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☐	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☒	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☒	50.	Space heaters operating by direct heat transfer.
☐	51.	Steam cleaning operations.
☒	52.	Steam leaks.
☐	53.	Steam sterilizers.
☒	54.	Steam vents and safety relief valves.
☒	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☒	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☐	57.	Such other sources or activities as the Director may determine.
☒	58.	Tobacco smoking rooms and areas.
☐	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table

Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.

26. Emission Units

For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.

For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.

27. Control Devices

For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.

For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Jay Borrell	Title: Plant Manager

Responsible official's signature:

Signature: J V Borrell Signature Date: 4-12-2018

(Must be signed and dated in blue ink)

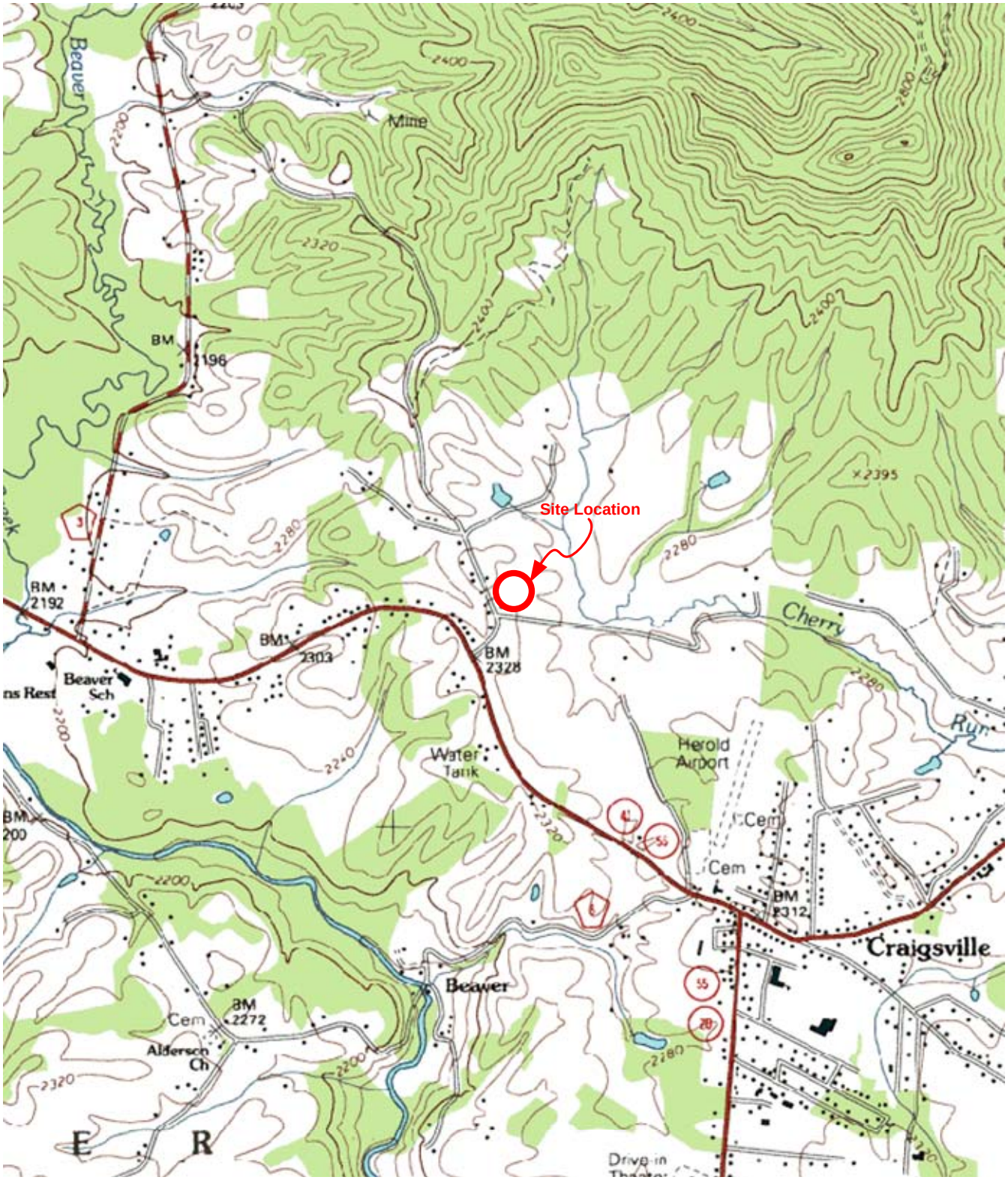
Note: Please check all applicable attachments included with this permit application:	
☒	ATTACHMENT A: Area Map
☒	ATTACHMENT B: Plot Plan(s)
☒	ATTACHMENT C: Process Flow Diagram(s)
☒	ATTACHMENT D: Equipment Table
☒	ATTACHMENT E: Emission Unit Form(s).
☐	ATTACHMENT F: Schedule of Compliance Form(s)
☒	ATTACHMENT G: Air Pollution Control Device Form(s)
☒	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

JELD-WEN

Craigsville, West Virginia
Topographic Map (July,1979)

Map center is 38° 20' 26"N, 80° 39' 44"W (WGS84/NAD83)
USGS Craigsville quadrangle

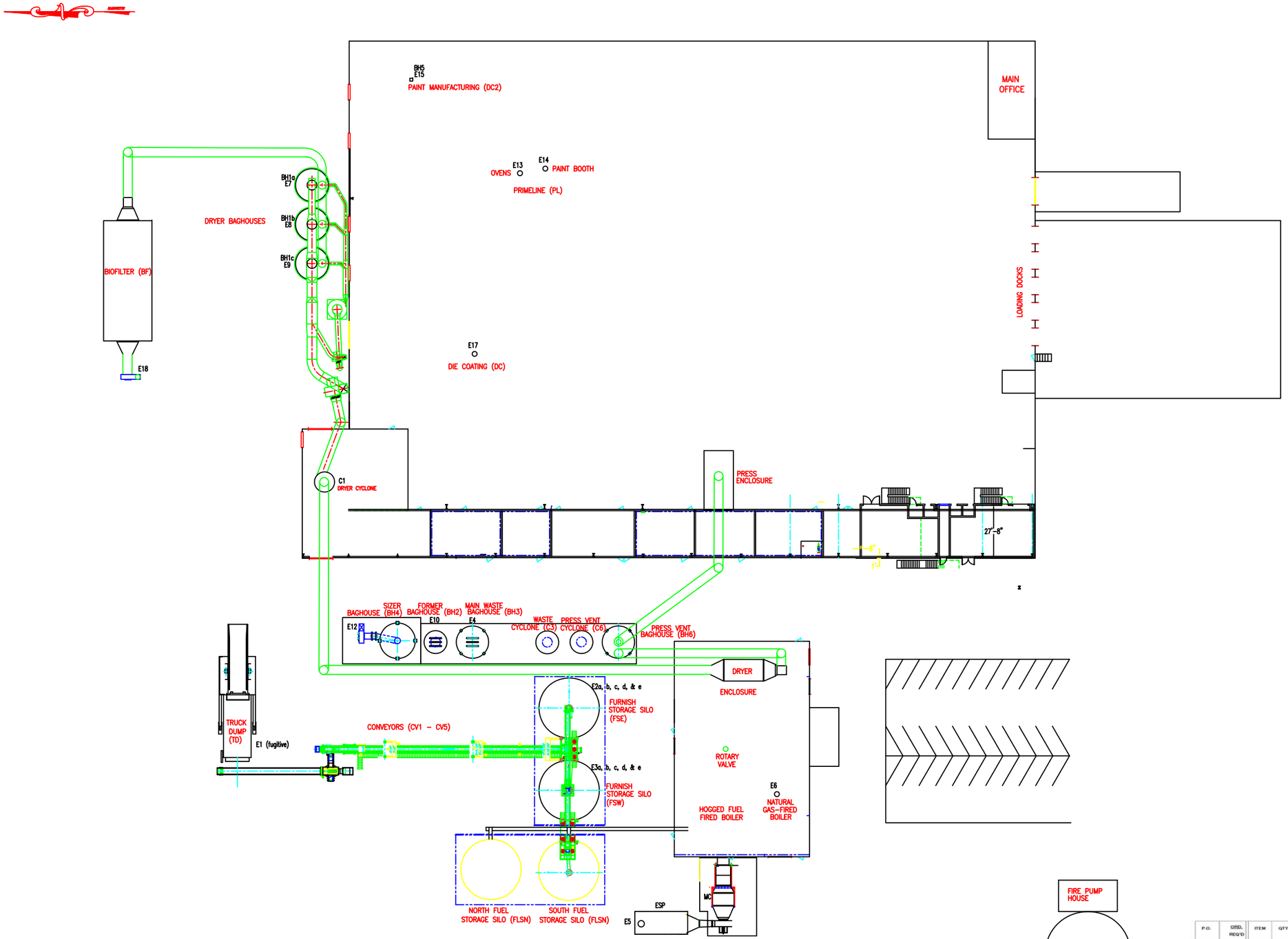


0 0.2 0.4 0.6 0.8 1 mi

JELD-WEN Environmental Engineering

DWG. NUMBER

REVISION	DATE	DESCRIPTION	BY



P.O.	DISD. REQ'D	ITEM	QTY.	DESCRIPTION	WGHT.

JELD-WEN ENGINEERING: ENVIRONMENTAL ENGINEERING

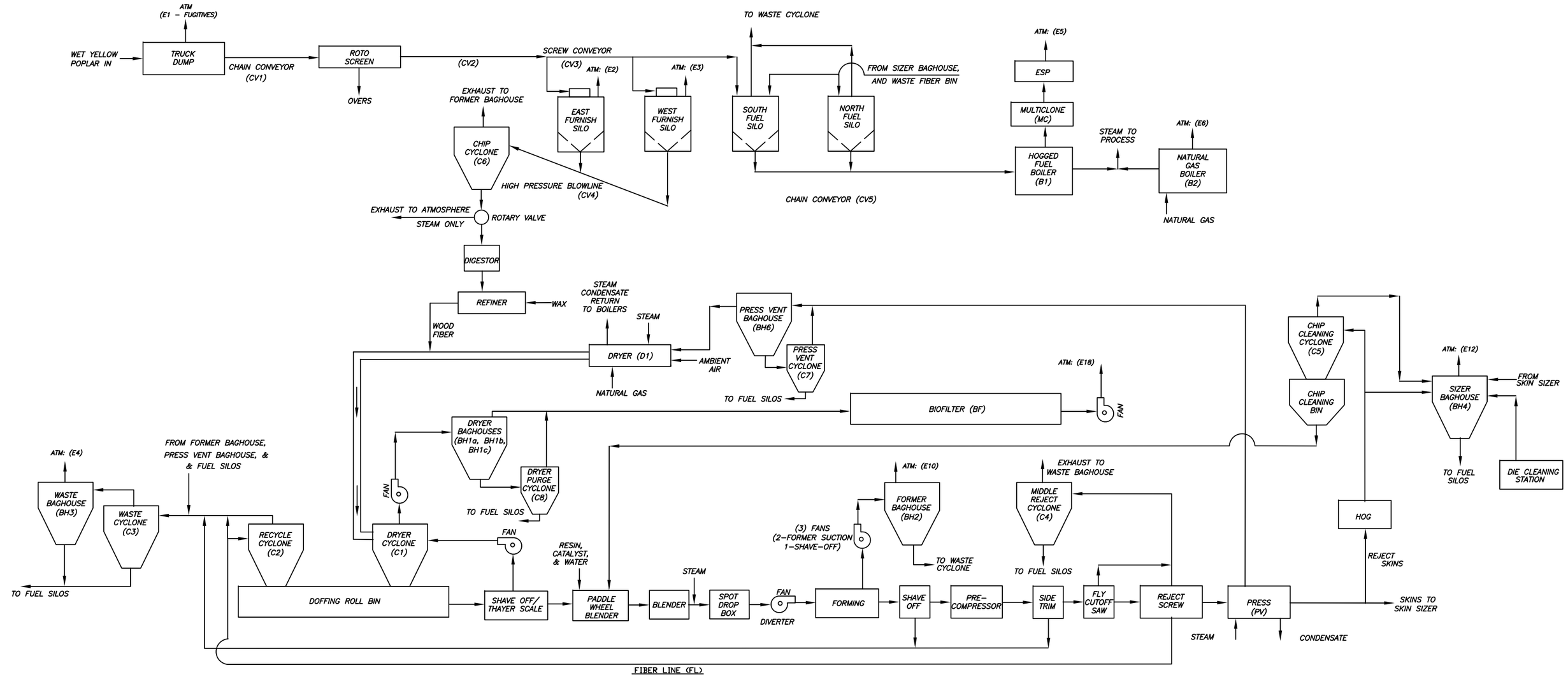
PHONE (541) 885-7420
P.O. BOX 1329 KLAMATH FALLS, OR

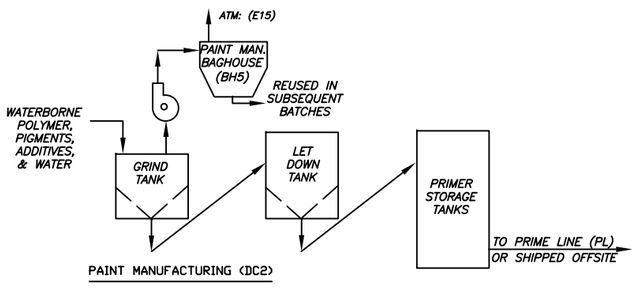
SCALE:	APPROVED BY:	DATE: July 2012	DRAWN BY: NCW

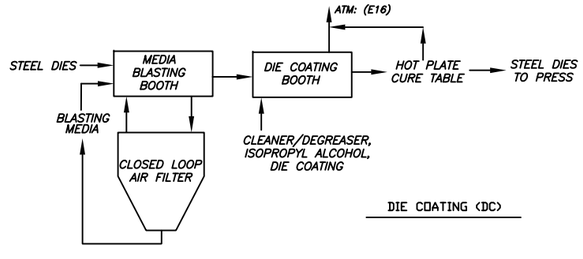
DRAWING TITLE:

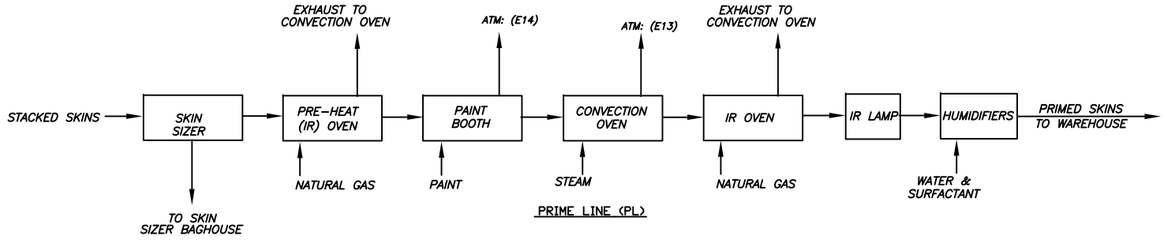
Emission Source Map

PROJECT NUMBER	PLANT NAME & LOCATION	DWG. NUMBER	REV.	SHEET 1 OF 1 SHEETS
	JELD-WEN CRAIGSVILLE, WEST VIRGINIA			









JELD-WEN

PROCESS FLOW DIAGRAM
JELD–WEN WOOD FIBER DIVISION – WEST VIRGINIA
500 JELD–WEN Road
CRAIGSVILLE, WEST VIRGINIA

FIGURE: 1

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
E1(Fugitive)	None	TD	Truck Dump	38,053 lbs/hr	May 1, 1998
E2a,b,c,d,e	None	FSE	East Furnish Storage Silo	46,563 ft3	May 1, 1998
E3a,b,c,d,e	None	FSW	West Furnish Storage Silo	46,563 ft3	May 1, 1998
E4	BH3	FLSN	North Fuel Storage Silo	28,740 ft3	May 1, 1998
	BH3	FLSS	South Fuel Storage Silo	28,740 ft3	May 1, 1998
	BH3	FLa	Fiber Line Prior to Press (Former)	28,520 lbs/hr	May 1, 1998
	BH3	C2	Recycle Cyclone	1,404 lbs/hr	May 1, 1998
	BH3	C3	Waste Cyclone	3,037 lbs/hr	May 1, 1998
	BH3	C4	Middle Reject Cyclone	1,404 lbs/hr	May 1, 1998
	BH3	C6	Chip Cyclone	23,944 lbs/hr	May 1, 1998
E5	MC, ESP	B1	Hogged Fuel-Fired Boiler	62.5MMBtu/hr	May 1, 1998
E6	None	B2	Natural Gas-Fired Boiler	37.7MMBtu/hr	May 1, 1998
E10	BH2	FLa	Fiber Line Prior to Press (Former)	13,323 lbs/hr	May 1, 1998
E12	BH4	FLb	Fiber Line After Press (Sizer)	21,591 SF/hr	May 1, 1998
	BH4	C5	Chip Cleaning Cyclone	2,667 lbs/hr	May 1, 1998
E17	BH4	DC	Die Cleaning/Coating Operation	120 lbs/hr Na2CO3	2009/2010
E13	None	PL	Primeline (Ovens)	3.8 MMBtu/hr (total)	May 1, 1998
E14a,b	None	PL	Primeline (Paint Booth)	71.0 gal/hr	May 1, 1998
E15	BH5	DC2	Paint Manufacturing	760 gals/hr	April 1, 1999
E16	None	RV	Rotary Valve	23,944 lbs/hr	May 1, 1998
E18[3]	BH1a, BH1b, BH1c, BF, & BH6	D1, C1, C8, PV, & C7	Fiber Dryer Dryer Cyclone Dryer Baghouse Purge Cyclone Press Vents Press Vent Baghouse Purge Cyclone	23,942 lbs/hr 30,257 lbs/hr 302 lbs/hr 21,591 lbs/hr 3.2 lbs/hr	May 1, 1998
Fugitive	None	CV1-5	Conveyors	148 tons/hr (total)	May 1, 1998
Fugitive	None	RS	Rotary Classifier	40 tons/hr	May 1, 1998
Fugitive	None	ST1	Resin Storage Tank 1	7,000 gallons	May 1, 1998
Fugitive	None	ST2	Resin Storage Tank 2	7,000 gallons	May 1, 1998
Fugitive	None	ST3	Wax Storage Tank	10,000 gallons	May 1, 1998

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** MC, ESP
B1	Hogged Fuel-Fired Boiler	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Wood-fired fuel cell boiler used for facility steam production.

Manufacturer:	**Model number:**	**Serial number:**
Wellons	IDIC8.0	

Construction date:	**Installation date:**	**Modification date(s):**
05/01/1997	05/01/1997	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 62.5×10^6 BTU/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
62.5×10^6 BTU/hr	$520{,}125\times10^6$ BTU/hr	8,322

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 62.5×10^6 BTU/hr	**Type and Btu/hr rating of burners:** Fuel Cell-Closed couples gasifier with vertical cylindrical combusting cell; 62.5×10^6 BTU/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Wood Fuel 7,805 BD-lbs/hr, 32,475 BDT/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Wood Fuel			8,008 Btu/BD-lb

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) (2)	20.25	84.27
Nitrogen Oxides (NO_X) (2)	33.24	138.30
Lead (Pb) (4)	0.003	0.01
Particulate Matter ($PM_{2.5}$) (3)	1.03	4.28
Particulate Matter (PM_{10}) (3)	1.03	4.28
Total Particulate Matter (TSP) (2)	1.03	4.28
Sulfur Dioxide (SO_2) (4)	1.56	6.50
Volatile Organic Compounds (VOC) (2)	1.08	4.51
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See Attachment J, Table 3		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O (5)	0.58	2.41
CH_4 (5)	4.41	18.35
CO_2 (5)	12,925	53779.20

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) All emission estimates include the effect of applied control devices.

(2) Emission factors were taken from a source test performed at the JELD-WEN, Craigsville, West Virginia facility in April 2003. Two standard deviations were added to the results as a safety factor.

(3) Calculations assume that 100% of TSP is $PM_{2.5}$.

(4) Emission factors were taken from AP-42, Chapter 1.6, Wood Residue Combustion (9/2003).

(5) US EPA Mandatory GHG Reporting rule, Table C-1 (FR Vol. 74, No. 209, 30 Oct 2009).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Conditions
4.1.1., *40 CFR 60 Subpart Dc.***[45CSR §2-3.1.]**
4.1.2., **[45CSR§2-9.1.]**
4.1.3., **[45CSR §2-4.4.]**
4.1.4., **[45CSR §2-9.2., 45CSR16, 40 CFR §60.11(d)]**
4.1.5., **[45CSR16, 40 CFR §§60.43c(b) and (d)]**
4.1.6., *45CSR§2-4.1.b., 45CSR§10-3.3.f., &* **[45CSR13 – Permit R13-2192 §4.1.10.]**
4.1.7. **[45CSR13 – Permit R13-2192 §4.1.11.]**
4.1.8. **[45CSR §10-3.8.]**
4.1.9. **[45CSR13 – Permit R13-2192 §4.1.9]**
4.1.10. **[45CSR §2-5.1.]**
4.1.11. **[45CSR13 – Permit R13-2192 §4.1.15, 45CSR§13-5.11.]**

40 CFR Part 63 Subpart JJJJJJ: See proposed applicable requirements in Attachment J

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Conditions

4.2 Monitoring Requirements

4.2.1., **[45CSR §2-3.2., 45CSR16, 40 CFR §§60.47c(a) & (b)]**
4.2.3., **[45CSR§30-5.1.c.]**

4.3 Testing Requirements

4.3.1., **[45CSR§30-5.1.c.]**

4.4 Recordkeeping Requirements

4.4.1., **[45CSR§30-5.1.c.]**
4.4.2., **[45CSR§2-8.3.c., 45CSR§2A-7.1., 40 CFR §60.48c(g), 45CSR16]**
4.4.4 **[40 CFR §63.7560; 45CSR34]**

4.5 Reporting Requirements

4.5.1., **[45CSR §2-9.3.]**
4.5.2., **[40 CFR §60.48c(b), 45CSR16]**
4.5.3., **[40 CFR §60.48c(c), 45CSR16]**
4.5.4., **[40 CFR §60.48c(j), 45CSR16]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
B2	Natural Gas-Fired Boiler	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Natural Gas-Fired Boiler

Manufacturer:	**Model number:**	**Serial number:**
Burnham	25113	3P900506060PF
Construction date:	**Installation date:**	**Modification date(s):**
1997	1997	08/31/2001, boiler retubed

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 37.7×10^6 BTU/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
37.7×10^6 BTU/hr	$313{,}739\times10^6$ BTU/yr	8,322 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 37.7×10^6 BTU/hr	**Type and Btu/hr rating of burners:** 37.7×10^6 BTU/hr

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas 40.60 MMscf/hr 337,897 MMscf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0.022 gr/100 ft^3	0%	1,077

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO) [3]	0.02	0.10
Nitrogen Oxides (NO_X) [3]	5.97	24.83
Lead (Pb) [1]	0.00002	0.00007
Particulate Matter ($PM_{2.5}$) [2]	0.07	0.28
Particulate Matter (PM_{10}) [2]	0.20	0.83
Total Particulate Matter (TSP) [1]	0.27	1.11
Sulfur Dioxide (SO_2) [1]	0.02	0.09
Volatile Organic Compounds (VOC) [1]	0.19	0.80
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See Attachment J, Table 3		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O [4]	0.01	0.04
CH_4 [4]	0.10	0.42
CO_2 [4]	5,353	22,275.37

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.4, Natural Gas Combustion (7/1998).

(2) Emission factor taken from AP-42, Chapter 1.4, Natural Gas Combustion. PM10= Condensable, PM2.5 = Filterable.

(3) Emission factors were taken from an engineering source test performed at the JELD-WEN, inc., Wood Fiber Division - Craigsville,

West Virginia facility in April 2003.

The emission factors are equal to the average of the test values plus two standard deviations.

(4) US EPA Mandatory GHG Reporting rule, Table C-1 (FR Vol. 74, No. 209, 30 Oct 2009).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Conditions
4.1.1., *40 CFR 60 Subpart Dc.***[45CSR §2-3.1.]**
4.1.2., **[45CSR§2-9.1.]**
4.1.4., **[45CSR §2-9.2., 45CSR16, 40 CFR §60.11(d)]**
4.1.6., *45CSR§2-4.1.b., 45CSR§10-3.3.f., &* **[45CSR13 – Permit R13-2192 §4.1.10.]**
4.1.7. **[45CSR13 – Permit R13-2192 §4.1.11.]**
4.1.8. **[45CSR §10-3.8.]**
4.1.11. **Operation and Maintenance of Air [45CSR13 – Permit R13-2192 §4.1.15, 45CSR§13-5.11.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Conditions

4.2 Monitoring Requirements
4.2.2., **[45CSR §2-3.2. and 45CSR§30-5.1.c.]**
4.2.3 **[45CSR§30-5.1.c.]**
4.2.5., **[45CSR§30-5.1.c.]**

4.4 Recordkeeping Requirements
4.4.1., **[45CSR§30-5.1.c.]**
4.4.2., **[45CSR§2-8.3.c., 45CSR§2A-7.1., 40 CFR §60.48c(g), 45CSR16]**

4.5 Reporting Requirements
4.5.1., **[45CSR §2-9.3.]**
4.5.4., **[40 CFR §60.48c(j), 45CSR16]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH3
C2	Recycle Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal – 6 ft. diameter with an LC cone length

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal	6 ft. diameter with LC cone length	
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
1,370 lbs/hr	2,570 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3 **[45CSR§30-5.1.c.1.]**
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7 **[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of Cyclones (C2, C3)

Particulate emissions from the cyclones are affected by the material throughput and the size distribution of the material. Hourly emissions are estimated based on the maximum hourly throughput for each cyclone. Annual emissions are based on the estimated quantity of residuals generated with a door skin production rate of 179,683,869 sqft/year – 1/8" basis. Because particulate size distribution data is not available, all particulate matter emitted has been conservatively assumed to be $PM_{2.5}$. Emissions from these cyclones are controlled by baghouse (BH3).

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH3
C3	Waste Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal – 6 ft. diameter with an LC cone length

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal	6 ft. diameter with LC cone length	
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
2,975 lbs/hr	5,632 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3 [45CSR§30-5.1.c.1.]
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7 **[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of Middle Reject Cyclone (C4)

Particulate emissions from this cyclone are based on 5 percent maximum throughput of the reject screw. The middle reject cyclone is used for the metal detect juncture. When metal is detected in the blow line it kicks the material to the middle reject cyclone. Material from this cyclone is then blown to the fuel silos. The middle reject cyclone runs a maximum of 5 hours/day. Emissions from this cyclone are controlled by baghouse (BH3).

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH3
C4	Middle Reject Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal – 6 ft. diameter with an LC cone length

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal	6 ft. diameter with LC cone length	
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
1,370 lbs/hr	2,570 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3 **[45CSR§30-5.1.c.1.]**
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7 **[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Chip Cleaning Cyclone (C5)

The Chip Cleaning Cyclone serves a maintenance function. As needed, hogged reject door skins (chips) are diverted from the Skin Sizer Baghouse (BH4) and sent to the Chip Cleaning Cyclone. The chips are then stored in a holding bin and augered into the blender once or twice per day for use as a mechanical cleaning agent. Approximately 80 ft^3 of chips are used every 12 hours for cleaning. The cyclone operates as needed to maintain a full storage bin, probably 10 to 12 hours per day.

The Chip Cleaning Cyclone does not generate any particulate emissions not already accounted for elsewhere in this permit application. The cyclone is controlled by the Skin Sizer Baghouse, and material is simply diverted to the cyclone instead of being sent directly to the baghouse.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH4
C5	Chip Cleaning Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal cyclone – 6 ft. diameter with an LC cone length.

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal	6 ft. diameter with LC cone length	
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
2,602 lbs/hr	1,465 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3 [45CSR§30-5.1.c.1.]
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7 **[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of Chip Cyclone (C6)

Particulate emissions from this cyclone are affected by material throughput from the furnish silos. Hourly emissions have been based on the maximum hourly throughput. Material is transferred from the furnish silos by chain conveyor to a blow line which brings the material to the cyclone. Materials from the cyclone are sent to the rotary valve. Emissions from this cyclone are controlled by baghouse (BH3).

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH3
C6	Chip Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal cyclone

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal		

Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
23,944 lbs/hr	47,504 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.16., **[45CSR §7-3.7.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3 [45CSR§30-5.1.c.1.]
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 [45CSR§30-5.1.c., 40CFR§64.7(b)]
5.2.10 [45CSR§30-5.1.c., 40CFR§64.7(c)]
5.2.11 [45CSR§30-5.1.c., 40CFR§64.7(e)]

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c., 40CFR§64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH6, BH1a, BH1b, BH1c, & BF
C7	Press Vent Purge Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal cyclone

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal		

Construction date:	**Installation date:**	**Modification date(s):**
2013	2013	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
3.2 lbs/hr	8.5 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.16., **[45CSR §7-3.7.]**
5.1.18., **[45CSR §7-4.12]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. [45CSR§30-5.1.c.1.]
5.2.5 **[45CSR13 – Permit R13-2192 §4.2.1.]**
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.8. **[45CSR13 – Permit R13-2192 §4.2.2.]**
5.2.9. **[45CSR30-5.1.c., 40CFR§64.7(b)]**
5.2.10. **[45CSR30-5.1.c., 40CFR§64.7(c)]**
5.2.11. **[45CSR30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c., 40CFR§64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c , 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH1a, BH1b,BH1c, Biofilter
C8	Dryer Baghouse Purge Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
B&R Sheetmetal cyclone

Manufacturer:	**Model number:**	**Serial number:**
B&R Sheetmetal		

Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
302.4 lbs/hr	598.06 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9, Cyclone is vent to a baghouse, emissions are included in the applicable baghouse emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.16., **[45CSR §7-3.7.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. [45CSR§30-5.1.c.1.]
5.2.5 [45CSR13 – Permit R13-2192 §4.2.1.]
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.8. **[45CSR13 – Permit R13-2192 §4.2.2.]**
5.2.9. **[45CSR30-5.1.c., 40CFR§64.7(b)]**
5.2.10. **[45CSR30-5.1.c., 40CFR§64.7(c)]**
5.2.11. **[45CSR30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c., 40CFR§64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c , 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Fiber Dryer and Dryer Cyclone Description

The fiber dryer is a tube dryer manufactured by Westec America. Heat is provided by both steam coils and the direct-firing of natural gas; each source is expected to provide about 50% of the heat input to the dryer. The natural gas burner is rated at 20 MMBtu/hr, but it is anticipated that it will normally be operated at about 50% of capacity. Dryer intake air includes the exhaust from the Press (PV) and the Rotary Valve (RV). The wood fiber exiting the dryer is separated from the air stream by the dryer cyclone and is then stored in the doffing roll bin.

Emissions from the dryer, and press are exhausted through the dryer cyclone. These emissions include VOC and HAP volatilized from the wood, natural gas combustion products, and particulate material from the fiber. Three Fiber Dryer Baghouses (BH1a, BH1b, and BH1c) control particulate emissions from the dryer cyclone. The exhaust from the three baghouses is vented into the Biofilter (BF) to control HAP emissions fulfilling the requirements of 40 CFR Part 63 Subpart DDDD.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH1a, BH1b, BH1c, BF
D1/C1	Fiber Dryer and Dryer Cyclone	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See enclosed process description

Manufacturer:	**Model number:**	**Serial number:**
Dryer: Westec America Cyclone: B&R Sheetmetal	54 inch diameter x 270 feet long 10 ft. diameter x 20 ft. cone length	

Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
20 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
23,942 lbs/hr	47,500 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: 20 MMBtu/hr	**Type and Btu/hr rating of burners:** 20 MMBtu/hr Maxon RG-IV air flow burner

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas – 21.54 MMscf/hr, 179,255 MMscf/yr.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0.022 gr/100 ft^3	0%	1,077

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----(1)	----(1)
Nitrogen Oxides (NO_X)	----(1)	----(1)
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----(1)	----(1)
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	----(1)	----(1)
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----(1)	----(1)
CH_3	----(1)	----(1)
CO_2	----(1)	----(1)

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 7, Cyclone is controlled by the Dryer Baghouses (BH1a, BH1b, BH1c) and be vented to the Biofilter (BF).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.2., **[45CSR13 – Permit R13-2192 §4.1.2.]**
5.1.8., **[45CSR34; 40 CFR§63.2240(b); 45CSR13 – Permit R13-2192 §4.1.8.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10, **[45CSR13 – Permit R13-2192 §4.1.11**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.16., **[45CSR §7-3.7.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.5. **[45CSR13 – Permit R13-2192 §4.3.5.]**
5.4.7. **[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of Die Coating Process (DC)

The die coating process will include five basic steps as follows:

Step 1. Wipe the surface of each die half with a caustic cleaner/degreaser and rags.

Step 2. Media blast the surface of each steel die half in an enclosed booth using re-circulated air with no vent to atmosphere.

Step 3. Wipe the surface of each die half surface clean with isopropyl alcohol and rags.

Step 4. Apply a surface coating to each die half using a HVLP paint gun in the new die coating paint booth vented to atmosphere (E17).

Step 5. Place each die half on a hot plate, vented through the die coating paint booth stack (E17), to cure the surface coating.

The entire process takes a minimum of ½ hour to complete on each die half. The surface coating on each die is allowed to dry completely before installing the die in the door skin press.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
DC	Die Coating	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See Enclosed Process Description

Manufacturer:	**Model number:**	**Serial number:**
TBD	TBD	
Construction date:	**Installation date:**	**Modification date(s):**
TBD	TBD	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
0.1 gal coating/hr	97 gal coating /yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.01	0.01
Particulate Matter (PM_{10})	0.01	0.01
Total Particulate Matter (TSP)	0.01	0.01
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	2.32	1.2
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Methanol	1.42	0.7
Diethylene glycol monobutly	0.18	0.1
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 16

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.11 [45CSR13 – Permit R13-2192 §4.1.12.]
5.1.14 [45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]
5.1.15 [45CSR §7-3.1.]
5.1.16 [45CSR §7-3.7.]
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.2. **[45CSR13 – Permit R13-2192 §4.3.8.]**

5.4 Recordkeeping Requirements
3.4.1 & 5.4.1. [45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]
5.4.2 [45CSR13 – Permit R13-2192 §4.3.2.]
5.4.3 [45CSR13 – Permit R13-2192 §4.3.3.]
5.4.11 [45CSR13 – Permit R13-2192 §4.3.10.]

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of the Paint Manufacturing Process (DC2)

The facility manufactures water-based primer used to prime door skins at Wood Fiber Division – West Virginia and other wood products at a number of JELD-WEN, inc. door manufacturing facilities. The primer is made by mixing water-based acrylic latex with a multiple additives and water. The maximum product usage and associated emissions are summarized in Attachment N, Supporting Emission Calculations.

During the pigment addition process, the dispenser is not operated in order to minimize any potential particulate emissions. A dust collector is positioned adjacent to the lid opening to draw any particulate that becomes suspended during the addition of the powder. Once the ingredients are added, the vacuum hose is attached to the opening in the lid to collect any material suspended during the dispersion process. The particulate matter collected by the dust collector is reused in subsequent batches. Emissions from the dust collector are vented inside the building.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH5
DC2	Paint Manufacturing	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See Enclosed Process Description

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	

Construction date:	**Installation date:**	**Modification date(s):**
1999	04/01/1999	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): NA

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
1 batch/6 hours	600 batches /yr	3,600 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.01	0.02
Particulate Matter (PM_{10})	0.01	0.02
Total Particulate Matter (TSP)	0.01	0.02
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	0.50	0.91
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Glycol Ether	0.007	0.012
Formaldehyde	0.0003	0.001
Styrene	0.0008	0.0014
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 14

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.14 [45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]
5.1.15 [45CSR §7-3.1.]
5.1.16 [45CSR §7-3.7.]
5.1.20 [45CSR13 – Permit R13-2192 §4.1.14, 45CSR34, 40 CFR §63.4690(b)]
5.1.21 [45CSR34, 40 CFR §63.4691(a)]
5.1.22 [45CSR34, 40 CFR §63.4700(a)(1)]
5.1.23 [45CSR34, 40 CFR §63.8055(a)]
5.1.26., **[45CSR34, 40 CFR §63.8055(a)]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.1 **[45CSR13 – Permit R13-2192 §4.3.7.]**
5.2.3 **[45CSR§30-5.1.c.1.]**
5.2.4 **[45CSR13 – Permit R13-2192 §4.3.9.]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. [45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]
5.4.2. [45CSR13 – Permit R13-2192 §4.3.2.]
5.4.3. [45CSR13 – Permit R13-2192 §4.3.3.]
5.4.8 [45CSR§30-5.1.c., 45CSR34, 40 CFR §63.10(b)(2)(vii)]
5.4.10 [45CSR34, 40 CFR §§63.4730 and 63.4731; 45CSR13 – Permit R13-2192 §4.3.11]

5.5 Reporting Requirements

5.5.2. **[45CSR34, 40 CFR §63.4720(a), 40 CFR §§63.8075(b) & (e) and 40 CFR §63.10]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of Fiberline Prior to the Press (FL(a))

Particulate, VOC, and HAP emissions generated by the operation are included in the affected source FL(a). Particulate material generated by the shave-off and trimming operation is captured by hoods and conveyed to the Middle Reject Cyclone (C4), which is used to recycle material back into the process. Although the particulate material originates from FL(a), all particulate emissions are accounted for on the affected source sheet for C4. Particulate emissions from C4 are controlled by the Waste Baghouse (BH3).

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH2 & BH3
FLa	Fiber Line Prior to Press (Former)	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See enclosed process description.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
BH2: 907 lbs/hr BH3: 366 lbs/hr	BH2: 1,753 BDT/yr BH3: 692 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.91	1.75
Particulate Matter (PM_{10})	0.91	1.75
Total Particulate Matter (TSP)	0.91	1.75
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	0.20	0.8
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.08	0.31
Methanol	0.13	0.54
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Tables 9 & 10.

(2) Emissions from FLa eventually vent to atmosphere through the Former Baghouse (BH2) and the Waste Baghouse (BH3). Emission listed here are for the former Baghouse only. The Waste Baghouse emissions are accounted for by other emission units.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.16., **[45CSR §7-3.7.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9 [45CSR§30-5.1.c., 40CFR§64.7(b)]
5.2.10 [45CSR§30-5.1.c., 40CFR§64.7(c)]
5.2.11 [45CSR§30-5.1.c., 40CFR§64.7(e)]

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.2]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **45CSR§30-5.1.c., 40 CFR §64.9(a)]**

5.6.1.8 [45CSR§7A-2.1., 40 CFR§§64.6(c) & 64.7(d), 45CSR§30-4.3.h.1.C.]

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of Fiberline After Press (FL(b))

After the door skins exit the press, reject skins are chipped in an electric hog. The hogged material is pneumatically conveyed to the Sizer Baghouse (BH4). The rest of the skins continue to the unsized skin storage area prior to being cut to the final dimensions by the skin sizer saws. Particulate material generated by the sizing operation are captured by hoods and conveyed to BH4. The trim from the sizing operation is hogged and pneumatically conveyed to BH4.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH4
FLb	Fiber Dryer After the Press (Sizer)	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See enclosed process description.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 18,650 SF/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
BH4: 12,222 lbs/hr	BH4: 8,444 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	6.11	4.22
Particulate Matter (PM_{10})	6.11	4.22
Total Particulate Matter (TSP)	6.11	4.22
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	0.23	0.16
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.23	0.16
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Tables 9 & 10.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.16., **[45CSR §7-3.7.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2008 (SM02) Condition Nos.

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.6. **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7. **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.9. **[45CSR30-5.1.c., 40CFR§64.7(b)]**
5.2.10. **[45CSR30-5.1.c., 40CFR§64.7(c)]**
5.2.11. **[45CSR30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.2. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR30-5.1.c., 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH3
FLSN	North Fuel Storage Silo	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The North Fuel Storage Silo emission unit collects and stores wood fuel from the truck dump and door skin manufacturing operation for the wood-fired boiler.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,740 ft^3

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
7,805 BD-lbs/hr (combined)	30,766 BDT/yr (combined)	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.14., **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.10. **[45CSR§30-5.1.c.1., 40CFR§64.7(c)]**
5.2.11. **[45CSR§30-5.1.c.1., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c , 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c , 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH3
FLSS	South Fuel Storage Silo	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The South Fuel Storage Silo emission unit collects and stores wood fuel from the truck dump and door skin manufacturing operation for the wood-fired boiler.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,740 ft^3

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
7,805 BD-lbs/hr (combined)	30.766 BDT/yr (combined)	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 9.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.14., **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.10. **[45CSR§30-5.1.c.1., 40CFR§64.7(c)]**
5.2.11. **[45CSR§30-5.1.c.1., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c , 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c , 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
FSE	East Furnish Storage Silo	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The East Furnish Storage Silo stores furnish from the truck dump until it is used in the door skin manufacturing operation.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 46,563 ft^3

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
36,718 BD-lbs/hr (combined)	47,514 BDT/yr (combined)	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.39	0.5
Particulate Matter (PM_{10})	0.39	0.5
Total Particulate Matter (TSP)	1.56	2.0
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 6.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.14., **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.19., **[45CSR §7-9.1.]**

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.10. **[45CSR§30-5.1.c.1., 40CFR§64.7(c)]**
5.2.11. **[45CSR§30-5.1.c.1., 40CFR§64.7(e)]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c , 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c , 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
FSW	West Furnish Storage Silo	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The West Furnish Storage Silo stores furnish from the truck dump until it is used in the door skin manufacturing operation.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 46,563 ft^3

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
36,718 BD-lbs/hr (combined)	47,514 BDT/yr (combined)	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.39	0.5
Particulate Matter (PM_{10})	0.39	0.5
Total Particulate Matter (TSP)	1.56	2.0
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 6.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.14., **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.19., **[45CSR §7-9.1.]**

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.10. **[45CSR§30-5.1.c.1., 40CFR§64.7(c)]**
5.2.11. **[45CSR§30-5.1.c.1., 40CFR§64.7(e)]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2. **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3. **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.7. **[45CSR§30-5.1.c , 40 CFR §64.9(b)]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c , 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Primeline Description

The doorskins are primed with a waterborne primer with a VOC content less than or equal to 0.3 lbs/gal. A Material Safety Data Sheet for the primer is included as Attachment H of this application. The primeline will consist of three ovens and a paint booth. The first oven, located upstream of the paint booth, will pre-heat the door skins. This oven is heated by gas-fired infrared elements with a total rated capacity of 1.4 MMBtu/hr. The second oven, located just downstream of the paint booth, is a steam-heated high-velocity convection oven, which will drive off the volatile components of the paint. The third oven will complete the curing of the paint. The third oven is heated by gas-fired infrared elements with a total rated capacity of 2.4 MMBtu/hr.

The primer will be applied using automatic spray guns (Binks Model 550). The primer will be reduced slightly with water to obtain the proper viscosity for spraying. Because the primer is waterborne, organic solvents will not be used either for thinning or for clean-up.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
PL	Primeline	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See enclosed process description

Manufacturer:	**Model number:**	**Serial number:**
George Koch Sons (ovens)	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
1.4 MMBtu/hr (1st oven); 2.4 MMBtu/hr (3rd oven)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
71.0 gallons primer/hr	534,560 gallons primer/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: 3.8 MMBtu/hr	**Type and Btu/hr rating of burners:** 1.4 MMBtu/hr (1st oven); 2.4 MMBtu/hr (3rd oven)

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas – 4.09 MMscf/hr, 34,058 MMscf/yr.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0.022 gr/100 ft^3	0%	1,077

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.30	1.23
Nitrogen Oxides (NO_X)	0.35	1.47
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.01	2.25
Particulate Matter (PM_{10})	0.61	2.31
Total Particulate Matter (TSP)	0.63	2.33
Sulfur Dioxide (SO_2)	0.002	0.01
Volatile Organic Compounds (VOC)[1]	21.31	80.26
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	----[2]	----[2]
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	0.001	0.004
CH_4	0.01	0.04
CO_2	540	2,245

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) VOC emission limit is combined total from E13, & E14. Also, VOC emission limit includes emissions of Formaldehyde and Styrene.

(2) See Attachment J, Tables 11a, 11b, & 12

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.5., **[45CSR13 – Permit R13-2192 §4.1.5]**
5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.19., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.14 **[45CSR13 – Permit R13-2192 §4.1.16., 45CSR§13-5.11.]**
5.1.15 **[45CSR §7-3.1.]**
5.1.16 **[45CSR §7-3.7.]**
5.1.17 **[45CSR §7-4.1.]**
5.1.18 **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**
5.1.20 **[45CSR13 – Permit R13-2192 §4.1.14, 45CSR34, 40 CFR §63.4690(b)]**
5.1.21 **[45CSR34, 40 CFR §63.4691(a)]**
5.1.22 **[45CSR34, 40 CFR §63.4700(a)(1)]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.2 Monitoring Requirements

5.2.3. **[45CSR§30-5.1.c.1.]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1. **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1. **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.9, **[45CSR§30-5.1.c., 45CSR34, 40 CFR §63.10(b)(2)(xiv)]**
5.4.10, **[45CSR34, 40 CFR §§63.4730 and 63.4731; 45CSR13 – Permit R13-2192 §4.3.11]**

5.5 Reporting Requirements

5.5.1. **[40 CFR §64.9(a)]**
5.5.2, **[45CSR34, 40 CFR §63.4720(a), 40 CFR §§63.8075(b) & (e) and 40 CFR §63.10]**

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of the Fiber Line Press (PV)

Fiber mats are conveyed off of the Fiber Line, stacked into a loader, and loaded into a steam heated eight-opening press. The press contains steel dies with the desired door skin patterns in relief. Once all of the platens of the press are full, the press consolidates the resinated fiber under heat and pressure. The door skins are pressed until the resin has cured. The press opens and the door skins are unloaded.

Air emissions from the press are captured in a permanent total enclosure meeting the requirements of EPA Method 204 and exhausted to the Press Vent Baghouse (BH6) to control Particulate emissions. The Baghouse (BH6) exhaust is vented into the Fiber Dryer (D1) intake. The Fiber Dryer (D1) is exhausted to the Dryer Cyclone (C1) and then to three Fiber Dryer Baghouses (BH1a, BH1b, & BH1c) to control Particulate emissions from the Dryer (D1). The exhaust from the three Fiber Dryer Baghouses (BH1a, BH1b, & BH1c) is vented into the Biofilter (BF) to control HAP emissions fulfilling the requirements of 40 CFR Part 63 Subpart DDDD.

Potential press emissions are calculated using the maximum hourly and annual press throughput (21,591 ft2/hr and 179,683,869 ft2/yr – 1/8" basis) multiplied by the emission factors based on source testing conducted on the uncontrolled emission source and the Biofilter (BF) control efficiency provided by the manufacturer.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** BH6, BH1a, BH1b, BH1c, BF
PV	Press Vents	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Steam heated 5ft x8ft, eight-opening press used to consolidate wood fiber mats.

Manufacturer:	**Model number:**	**Serial number:**
COE Manufacturing	Steam heated eight-opening press	
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
21,591 ft2/hr – 1/8" basis	179,683,869 ft2/hr – 1/8" basis	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----(1)	----(1)
Nitrogen Oxides (NO_X)	----(1)	----(1)
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----(1)	----(1)
Particulate Matter (PM_{10})	----(1)	----(1)
Total Particulate Matter (TSP)	----(1)	----(1)
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----(1)	----(1)
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	----(1)	----(1)
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 7, Press is controlled by the Press Vent Baghouse (B6), Dryer Baghouses (BH1a, BH1b, BH1c) and Biofilter (BF).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.3., **[45CSR13 – Permit R13-2192 §4.1.3.]**
5.1.6., **[45CSR13 – Permit R13-2192 §4.1.6]**
5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.8, **[45CSR34; 40 CFR§63.2240(b); 45CSR13 – Permit R13-2192 §4.1.8.]**
5.1.9., **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10., **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.12., **[45CSR13 – Permit R13-2192 §4.1.13.]**
5.1.14., **[45CSR13 – Permit R13-2192 §4.1.15., 45CSR§13-5.11.]**
5.1.15., **[45CSR §7-3.1.]**
5.1.18., **[45CSR §7-4.12.]**
5.1.19., **[45CSR §7-9.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2008 (SM02) Condition Nos.

5.2 Monitoring Requirements

5.2.3., **[45CSR§30-5.1.c.1.]**
5.2.5., [**40 CFR§63.2262., [45CSR13 – Permit R13-2192 §4.2.1.]**
5.2.6., **[45CSR30-5.1.c., 40CFR§64.6(c)]**
5.2.7., **[45CSR30-5.1.c., 40CFR§64.6(c) & §64.7(d)]]**
5.2.8., **[45CSR13 – Permit R13-2192 §4.2.2.]**
5.2.9 **[45CSR§30-5.1.c., 40CFR§64.7(b)]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

5.3 Testing Requirements

5.3.1., **[45CSR§7A-2.1., 45CSR§30-5.1.c., 40CFR§64.6(c) & §64.7(d)]**

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1., **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.2., **[45CSR13 – Permit R13-2192 §4.3.2.]**
5.4.3., **[45CSR13 – Permit R13-2192 §4.3.3.]**
5.4.4., [**45CSR13 – Permit R13-2192 §4.3.4.]**
5.4.5., **[45CSR13 – Permit R13-2192 §4.3.5.]**
5.4.7.**[45CSR§30-5.1.c, 40 CFR §64.9(b)]**

5.4.9., **[45CSR§30-5.1.c., 45CSR34, 40 CFR §63.10(b)(2)(xiv)]**

5.4.12 **[45CSR13 – Permit R13-2192 §4.3.12.]**

5.5 Reporting Requirements

5.5.1. **[45CSR§30-5.1.c., 40 CFR §64.9(a)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
RS	Rotary Classifier	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The rotary classifier removes large pieces of wood furnish from green wood chips prior to the conveyor to the furnish storage silos.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	None

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
40 tons/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
40 tons/hr (total)	144,520 tons/yr (total)	7,884 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	Insignificant	Insignificant
Particulate Matter (PM_{10})	Insignificant	Insignificant
Total Particulate Matter (TSP)	Insignificant	Insignificant
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

Emissions are believed to be insignificant.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. NA
____ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) NA
Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
RV	Rotary Valve	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See enclosed process description.

Manufacturer:	**Model number:**	**Serial number:**
Unknown		

Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
23,942 BD lbs/hr	47,504 BDT/yr	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions

	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.59	1.16
Particulate Matter (PM_{10})	0.59	1.16
Total Particulate Matter (TSP)	2.35	4.66
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	0.81	1.60
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAP	0.54(1)	1.07(1)
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) For individual HAP See Attachment J, Table 8.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.7., **[45CSR13 – Permit R13-2192 §4.1.7.]**
5.1.9 **[45CSR13 – Permit R13-2192 §4.1.10.]**
5.1.10 **[45CSR13 – Permit R13-2192 §4.1.11.]**
5.1.13 **[45CSR13 – Permit R13-2192 §4.1.15.]**
5.1.15 **[45CSR §7-3.1.]**
5.1.18.,**[45CSR §7-4.12.]**
5.1.19.,**[45CSR §7-9.1.]**

5.2 Monitoring Requirements

5.2.3., **[45CSR§30-5.1.c.1.]**
5.2.10 **[45CSR§30-5.1.c., 40CFR§64.7(c)]**
5.2.11 **[45CSR§30-5.1.c., 40CFR§64.7(e)]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.4 Recordkeeping Requirements

3.4.1 & 5.4.1., **[45CSR§30-5.1.c.2.A., 45CSR13 – Permit R13-2192 §4.3.1]**
5.4.13., [45CSR34, 40 CFR §63.2283]

5.5 Reporting Requirements

5.5.3. **[45CSR34, 40 CFR §§63.2280(a), (c), and (d)]**
5.5.4., **[45CSR34, 40 CFR §§63.2281(c) through (g)]**

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
ST1	Resin Storage Tank #1	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Resin Tank #1 stores MDI resin for use in the door skin manufacturing process.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	None

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 7,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		8,760 hours/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----	----
Particulate Matter (PM_{10})	----	----
Total Particulate Matter (TSP)	----	----
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	Insignificant	Insignificant
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	Insignificant	Insignificant
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

Emissions are believed to be insignificant.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. NA
____ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) NA
Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
ST2	Resin Storage Tank #2	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Resin Tank #1 stores MDI resin for use in the door skin manufacturing process.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	None

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 7,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		8,760 hours/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----	----
Particulate Matter (PM_{10})	----	----
Total Particulate Matter (TSP)	----	----
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	Insignificant	Insignificant
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	Insignificant	Insignificant
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

Emissions are believed to be insignificant.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. NA
____ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) NA
Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
ST3	Wax Storage Tank	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Resin Tank #1 stores MDI resin for use in the door skin manufacturing process.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	None

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 10,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		8,760 hours/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	----	----
Particulate Matter (PM_{10})	----	----
Total Particulate Matter (TSP)	----	----
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	Insignificant	Insignificant
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	Insignificant	Insignificant
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

Emissions are believed to be insignificant.

Applicable Requirements
List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included. NA
____ Permit Shield
For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.) NA
Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Description of the Truck Dump (TD)

The Truck Dump is a receiving bin for wet green poplar chips used in the door skin manufacturing process and wood residuals for combustion in the Hogged Fuel-Fired Boiler (B1) with a total maximum hourly throughput of 39,903 BD lbs/hr. Fugitive particulate emissions from the Truck Dump (TD) are estimated based on a particle size analysis of plytrim from a similar source multiplied by the potential hourly and annual material throughput.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** None
TD	Truck Dump	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
See enclosed process description.

Manufacturer:	**Model number:**	**Serial number:**
NA	NA	NA
Construction date:	**Installation date:**	**Modification date(s):**
1997	05/01/1998	NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): NA

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
39,903 BD-lbs/hr (combined)	57,704 BDT/yr (combined)	8,322 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	----	----
Nitrogen Oxides (NO_X)	----	----
Lead (Pb)	----	----
Particulate Matter ($PM_{2.5}$)	0.78	1.2
Particulate Matter (PM_{10})	0.78	1.2
Total Particulate Matter (TSP)	3.12	4.9
Sulfur Dioxide (SO_2)	----	----
Volatile Organic Compounds (VOC)	----	----
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N_2O	----	----
CH_3	----	----
CO_2	----	----

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Notes:

(1) See Attachment J, Table 6.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Title V Operating Permit R30-06700095-2013 (SM01) Condition Nos.

5.0 Source-Specific Requirements

5.1 Limitations and Standards

5.1.15 **[45CSR §7-3.1.]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

NA

Are you in compliance with all applicable requirements for this emission unit? _X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Schedule of Compliance Form Not Applicable

This Page is Intentionally Left Blank

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BF	**List all emission units associated with this control device.** Press Vents (PV), Fiber Dryer (D1), Dryer Cyclone (C1)	
Manufacturer: MET-PRO	**Model number:** High Temp Biofilter	**Installation date:** 08/23/2013

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	_X_ Other (describe) _Biofilter___
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Formaldehyde	90%	90%
Methanol	90%	90%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Design inlet gas flow rate: 100,000 ACFM @125ºF
- Average inlet gas flow rate: 72,000 ACFM @125ºF
- Inlet gas velocity: 4,211 ft/sec
- Designed Liquid flow rate : Trickle Filter – 668 gpm; Biobed – 75 gpm

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___Yes _X_ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.** The Biofilter (BF) is exempt from the requirements of 40 CFR 64 as the associated emission units are regulated under 40 CFR part 63 subpart DDDD to, pursuant to section 112 of the Clean Air Act.

40 CFR 64.2 (b)1.i. states "The requirements of this part shall not apply to … standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act."

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will monitor and record the parameters required by 40 CFR Part 63 Subpart DDDD.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH1a	**List all emission units associated with this control device.** Press Vents (PV), Fiber Dryer (D1), Dryer Cyclone (C1)	
Manufacturer: Clarkes' Sheet Metal	**Model number:** 1-100-20	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 6,451 SF total cloth area
- 6.97:1 ft/min operating air to cloth ratio
- Average ACFM:34,000 @ 160ºF,
- Continuous operation

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH1b	**List all emission units associated with this control device.** Press Vents (PV), Fiber Dryer (D1), Dryer Cyclone (C1)	
Manufacturer: Clarkes' Sheet Metal	**Model number:** 1-100-20	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 6,451 SF total cloth area
- 6.97:1 ft/min operating air to cloth ratio
- Average ACFM: 34,000 @ 160ºF
- Continuous operation

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH1c	**List all emission units associated with this control device.** Press Vents (PV), Fiber Dryer (D1), Dryer Cyclone (C1)	
Manufacturer: Clarkes' Sheet Metal	**Model number:** 1-100-20	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 6,451 SF total cloth area
- 6.97:1 ft/min operating air to cloth ratio
- Average ACFM: 34,000 @ 160^{o}F
- Continuous operation

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH2 (Former Baghouse)	**List all emission units associated with this control device.** Fiber line prior to the press (FLa)	
Manufacturer: Clarkes' Sheet Metal	**Model number:** P38-20	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.90%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 2,527 SF total cloth area
- 9.14:1 ft/min operating air to cloth ratio
- Average ACFM: 23,100 @ 160ºF
- Continuous operation,

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH3	**List all emission units associated with this control device.** Fiber line prior to the press (FLa), North Fuel Storage Silo (FLSN), South Fuel Storage Silo (FLSS), C2, C3, C4, C6	
Manufacturer: Clarkes' Sheet Metal	**Model number:** 1-100-20	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.90%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 6,451 SF total cloth area
- 6.97:1 ft/min operating air to cloth ratio
- Average ACFM: 34,000 @ 160^{o}F
- Continuous operation,

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH4 (Sizer Baghouse)	**List all emission units associated with this control device.** Fiber line after the press (FLb), Chip Cleaning Cyclone (C5)	
Manufacturer: Clarkes' Sheet Metal	**Model number:** P57-20	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 4,548 SF total cloth area
- 7.03:1 ft/min operating air to cloth ratio
- Average ACFM: 32,000 @ 160^{o}F
- Continuous operation,

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH5	**List all emission units associated with this control device.** Paint Manufacturing (DC2)	
Manufacturer: Donaldson Filtration Systems	**Model number:** DLMC 1.2.15	**Installation date:** 04/01/1999

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 323 SF total cloth area
- 9.3:1 ft/min operating air to cloth ratio
- Average ACFM: 3,000 @ 160^{o}F

Is this device subject to the CAM requirements of 40 C.F.R. 64? __ Yes _X_ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.** The baghouse is a fugitive emissions source that vents inside the building.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will record the quantity of material used in paint manufacturing and monitor the visible emissions daily during operation. The dust collector vents inside of the building in the paint manufacturing area. Employees know immediately if there are visible emissions from the baghouse.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: BH6	**List all emission units associated with this control device.** Press Vents (PV)	
Manufacturer: Clarkes' Sheet Metal	**Model number:** 1-100-20	**Installation date:** 08/28/2013

Type of Air Pollution Control Device:

_X_ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100%	99.90%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Polypropylene bags
- 6,451 SF total cloth area
- 6.97:1 ft/min operating air to cloth ratio
- Average ACFM: 83,333 @ 160^{o}F
- Continuous operation,

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will perform month visible emissions inspections and internal baghouse inspections at least quarterly. The facility will also record the quantity of material throughput to the baghouses monthly and annually.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: ESP	**List all emission units associated with this control device.** Hogged fuel-fired boiler (B1)	
Manufacturer: Wellons	**Model number:** 2W-091-1119	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		_X_ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	80%	80%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Gas Flow Rate = 32,000 acfm @ 350^{o}F
- Gas velocity through the precipitator = 2.60 ft/sec
- 24 Opzel plate collecting electrodes
- 7,246 SF of active collecting surface
- 132 rigid discharge electrodes

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will monitor visible emissions continuously using a COMS (not to exceed 10%, six-minute average).

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: MC	**List all emission units associated with this control device.** Hogged fuel-fired boiler (B1)	
Manufacturer: Wellons	**Model number:** 2W-091-1119	**Installation date:** 05/01/1998

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	_X_ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	___ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	94%	85%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

- Cone Length = 9.56 inches
- Pressure drop across system = 3 inches H20
- Number of tubes = 66
- Tube diameter = 8.125
- Tube length = 20.72

Is this device subject to the CAM requirements of 40 C.F.R. 64? _X_ Yes ___ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

The facility will monitor visible emissions continuously using a COMS (not to exceed 10%, six-minute average).

ATTACHMENT H: COMPLIANCE ASSURANCE MONITORING PLAN FORMS

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☒ YES ☐ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☒ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
Press Vents (PV), Fiber Dryer (D1) & Dryer Cyclone (C1)	Press Vents	PM/PM10/ PM 2.5	Biofilter	45 CSR § 7-3.1	Periodic monitoring of visible emissions (EPA Method 22)
Press Vents (PV), Fiber Dryer (D1) & Dryer Cyclone (C1)	Fiber Dryer	PM/PM10/ PM 2.5	Biofilter	45 CSR § 7-3.1	Periodic monitoring of visible emissions (EPA Method 22)
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.

4a) PSEU Designation: Press Vents (PV), Fiber Dryer (D1)	**4b) Pollutant:** PM/PM10/ PM 2.5	**4c) [a] Indicator No. 1:** Periodic monitoring of visible emissions	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:		EPA Method 22	
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		No visible emissions	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		Measurements are made at the associated emissions points	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		NA	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The observer will be famliar with EPA Method 22 and follow Method 22-like procedures	
[d] Provide the MONITORING FREQUENCY:		Monthly	
Provide the DATA COLLECTION PROCEDURES that will be used:		Manual log entries	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		NA	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
Press Vents (PV), Fiber Dryer (D1) & Dryer Cyclone (C1)	PM/PM10/PM 2.5

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Visible emissions will be used as an indicator. Normal process operation will not produce conditions that adversely affect the baghouses, so no process operation parameters will be monitored.

Visible emissions from the biofilter exhaust downstream of the baghouse will be monitored monthly using EPA Reference Method 22-like procedures. The observation will be performed for a sufficient time interval, but not less than one minute and will be recorded on a log by the observer.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated beginning with an evaluation of the occurrence to determine the action required to correct the situation.

All excursions will be documented and reported. An indicator range of no visible emissions was selected because:

(1) an increase in the visible emissions is indicative of an incease in particulate emissions; and
(2) a monitoring technique which does not require a Method 9 observer is desired.

Although Method 22 applies to fugitive sources, the visible/no visible emissions observation technique of Method 22 can be applied to ducted emissions; i.e., Method 22-like observations.

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☒ YES ☐ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☒ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
Fiber Prior to the Press (FLa)	Material Transfer	PM/PM10/ PM 2.5	BH2	45 CSR § 7-3.1	Periodic monitoring of visible emissions (EPA Method 22)
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.

4a) PSEU Designation: Fiber Prior to the Press (FLa)	**4b) Pollutant:** PM/PM10/ PM 2.5	**4c) [a] Indicator No. 1:** Periodic monitoring of visible emissions	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:		EPA Method 22	
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		No visible emissions	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		Measurements are made at the associated emissions point	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		NA	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The observer will be famliar with EPA Method 22 and follow Method 22-like procedures	
[d] Provide the MONITORING FREQUENCY:		Monthly	
Provide the DATA COLLECTION PROCEDURES that will be used:		Manual log entries	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		NA	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
Fiber Prior to the Press (FLa)	PM/PM10/PM 2.5

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Visible emissions will be used as an indicator. Normal process operation will not produce conditions that adversely affect the baghouse, so no process operation parameters will be monitored.

Visible emissions from the baghouse exhaust will be monitored monthly using EPA Reference Method 22-like procedures. The observation will be performed for a sufficient time interval, but not less than one minute and will be recorded on a log by the observer.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated beginning with an evaluation of the occurrence to determine the action required to correct the situation.

All excursions will be documented and reported. An indicator range of no visible emissions was selected because:

(1) an increase in the visible emissions is indicative of an incease in particulate emissions; and
(2) a monitoring technique which does not require a Method 9 observer is desired.

Although Method 22 applies to fugitive sources, the visible/no visible emissions observation technique of Method 22 can be applied to ducted emissions; i.e., Method 22-like observations.

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☒ YES ☐ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☒ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
FLa, FLSN, FLSS, C2, C3, C4, C6	Material Transfer	PM/PM10/ PM 2.5	BH3	45 CSR § 7-3.1	Periodic monitoring of visible emissions (EPA Method 22)
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.

4a) PSEU Designation: FLa, FLSN, FLSS, C2, C3, C4, C6	**4b) Pollutant:** PM/PM10/ PM 2.5	**4c) [a] Indicator No. 1:** Periodic monitoring of visible emissions	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:		EPA Method 22	
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		No visible emissions	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		Measurements are made at the associated emissions point	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		NA	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The observer will be famliar with EPA Method 22 and follow Method 22-like procedures	
[d] Provide the MONITORING FREQUENCY:		Monthly	
Provide the DATA COLLECTION PROCEDURES that will be used:		Manual log entries	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		NA	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
FLa, FLSN, FLSS, C2, C3, C4, C6	PM/PM10/PM 2.5

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Visible emissions will be used as an indicator. Normal process operation will not produce conditions that adversely affect the baghouse, so no process operation parameters will be monitored.

Visible emissions from the baghouse exhaust will be monitored monthly using EPA Reference Method 22-like procedures. The observation will be performed for a sufficient time interval, but not less than one minute and will be recorded on a log by the observer.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated beginning with an evaluation of the occurrence to determine the action required to correct the situation.

All excursions will be documented and reported. An indicator range of no visible emissions was selected because:

(1) an increase in the visible emissions is indicative of an incease in particulate emissions; and
(2) a monitoring technique which does not require a Method 9 observer is desired.

Although Method 22 applies to fugitive sources, the visible/no visible emissions observation technique of Method 22 can be applied to ducted emissions; i.e., Method 22-like observations.

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☒ YES ☐ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☒ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
FLa, C5	Material Transfer	PM/PM10/ PM 2.5	BH4	45 CSR § 7-3.1	Periodic monitoring of visible emissions (EPA Method 22)
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation: FLa, C5	**4b) Pollutant:** PM/PM10/ PM 2.5	**4c) [a] Indicator No. 1:** Periodic monitoring of visible emissions	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:		EPA Method 22	
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		No visible emissions	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		Measurements are made at the associated emissions point	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		NA	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The observer will be famliar with EPA Method 22 and follow Method 22-like procedures	
[d] Provide the MONITORING FREQUENCY:		Monthly	
Provide the DATA COLLECTION PROCEDURES that will be used:		Manual log entries	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		NA	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
FLa, C5	PM/PM10/PM 2.5

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Visible emissions will be used as an indicator. Normal process operation will not produce conditions that adversely affect the baghouse, so no process operation parameters will be monitored.

Visible emissions from the baghouse exhaust will be monitored monthly using EPA Reference Method 22-like procedures. The observation will be performed for a sufficient time interval, but not less than one minute and will be recorded on a log by the observer.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The selected indicator range is no visible emissions. When an excursion occurs, corrective action will be initiated beginning with an evaluation of the occurrence to determine the action required to correct the situation.

All excursions will be documented and reported. An indicator range of no visible emissions was selected because:

(1) an increase in the visible emissions is indicative of an incease in particulate emissions; and
(2) a monitoring technique which does not require a Method 9 observer is desired.

Although Method 22 applies to fugitive sources, the visible/no visible emissions observation technique of Method 22 can be applied to ducted emissions; i.e., Method 22-like observations.

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☒ YES ☐ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☒ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
Hogged Fuel-Fired Boiler (B1)	Wood Combustion	PM/PM10/ PM 2.5	ESP	45 CSR § 2-3.1; 45 CSR § 2-3.2; 45 CSR § 2-4.1.b; 45 CSR § 2-4.2; 45 CSR § 2-5.1; 45 CSR § 2-9.1	Opacity; secondary voltage; inspection
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation: Hogged Fuel-Fired Boiler (B1)	**4b) Pollutant:** PM/PM10/ PM 2.5	**4c) [a] Indicator No. 1:** Opacity	**4d) [a] Indicator No. 2:** Secondary Voltage
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:			
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		0-10% Opacity	28 - 55 Kilovolts 0 - 250 milliamps
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		Continous Opacity Monitor (COMS)	Check voltage for irregularities outside normal operting range as per manufacturer's recommendation
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		NA	NA
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		Calibrate the COMS based on manufacturer's recommendations	NA
[d] Provide the MONITORING FREQUENCY:		Continuous	Daily checks
Provide the DATA COLLECTION PROCEDURES that will be used:		Daily check of the COMS, as per manufacturer's recommendation	Manually record results of inspection
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		NA	NA

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation: Hogged Fuel-Fired Boiler (B1)	**4b) Pollutant:** PM/PM10/ PM 2.5	**4c) [a] Indicator No. 1:** Inspections	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:			
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		Inspect for missing or worn parts	
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:		Manufacturer's design	
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:		NA	
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		NA	
[d] Provide the MONITORING FREQUENCY:		At least semi-annually according to manufacturer's recommendation.	
Provide the DATA COLLECTION PROCEDURES that will be used:		Manually record inspection results and any repairs made.	
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:		NA	

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:
Hogged Fuel-Fired Boiler (B1)	PM/PM10/PM 2.5

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Opacity, secondary voltage and equipment inspections will be used as control device indicators. The general monitoring approach was taken from normal operation of similar equipment at other facilities. Details of the monitoring approach are supported by either manufacturer's recommendations or site-specific experience of the normal operation of the hogged fuel-fired boiler.

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

Performing routine monitoring and inspections of the COMS, secondary voltage and equipment will aid in identifying potential problems with the control device (e.g. collection plates, seals, and electrical systems) which can be repaired before a significant problem occurs.

Table 1
Production and Process Rates
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Source	Maximum Rates				
	Hourly			Annual	
Maximum Production					
Fiber Dryer Throughput	23,942	BD-lbs	(1)	47,500	BDT
Door Skins	21,591	SF-1/8"	(c)	179,683,869	SF-1/8"
Hogged Door Skins	10,796	SF-1/8"	(2)	26,952,580	SF-1/8"
Maximum Combustion Sources					
Wood-Fired Boiler - Combustion	62.5	MMBtu	(3)	520,125	MMBtu
Wood-Fired Boiler - Fuel Usage	7,805	BD-lbs	(f)	32,475	BDT
Natural Gas Boiler	37.7	MMBtu	(3)	313,739	MMBtu
Natural Gas Furnish Dryer	20.0	MMBtu	(3)	166,440	MMBtu
Primeline Oven #1	1.4	MMBtu	(3)	11,651	MMBtu
Primeline Oven #3	2.4	MMBtu	(3)	19,973	MMBtu
Maximum Truck Dump Throughput					
Purchased Furnish	36,718	BD-lbs	(g)	47,514	BDT
Purchased Wood Fuel	2,585	BD-lbs	(i)	10,190	BDT
Maximum Raw Material Throughput					
Primer Usage	71.0	gallons	(k)	534,560	gallons
Maximum Hours of Operation					
Facility Hours		--		8,322	hours
Truck Dump Hours		--		7,884	hours

JELD-WEN WINDOWS & DOORS

Table 2

Wood-Fired Boiler (B1 - E5) Criteria Pollutant Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/MMBtu)		Maximum Emissions (1)	
			lbs/hr (a)	tons/yr (b)
TSP	1.64E-02	(2)	1.03	4.28
PM10	1.64E-02	(3)	1.03	4.28
PM 2.5	1.64E-02	(7)	1.03	4.28
SO2	2.50E-02	(4)	1.56	6.50
CO	3.24E-01	(2)	20.25	84.27
NOx	5.32E-01	(2)	33.24	138.30
VOC	1.73E-02	(2)	1.08	4.51
Lead	4.80E-05	(4)	3.00E-03	0.01
N_2O	9.26E-03	(5)	5.79E-01	2.41
CH_4	7.05E-02	(5)	4.41	18.35
CO_2	207	(5)	12,925	53779.20

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly boiler combustion [MMBtu/hr]) x (emission factor [lbs/MMBtu])

Maximum hourly boiler combustion [MMBtu/hr] = 62.5 (6)

(b) Maximum annual emissions (tons/yr) = (maximum annual boiler combustion [MMBtu/yr]) x (emission factor [lbs/MMBtu]) / (2000 lbs/ton)

Maximum annual boiler combustion [MMBtu/yr] = 520,125 (6)

Notes:

(1) All emission estimates include the effect of applied control devices.

(2) Emission factors were taken from a source test performed at the JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia facility in April 2003. Two standard deviations were added to the results as a safety factor.

(3) Calculations assume that 100% of TSP is PM_{10}.

(4) Emission factors were taken from AP-42, Chapter 1.6, Wood Residue Combustion (9/2003).

(5) US EPA Mandatory GHG Reporting rule, Table C-1 (FR Vol. 74, No. 209, 30 Oct 2009).

(6) See Table 1, Production and Process Rates.

(7) Calculations assume that 100% of TSP is PM2.5

JELD-WEN WINDOWS & DOORS

Table 3
Wood-Fired Boiler (B1 - E5) HAP Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMBtu)		Maximum Emissions	
			lbs/hr [a]	tons/yr [b]
1,1,1-Trichloroethane	3.1E-05	(1)	1.9E-03	8.1E-03
1,2-Dichloroethane	2.9E-05	(1)	1.8E-03	7.5E-03
1,2-Dichloropropane	3.3E-05	(1)	2.1E-03	8.6E-03
2,4-Dinitrophenol	1.8E-07	(1)	1.1E-05	4.7E-05
4-Nitrophenol	1.1E-07	(1)	6.9E-06	2.9E-05
Acenaphthene	9.1E-07	(1)	5.7E-05	2.4E-04
Acenaphthylene	5.0E-06	(1)	3.1E-04	1.3E-03
Acetaldehyde	8.3E-04	(1)	5.2E-02	2.2E-01
Acetophenone	3.2E-09	(1)	2.0E-07	8.3E-07
Acrolein	4.0E-03	(1)	2.5E-01	1.0E+00
Anthracene	3.0E-06	(1)	1.9E-04	7.8E-04
Antimony	7.9E-06	(2)	4.9E-04	2.1E-03
Arsenic	2.2E-05	(2)	1.4E-03	5.7E-03
Benz(a)anthracene	6.5E-08	(1)	4.1E-06	1.7E-05
Benzene	4.2E-03	(1)	2.6E-01	1.1
Benzo(a)pyrene	2.6E-06	(1)	1.6E-04	6.8E-04
Benzo(b)fluoranthene	1.0E-07	(1)	6.3E-06	2.6E-05
Benzo(g,h,i)perylene	9.3E-08	(1)	5.8E-06	2.4E-05
Benzo(k)fluoranthene	3.6E-08	(1)	2.3E-06	9.4E-06
Beryllium	1.1E-06	(2)	6.9E-05	2.9E-04
bis(2-Ethylhexyl)phthalate	4.7E-08	(1)	2.9E-06	1.2E-05
Bromomethane	1.5E-05	(1)	9.4E-04	3.9E-03
Cadmium	4.1E-06	(2)	2.6E-04	1.1E-03
Carbon tetrachloride	4.5E-05	(1)	2.8E-03	1.2E-02
Chlorine	7.9E-04	(1)	4.9E-02	2.1E-01
Chlorobenzene	3.3E-05	(1)	2.1E-03	8.6E-03
Chloroform	2.8E-05	(1)	1.8E-03	7.3E-03
Chloromethane	2.3E-05	(1)	1.4E-03	6.0E-03
Chromium (total)	2.1E-05	(2)	1.3E-03	5.5E-03
Chrysene	3.8E-08	(1)	2.4E-06	9.9E-06
Cobalt	6.5E-06	(2)	4.1E-04	1.7E-03
Dibenzo(a,h)anthracene	9.1E-09	(1)	5.7E-07	2.4E-06
Dichloromethane	2.9E-04	(1)	1.8E-02	7.5E-02
Ethylbenzene	3.1E-05	(1)	1.9E-03	8.1E-03
Fluoranthene	1.6E-06	(1)	1.0E-04	4.2E-04
Fluorene	3.4E-06	(1)	2.1E-04	8.8E-04
Formaldehyde	4.4E-03	(1)	2.8E-01	1.1
Hydrogen chloride	1.9E-02	(1)	1.2	4.9
Indeno(1,2,3,c,d)pyrene	8.7E-08	(1)	5.4E-06	2.3E-05

Table 3
Wood-Fired Boiler (B1 - E5) HAP Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMBtu)		Maximum Emissions	
			lbs/hr [(a)]	tons/yr [(b)]
Manganese	1.6E-03	(2)	1.0E-01	4.2E-01
Mercury	3.5E-06	(2)	2.2E-04	9.1E-04
Naphthalene	9.7E-05	(1)	6.1E-03	2.5E-02
Nickel	3.3E-05	(2)	2.1E-03	8.6E-03
Pentachlorophenol	5.1E-08	(1)	3.2E-06	1.3E-05
Phenanthrene	7.0E-06	(1)	4.4E-04	1.8E-03
Phenol	5.1E-05	(1)	3.2E-03	1.3E-02
Polychlorinated biphenyls	8.1E-09	(1)	5.1E-07	2.1E-06
Polychlorinated dioxins	1.7E-06	(1)	1.0E-04	4.3E-04
Polychlorinated furans	1.9E-09	(1)	1.2E-07	4.9E-07
Propionaldehyde	6.1E-05	(1)	3.8E-03	1.6E-02
Pyrene	3.7E-06	(1)	2.3E-04	9.6E-04
Selenium	2.8E-06	(2)	1.8E-04	7.3E-04
Styrene	1.9E-03	(1)	1.2E-01	4.9E-01
Tetrachloroethylene	3.8E-05	(1)	2.4E-03	9.9E-03
Toluene	9.2E-04	(1)	5.8E-02	2.4E-01
Trichloroethylene	3.0E-05	(1)	1.9E-03	7.8E-03
Vinyl chloride	1.8E-05	(1)	1.1E-03	4.7E-03
Xylenes	2.5E-05	(1)	1.6E-03	6.5E-03
	Total HAPs		2.42	10.05

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly boiler combustion [MMBtu/hr]) x (emission factor [lbs/MMBtu])

Maximum hourly boiler combustion [MMBtu/hr] = 62.5 (3)

(b) Maximum annual emissions (tons/yr) = (maximum annual boiler combustion [MMBtu/yr]) x (emission factor [lbs/MMBtu]) / (2000 lbs/ton)

Maximum annual boiler combustion [MMBtu/yr] = 520,125 (3)

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.6, Table 1.6-3, Emission Factors for Speciated Organic Compounds from Wood Residue Combustion (September 2003).

(2) Emission factors were taken from AP-42, Chapter 1.6, Table 1.6-4, Emission Factors for Trace Elements from Wood Residue Combustion (September 2003).

(3) See Table 1, Production and Process Rates.

JELD-WEN WINDOWS & DOORS

Table 4

Natural Gas-Fired Boiler (B2 - E6) Criteria Pollutant Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/MMscf)		Maximum Emissions	
			lbs/hr [(a)]	tons/yr [(b)]
TSP	7.6	(1)	0.27	1.11
PM10	5.7	(2)	0.20	0.83
PM 2.5	1.9	(2)	0.07	0.28
SO2	0.6	(1)	0.02	0.09
CO	0.7	(3)	0.02	0.10
NOx	170	(3)	5.97	24.83
VOC	5.5	(1)	0.19	0.80
Lead	5.0E-04	(1)	0.00002	0.00007
N_2O	2.68E-04	(4)	0.01	0.04
CH_4	2.68E-03	(4)	0.10	0.42
CO_2	142	(4)	5,353	22,275.37

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (emission factor [lbs/MMscf]) x (maximum hourly boiler combustion [MMBtu/hr]) / (natural gas heating value [MMBtu/MMscf])

Maximum hourly boiler combustion [MMBtu/hr] = 37.7 (5)

Natural gas heating value [MMBtu/MMscf] = 1,077 (6)

(b) Maximum annual emissions (tons/yr) = (emission factor [lbs/MMscf]) x (maximum annual boiler combustion [MMBtu/yr]) / (natural gas heating value [MMBtu/MMscf]) / (2000 lbs/ton)

Maximum annual boiler combustion [MMBtu/yr] = 313,739 (5)

Natural gas heating value [MMBtu/MMscf] = 1,077 (6)

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.4, Natural Gas Combustion (7/1998).

(2) Emission factor taken from AP-42, Chapter 1.4, Natural Gas Combustion. PM10= Condensable, PM2.5 = Filterable

(3) Emission factors were taken from an engineering source test performed at the JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia facility in April 2003.
The emission factors are equal to the average of the test values plus two standard deviations.

(4) US EPA Mandatory GHG Reporting rule, Table C-1 (FR Vol. 74, No. 209, 30 Oct 2009).

(5) See Table 1, Production and Process Rates.

(6) Provided by Dominon Hope Natural Gas.

Table 5

Natural Gas-Fired Boiler (B2 - E6) HAP Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMscf)		Maximum Emissions	
			lbs/hr [(a)]	tons/yr [(b)]
Acenaphthene	1.8E-06	(1)	6.3E-08	2.6E-07
Acenaphthylene	1.8E-06	(1)	6.3E-08	2.6E-07
Anthracene	2.4E-06	(1)	8.4E-08	3.5E-07
Arsenic	2.0E-04	(2)	7.0E-06	2.9E-05
Benz(a)anthracene	1.8E-06	(1)	6.3E-08	2.6E-07
Benzene	2.1E-03	(1)	7.4E-05	3.1E-04
Benzo(a)pyrene	1.2E-06	(1)	4.2E-08	1.7E-07
Benzo(b)fluoranthene	1.8E-06	(1)	6.3E-08	2.6E-07
Benzo(g,h,i)perylene	1.2E-06	(1)	4.2E-08	1.7E-07
Benzo(k)fluoranthene	1.8E-06	(1)	6.3E-08	2.6E-07
Beryllium	1.2E-05	(2)	4.2E-07	1.7E-06
Cadmium	1.1E-03	(2)	3.9E-05	1.6E-04
Chromium (total)	1.4E-03	(2)	4.9E-05	2.0E-04
Chrysene	1.8E-06	(1)	6.3E-08	2.6E-07
Cobalt	8.4E-05	(2)	2.9E-06	1.2E-05
Dibenzo(a,h)anthracene	1.2E-06	(1)	4.2E-08	1.7E-07
Fluoranthene	3.0E-06	(1)	1.1E-07	4.4E-07
Fluorene	2.8E-06	(1)	9.8E-08	4.1E-07
Formaldehyde	7.5E-02	(1)	2.6E-03	1.1E-02
Hexane	1.8E+00	(1)	6.3E-02	2.6E-01
Indeno(1,2,3,c,d)pyrene	1.8E-06	(1)	6.3E-08	2.6E-07
Manganese	3.8E-04	(2)	1.3E-05	5.5E-05
Mercury	2.6E-04	(2)	9.1E-06	3.8E-05
Naphthalene	6.1E-04	(1)	2.1E-05	8.9E-05
Nickel	2.1E-03	(2)	7.4E-05	3.1E-04
Phenanthrene	1.7E-05	(1)	6.0E-07	2.5E-06
Pyrene	5.0E-06	(1)	1.8E-07	7.3E-07
Selenium	2.4E-05	(2)	8.4E-07	3.5E-06

Table 5
Natural Gas-Fired Boiler (B2 - E6) HAP Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMscf)		Maximum Emissions	
			lbs/hr [(a)]	tons/yr [(b)]
Toluene	3.4E-03	(1)	1.2E-04	5.0E-04
2-Methylnaphthalene	2.4E-05	(1)	8.4E-07	3.5E-06
3-Methylchloranthrene	1.8E-06	(1)	6.3E-08	2.6E-07
Dichlorobenzene	1.2E-03	(1)	4.2E-05	1.7E-04
7,12-Dimethylbenz(a)anthracene	1.6E-05	(1)	5.6E-07	2.3E-06
	Total HAPs		0.07	0.27

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (emission factor [lbs/MMscf]) x (maximum hourly boiler combustion [MMBtu/hr]) / (natural gas heating value [MMBtu/MMscf])

Maximum hourly boiler combustion [MMBtu/hr] = 37.7 (3)

Natural gas heating value [MMBtu/MMscf] = 1,077 (4)

(b) Maximum annual emissions (tons/yr) = (emission factor [lbs/MMscf]) x (maximum annual boiler combustion [MMBtu/yr]) / (natural gas heating value [MMBtu/MMscf]) / (2000 lbs/ton)

Maximum annual boiler combustion [MMBtu/yr] = 313,739 (3)

Natural gas heating value [MMBtu/MMscf] = 1,077 (4)

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.4, Table 1.4-3, Emission Factors for Speciated Organic Compounds from Natural Gas Combustion (July 1998).

(2) Emission factors were taken from AP-42, Chapter 1.4, Table 1.4-4, Emission Factors for Metals from Natural Gas Combustion (July 1998).

(3) See Table 1, Production and Process Rates.

(4) Provided by Dominon Hope Natural Gas.

Table 6

Truck Dump (TD) Fugitive Particulate Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Unit	Pollutant	Fraction of Material (1) (%)	Maximum Emissions	
			lbs/hr (a)	tons/yr (b)
Truck Dump (TD)	TSP	0.0085%	3.12	4.9
	PM10	0.0021%	0.78	1.2
	PM 2.5	0.0021%	0.78	1.2
East Furnish Silo (FSE)	TSP	0.0085%	1.56	2.0
	PM10	0.0021%	0.39	0.5
	PM 2.5	0.0021%	0.39	0.5
West Furnish Silo (FSW)	TSP	0.0085%	1.56	2.0
	PM10	0.0021%	0.39	0.5
	PM 2.5	0.0021%	0.39	0.5
		Total TSP	6.24	8.9
		Total PM10/PM2.5	1.56	4.5

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly truck dump throughput [BD-lb/hr]) x (fraction of material [%])

Maximum hourly truck dump throughput [BD-lb/hr] =	36,718	(2)
Maximum hourly east furnish silo throughput [BD-lb/hr] =	18,359	(3)
Maximum hourly west furnish silo throughput [BD-lb/hr] =	18,359	(3)

(b) Maximum annual emissions (tons/yr) = (maximum annual truck dump throughput [BDT/yr]) x (fraction of material [%])

Maximum annual truck dump throughput [BDT/yr] =	57,704	(2)
Maximum annual east furnish silo throughput [BDT/yr] =	23,757	(3)
Maximum annual west furnish silo throughput [BDT/yr] =	23,757	(3)

Notes:

(1) Based on a particle size analysis of plytrim. Material less than 150 microns in diameter was conservatively assumed to be TSP.
The PM_{10} emissions were assumed to be 25% of the TSP emissions.
The PM2.5 emissions were assumed to be 25% of the TSP emissions.

(2) See Table 1, Production and Process Rates. Sum of the furnish and wood fuel truck dump throughputs.

(3) See Table 1, Production and Process Rates. Assumes each furnish silo receives half of the furnish truck dump throughput.

JELD-WEN WINDOWS & DOORS

Biofilter (BF-E18) Estimated Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor		Maximum Estimated Biofilter Outlet Emissions			
	lbs/hr	tons/yr	lbs/hr [a]		tons/yr [b]	
TSP	0.17	0.34	0.17	(a)	0.34	(b)
PM10	0.17	0.34	0.17	(a)	0.34	(b)
PM 2.5	0.17	0.34	0.17	(a)	0.34	(b)
VOC	30.65	67.84	29.11	(c)	64.45	(d)
CO	1.68	7.00	1.68	(a)	7.00	(b)
NOx	1.96	8.18	1.96	(a)	8.18	(b)
	(lbs/MSF-1/8")[3]					
Acetaldehyde	*7.10E-04*		0.02	(a)	0.06	(b)
Acrolein	*8.20E-04*		0.02	(a)	0.07	(b)
Benzene	*7.40E-04*		0.02	(a)	0.07	(b)
Formaldehyde	*5.40E-04*		0.01	(a)	0.05	(b)
Methanol	*4.07E-03*		0.09	(a)	0.37	(b)
Phenol	*1.88E-03*		0.04	(a)	0.17	(b)
Propionaldehyde	*9.50E-04*		0.02	(a)	0.09	(b)
MDI	*8.00E-05*		0.00	(a)	0.01	(b)
HAPs from NG Burner			0.03		0.14	
		Total HAP	0.21		0.9	

Calculations:

(a) Maximum hourly emissions at biofilter oulet (lbs/hr) = (maximum hourly emissions at biofilter inlet [lbs/hr]) x (1 - pollutant control efficiency [%])

(b) Maximum annual emissions at biofilter outlet (tons/yr) = (maximum annual emissions at biofilter inlet [tons/yr]) x (1 - pollutant control efficiency [%])

biofilter VOC control efficiency [%] =	5%	(2)
Methanol & Formaldehyde control efficiency [%] =	90%	(2)
Other HAP control efficiency [%] =	0%	(2)
biofilter TSP/PM10 control efficiency [%] =	0%	(2)

(c) Maximum hourly VOC emissions at biofilter oulet (lbs/hr) = (VOC emissions at inlet [lbs/hr]) * (1 - VOC control efficiency [%])

(d) Maximum hourly VOC emissions at biofilter oulet (tons/yr) = (VOC emissions at inlet [tons/yr]) * (1 - VOC control efficiency [%])

Notes:

(1) See Tables 7a - 7d and Table 9, *Non-detects were assumed at the detection level and are represented in italics*

(2) Provided by MET-PRO, biofilter manufacturer.
For conservacy, JELD-WEN is using 5% VOC control efficiency rather than the estimated 10% control efficiency provide by MET-PRO.

(3) Emissions factor derived from an average of PCWP performance tests at JELD-WEN, Craigsville, WV (November 2014 and February 2016)

JELD-WEN WINDOWS & DOORS

Table 7a
Press Vents Emissions TO BIOFILTER
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/MSF-1/8")		Maximum Uncontrolled Emissions **TO BIOFILTER**	
			lbs/hr [(a)]	tons/yr [(b)]
TSP / PM10 / PM2.5	0.042	(1)	9.05E-04	3.76E-03
VOC	0.145	(2)	3.13	13.03
CO	0.006	(3)	0.12	0.51
NOx	0.005	(3)	0.11	0.45

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly door skin production [MSF-1/8"/hr]) x (emission factor [lbs/MSF-1/8"]) x (1-baghouse TSP/PM10 control efficiency)

Maximum hourly door skin production [MSF-1/8"/hr] = 21.59 (4)

Press Vent baghouse TSP/PM10 control efficiency [%] = 99.90% (5)

(b) Maximum annual emissions (tons/yr) = (annual door skin production [MSF-1/8"/yr]) x (emission factor [lbs/MSF-1/8"]) x (1-baghouse TSP/PM10 control efficiency) / (2000 lbs/ton)

Maximum annual door skin production [MSF-1/8"/yr] = 179,683.9 (4)

Notes:

(1) Emission factors were taken from an engineering source test performed at the JELD-WEN, Wood Fiber Division - Craigsville, West Virginia facility in April 2003. Calculations assume that 100% of TSP is PM_{10} / $PM_{2.5}$.

(2) Emission factors were taken from AP-42, Chapter 10.6.3, Table 10.6.3-6, Medium Density Fiberboard Manufacturing (expressed as VOC as methane). This factor includes the emissions of some HAPs, however, may not accurately estimate emissions of VOC.

(3) Emission factors were taken from AP-42, Chapter 10.6.3, Medium Density Fiberboard (8/2002).

(4) See Table 1, Process Rates.

(5) See Table 9, Baghouse TSP/PM10 Emissions

Table 7b

Furnish Dryer HAP/VOC Emissions TO BIOFILTER

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/ODT)		Maximum Uncontrolled Emissions **TO BIOFILTER**			
			lbs/hr [(a)]		tons/yr [(b)]	
VOC	2.29	(1)	30.65	(a)	67.8	(b)
CO		(2)	1.68	(2)	7.0	(2)
NOx		(2)	1.96	(2)	8.2	(2)

Calculations:

(a) Maximum hourly emissions (lbs/hr) = ((maximum hourly dryer throughput [dry-lbs/hr]) / 2000 x (emission factor [lbs/ODT]) + Press Vent emissions (PV) + Dryer natural gas combustion emissions

Maximum hourly dryer throughput [dry-lbs/hr] = 23,942 (3)

(b) Maximum annual emissions (tons/yr) = ((maximum annual dryer throughput [BDT/yr]) x (emission factor [lbs/ODT]) / 2000 + Press Vent emissions (PV) + Dryer natural gas combustion emissions

Maximum annual dryer throughput [dry-tons/yr] one line = 47,500 (3)

Notes:

(1) Emission factors were taken from AP-42, Chapter 10.6.3, Table 10.6.3-3, Medium Density Fiberboard Manufacturing (expressed as VOC as methane). This factor includes the emissions of some HAPs, however, may not accurately estimate emissions of VOC.

(2) See Table 7a, Press Vents Emissions TO BIOFILTER and Table 7d Furnish Dryer Natural Gas Combustion Criteria Pollutant Emissions TO BIOFILTER. Press Vent and Dryer natural gas combustions emissions are vented into the Dryer (D1) inlet.

(3) See Table 1, Production and Process Rates.

JELD-WEN WINDOWS & DOORS

Table 7c

Furnish Dryer Natural Gas Combustion Criteria Pollutant Emissions TO BIOFILTER

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/MMscf)		Maximum Uncontrolled Emissions **TO BIOFILTER**	
			lbs/hr [(a)]	tons/yr [(b)]
TSP	7.60	(2)	7.1E-07	2.9E-06
PM10	5.70	(3)	5.3E-07	2.2E-06
PM2.5	1.90	(3)	1.8E-07	7.3E-07
SO2	0.60	(2)	1.11E-02	4.6E-02
CO	84.00	(2)	1.56	6.5
NOx	100.00	(2)	1.86	7.7
VOC	5.50	(2)	1.0E-01	4.2E-01
Lead	0.00	(2)	9.3E-06	3.9E-05
N_2O	0.00	(4)	5.36E-03	0.02
CH_4	0.00	(4)	0.05	0.22
CO_2	142.00	(4)	2,840	11,817

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (emission factor [lbs/MMscf]) x (maximum hourly dryer combustion [MMBtu/hr]) / (natural gas heating value [MMBtu/MMscf])

Maximum hourly dryer combustion [MMBtu/hr] = 20.0 (5)

Natural gas heating value [MMBtu/MMscf] = 1,077 (6)

(b) Maximum annual emissions (tons/yr) = (emission factor [lbs/MMscf]) x (maximum annual dryer combustion [MMBtu/yr]) / (natural gas heating value [MMBtu/MMscf]) / (2000 lbs/ton)

Maximum annual dryer combustion [MMBtu/yr] = 166,440 (5)

Natural gas heating value [MMBtu/MMscf] = 1,077 (6)

Notes:

(1) Emissions from the furnish dryer are controlled by baghouses. Since the control device is not included in the AP-42 emission factor, particulate emissions include the control effect of the baghouses and the dryer cyclone.

(2) Emission factors were taken from AP-42, Chapter 1.4, Natural Gas Combustion (7/1998).

(3) Emission factor taken from AP-42, Chapter 1.4, Natural Gas Combustion. PM10= Condensable, PM2.5 = Filterable

(4) US EPA Mandatory GHG Reporting rule, Table C-1 (FR Vol. 74, No. 209, 30 Oct 2009).

(5) See Table 1, Production and Process Rates.

(6) Provided by Dominon Hope Natural Gas.

JELD-WEN WINDOWS & DOORS

Table 7d

Furnish Dryer Natural Gas Combustion HAP Emissions TO BIOFILTER

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMscf)		Maximum Uncontrolled Emissions **TO BIOFILTER**	
			lbs/hr [(a)]	tons/yr [(b)]
Acenaphthene	0.0000	(1)	3.3E-08	1.4E-07
Acenaphthylene	0.0000	(1)	3.3E-08	1.4E-07
Anthracene	0.0000	(1)	4.5E-08	1.9E-07
Arsenic	0.0002	(2)	3.7E-06	1.5E-05
Benz(a)anthracene	0.0000	(1)	3.3E-08	1.4E-07
Benzene	--	(3)	--	--
Benzo(a)pyrene	0.0000	(1)	2.2E-08	9.3E-08
Benzo(b)fluoranthene	0.0000	(1)	3.3E-08	1.4E-07
Benzo(g,h,i)perylene	0.0000	(1)	2.2E-08	9.3E-08
Benzo(k)fluoranthene	0.0000	(1)	3.3E-08	1.4E-07
Beryllium	0.0000	(2)	2.2E-07	9.3E-07
Cadmium	0.0011	(2)	2.0E-05	8.5E-05
Chromium (total)	0.0014	(2)	2.6E-05	1.1E-04
Chrysene	0.0000	(1)	3.3E-08	1.4E-07
Cobalt	0.0001	(2)	1.6E-06	6.5E-06
Dibenzo(a,h)anthracene	0.0000	(1)	2.2E-08	9.3E-08
Fluoranthene	0.0000	(1)	5.6E-08	2.3E-07
Fluorene	0.0000	(1)	5.2E-08	2.2E-07
Formaldehyde	--	(3)	--	--
Hexane	1.8000	(1)	3.3E-02	1.4E-01
Indeno(1,2,3,c,d)pyrene	0.0000	(1)	3.3E-08	1.4E-07
Manganese	0.0004	(2)	7.1E-06	2.9E-05
Mercury	0.0003	(2)	4.8E-06	2.0E-05
Naphthalene	0.0006	(1)	1.1E-05	4.7E-05
Nickel	0.0021	(2)	3.9E-05	1.6E-04
Phenanthrene	0.0000	(1)	3.2E-07	1.3E-06
Pyrene	0.0000	(1)	9.3E-08	3.9E-07
Selenium	0.0000	(2)	4.5E-07	1.9E-06

Table 7d
Furnish Dryer Natural Gas Combustion HAP Emissions TO BIOFILTER
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMscf)		Maximum Uncontrolled Emissions **TO BIOFILTER**	
			lbs/hr [(a)]	tons/yr [(b)]
Toluene	0.0034	(1)	6.3E-05	2.6E-04
2-Methylnaphthalene	0.0000	(1)	4.5E-07	1.9E-06
3-Methylchloranthrene	0.0000	(1)	3.3E-08	1.4E-07
Dichlorobenzene	0.0012	(1)	2.2E-05	9.3E-05
7,12-Dimethylbenz(a)anthracene	0.0000	(1)	3.0E-07	1.2E-06
	Total HAPs		0.03	0.14

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (emission factor [lbs/MMscf]) x (maximum hourly dryer combustion [MMBtu/hr]) / (natural gas heating value [MMBtu/MMscf])

Maximum hourly dryer combustion [MMBtu/hr] = 20.0 (4)

Natural gas heating value [MMBtu/MMscf] = 1,077 (5)

(b) Maximum annual emissions (tons/yr) = (emission factor [lbs/MMscf]) x (maximum annual dryer combustion [MMBtu/yr]) / (natural gas heating value [MMBtu/MMscf]) / (2000 lbs/ton)

Maximum annual dryer combustion [MMBtu/yr] = 166,440 (4)

Natural gas heating value [MMBtu/MMscf] = 1,077 (5)

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.4, Table 1.4-3, Emission Factors for Speciated Organic Compounds from Natural Gas Combustion (July 1998).

(2) Emission factors were taken from AP-42, Chapter 1.4, Table 1.4-4, Emission Factors for Metals from Natural Gas Combustion (July 1998).

(3) Benzene and formaldehyde emissions are included in Table 7 and were taken from source test data performed at the JELD-WEN, Wood Fiber Division, Craigsville, West Virginia facility.

(4) See Table 1, Production and Process Rates.

(5) Provided by Dominon Hope Natural Gas.

Table 8

Rotary Valve (pre-refiner) VOC/HAP Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/ODT)		Maximum Emissions lbs/hr		Maximum Emissions tons/yr	
TSP	0.01% of Chip Cyclone Throughput	(1)	2.35	(a)	4.66	(b)
PM10	0.01% of Chip Cyclone Throughput	(1)	0.59	(a)	1.16	(b)
PM 2.5	0.01% of Chip Cyclone Throughput	(1)	0.59	(a)	1.16	(b)
VOC	6.73E-02	(2)	0.81	(c)	1.6	(d)
Acetaldehyde	*3.32E-04*	(3)	*3.97E-03*	(c)	*7.9E-03*	(d)
Acrolein	1.09E-02	(3)	1.31E-01	(c)	2.6E-01	(d)
Formaldehyde	6.64E-04	(3)	7.94E-03	(c)	1.6E-02	(d)
Methanol	3.23E-02	(3)	3.86E-01	(c)	7.7E-01	(d)
Phenol	*3.32E-04*	(3)	*3.97E-03*	(c)	*7.9E-03*	(d)
Propionaldehyde	*3.32E-04*	(3)	*3.97E-03*	(c)	*7.9E-03*	(d)
	Total HAP		0.54		1.07	

Calculations:

(a) Maximum hourly TSP emissions (lbs/hr) = ((maximum hourly chip cyclone throughput [OD-lbs/hr]) x (Chip Cyclone Efficiency [%]) x 0.01%)

Maximum Hourly Chip Cyclone Throughput [OD-lbs/hr] = 23,944 (4)

Chip Cyclone Efficiency = 98% (5)

(b) Maximum annual emissions (tons/year) = ((maximum annual chip cyclone throughput [ODT/yr]) x (Chip Cyclone Efficiency [%]) x 0.01%)

Maximum Annual Chip Cleaning Cyclone Throughput [ODT/year] = 47,504 (4)

(c) Maximum hourly VOC/HAP emissions (lbs/hr) = ((maximum hourly chip cyclone throughput [OD-lbs/hr])/2000 x (emission factor [lbs/ODT])

(d) Maximum annual VOC/HAP emissions (tons/year) = ((maximum annual chip cyclone throughput [ODT/yr]) x (emission factor [lbs/ODT]) / (2000 [lbs/ton])

Notes:

(1) Engineering Judgment Provided by JELD-WEN Engineering.
The PM2.5 emissions were assumed to be 25% of the TSP emissions.
The PM_{10} emissions were assumed to be 25% of the TSP emissions.

(2) VOC emission factor is based on sum of HAP emission factors times 1.5 safety factor. This factor is an estimation of VOCs from this emission point.

(3) Emission factors were taken from a MACT source test performed at the JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia facility on March 20,2007.

Non-detects were assumed at the detection level and are represented in italics

(4) See Table 1, Production and Process Rates.

(5) See Table 9, Baghouse TSP/PM10 Emissions.

JELD-WEN WINDOWS & DOORS

Table 9
Baghouse TSP/PM_{10} Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Unit	Source ID	Emission Point ID	Maximum Hourly Throughput (lbs/hr)	Maximum Annual Throughput (ODT/yr)	Control Efficiency (%)	Maximum Emissions (1)	
						lbs/hr (a)	tons/yr (b)
Dryer Cyclone	C1	E18	30,250 (2)	59,836 (2)	99.00% (12)	-- (17)	-- (17)
Dryer Baghouse #1	BH1a	E18	110.9 (3)	219.4 (3)	99.95% (13)	0.06 (21)	0.11
Dryer Baghouse #2	BH1b	E18	110.9 (3)	219.4 (3)	99.95% (13)	0.06 (21)	0.11
Dryer Baghouse #3	BH1c	E18	110.9 (3)	219.4 (3)	99.95% (13)	0.06 (21)	0.11
Dryer BH Purge Cyclone	C8	E18	302.4 (20)	598.06 (20)	90.00% (15)	-- (17)	-- (17)
Former Baghouse	BH2	E10	907 (4)	1,753 (4)	99.90% (14)	0.91	1.75
Waste Baghouse	BH3	E4	366 (5)	692 (5)	99.90% (14)	0.37	0.69
Recycle Cyclone	C2	E4	1,370 (6)	2,570 (6)	95.00% (15)	-- (17)	-- (17)
Waste Cyclone	C3	E4	2,975 (7)	5,632 (7)	90.00% (16)	-- (17)	-- (17)
Middle Reject Cyclone	C4	E4	1,370 (8)	2,570 (8)	95.00% (15)	-- (17)	-- (17)
Chip Cyclone	C6	E4	23,944 (9)	47,504 (9)	98.00% (15)	-- (17)	-- (17)
Sizer Baghouse	BH4	E12	12,222 (10)	8,444 (10)	99.95% (14)	6.11	4.22
Chip Cleaning Cyclone	C5	E12	2,602 (11)	1,465 (11)	95.00% (15)	-- (17)	-- (17)
Press Vent Baghouse	BH6	E18	3.6 (19)	9.3 (19)	99.90% (14)	3.58E-03 (22)	0.01
Press Vent BH Purge Cyclone	C7	E18	3.2 (20)	8.5 (20)	90.00% (15)	-- (17)	-- (17)

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly throughput [lbs/hr]) x (1 - control efficiency [%])

(b) Maximum annual emissions (tons/yr) = (maximum hourly throughput [ODT/yr]) x (1 - control efficiency [%])

Notes:

(1) JELD-WEN estimates the 29% of the particulate would actually be PM_{10} based on extrapolation of data provided the by the manufacturer on a similar product with larger particle size. For conservatism JELD-WEN's calculations assume that 100% of TSP is PM10.

(2) The dryer cyclone throughput is the sum of the refiner throughput plus the wax used for door skins and 20% of the shave off before the blender.

(3) The three dryer baghouses are equal to one-third of the dryer cyclone throughput after the cyclone control efficiency has been applied.

(4) The former baghouse throughput is equal to 1.5% of the former throughput plus exhaust from the chip cyclone.

(5) The waste baghouse throughput is equal to the waste and middle reject throughputs after the cyclone control efficiencies have been applied.

(6) The recycle cyclone throughput is equal to 5% of the material from the reject screw.

(7) The waste cyclone throughput is equal to the exhaust from the recycle cyclone and the fuel silos, 1.25% of the throughput of the shave off and trim, and material from the reject screw and former baghouse.

(8) The middle reject cyclone throughput is equal to the material from the reject screw.

(9) The chip cyclone throughput is equal to the throughput of the dryer plus the emissions of the rotary valve.

(10) The sizer baghouse throughput is equal to the exhaust from chip cleaning cyclone plus the material from skin sizer, 80% of the hogged skins, and the usage of sodium carbonate in the die cleaning process.

Soda Blasting (lbs/hr)=	120	(18)
Soda Blasting (ODT/yr)=	22	(18)

(11) The chip cleaning cyclone throughput is equal to 20% of the hogged skins.

(12) Conservative engineering judgment; manufacturer predicted efficiency is 99.468%.

(13) Based on data provided by Westec.

(14) Conservative engineering judgment; manufacturer predicted efficiency is 99.90%.

(15) Conservative engineering judgment for large wood particles and fiber in cyclone.

(16) Conservative engineering judgment for large wood particles and fiber in cyclone, with some fines.

(17) All cyclones at the facility vent to a baghouse. Cyclone emissions are included in the applicable baghouse emissions.

(18) Soda blasting estimates based on once daily cleaning of eight dies. Each die can require up to 15 lbs of sodium bicarbonate per cleaning event.

(19) press vent baghouse (BH6) throughput is equal to the press vent (PV) emissions + rotary valve emissions + press vent cyclone emissions

(20) The press vent cyclone throughput is equal to the press vent baghouse (BH6) throughput - press vent baghouse (BH6) emissions.

(21) Particulate emissions form the dryer baghouses (BH1a, BH1b, & BH1c) are vented to the biofilter (BF, E18)

(22) Particulate emissions form press vent baghouse (BH6) vent to the dryer (D1) air inlet which eventually vents to the biofilter (BF, E18)

Table 10
Baghouse VOC/HAP Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Unit	Source ID	Emission Point ID	Maximum Hourly Throughput	Maximum Annual Throughput	Pollutant	Emission Factor [1] (lbs/SF-1/8")	Maximum Emissions lbs/hr [a]	Maximum Emissions tons/yr [b]
Former Baghouse	BH2	E10	21,591 [2] (SF-1/8"/hr)	179,683,869 [2] (SF-1/8"/year)	Formaldehyde	3.5E-06 lbs/SF-1/8"	0.08	0.31
					Methanol	6.0E-06 lbs/SF-1/8"	0.13	0.54
Waste Baghouse	BH3	E4	21,591 [2] (SF-1/8"/hr)	179,683,869 [2] (SF-1/8"/year)	Formaldehyde	9.2E-06 lbs/SF-1/8"	0.20	0.82
Sizer Baghouse	BH4	E12	12,222 [3] (lbs/hr)	8,444 [3] (ODT/year)	Formaldehyde	1.9E-05 lbs/lb-waste	0.23	0.16
					Total VOC/HAP [4]		0.63	1.8

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly throughput [units/hr]) x (emission factor [lbs/unit])

(b) Maximum annual emissions (tons/yr) = (maximum annual throughput [SF-$^{1}/_{8}$"/year]) x (emission factor [lbs/SF-$^{1}/_{8}$"]) / 2000
or Maximum annual emissions (tons/yr) = (maximum annual throughput [ODT/yr]) x (emission factor [lbs/lb-waste])

Notes:

(1) Emission factors were taken from a MACT source test performed at the JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia facility on March and June 2007. All other pollutants were reported as non-detects.

(2) The former and waste baghouse throughputs have been conservatively assumed to equal the maximum press throughput.

(3) See Table 9, Baghouse Particulate Emissions.

(4) Total VOCs are the sum of the individual HAPs.

JELD-WEN WINDOWS & DOORS

Table 11a

Primeline Ovens (PL - E13) Natural Gas Combustion Criteria Pollutant Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Pollutant	Emission Factor (lbs/MMscf)		Maximum Emissions	
			lbs/hr [(a)]	tons/yr [(b)]
TSP	7.6	(1)	0.03	0.11
PM10	5.7	(2)	0.02	0.08
PM 2.5	1.9	(2)	0.01	0.03
SO2	0.6	(1)	0.002	0.01
CO	84	(1)	0.30	1.23
NOx	100	(1)	0.35	1.47
VOC	5.5	(1)	0.02	0.08
Lead	5.0E-04	(1)	1.8E-06	7.3E-06
N_2O	2.68E-04	(3)	1.0E-03	4.2E-03
CH_4	2.68E-03	(3)	0.01	0.04
CO_2	142	(3)	540	2,245

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (emission factor [lbs/MMscf]) x (maximum hourly oven combustion [MMBtu/hr]) / (natural gas heating value [MMBtu/MMscf])

Maximum hourly oven combustion [MMBtu/hr] = 3.8 (4)

Natural gas heating value [MMBtu/MMscf] = 1,077 (5)

(b) Maximum annual emissions (tons/yr) = (emission factor [lbs/MMscf]) x (maximum annual oven combustion [MMBtu/yr]) / (natural gas heating value [MMBtu/MMscf]) / (2000 lbs/ton)

Maximum annual oven combustion [MMBtu/yr] = 31,624 (4)

Natural gas heating value [MMBtu/MMscf] = 1,077 (5)

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.4, Natural Gas Combustion (7/1998).

(2) Emission factor taken from AP-42, Chapter 1.4, Natural Gas Combustion. PM10= Condensable, PM2.5 = Filterable

(3) US EPA Mandatory GHG Reporting rule, Table C-1 (FR Vol. 74, No. 209, 30 Oct 2009).

(4) See Table 1, Production and Process Rates (sum of Oven #1 and Oven #3; Oven #2 is steam-heated).

(5) Provided by Dominon Hope Natural Gas.

Table 11b
Primeline Ovens (PL - E13) Natural Gas Combustion HAP Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMscf)		Maximum Emissions	
			lbs/hr [a]	tons/yr [b]
Acenaphthene	1.8E-06	(1)	6.4E-09	2.6E-08
Acenaphthylene	1.8E-06	(1)	6.4E-09	2.6E-08
Anthracene	2.4E-06	(1)	8.5E-09	3.5E-08
Arsenic	2.0E-04	(2)	7.1E-07	2.9E-06
Benz(a)anthracene	1.8E-06	(1)	6.4E-09	2.6E-08
Benzene	2.1E-03	(1)	7.4E-06	3.1E-05
Benzo(a)pyrene	1.2E-06	(1)	4.2E-09	1.8E-08
Benzo(b)fluoranthene	1.8E-06	(1)	6.4E-09	2.6E-08
Benzo(g,h,i)perylene	1.2E-06	(1)	4.2E-09	1.8E-08
Benzo(k)fluoranthene	1.8E-06	(1)	6.4E-09	2.6E-08
Beryllium	1.2E-05	(2)	4.2E-08	1.8E-07
Cadmium	1.1E-03	(2)	3.9E-06	1.6E-05
Chromium (total)	1.4E-03	(2)	4.9E-06	2.1E-05
Chrysene	1.8E-06	(1)	6.4E-09	2.6E-08
Cobalt	8.4E-05	(2)	3.0E-07	1.2E-06
Dibenzo(a,h)anthracene	1.2E-06	(1)	4.2E-09	1.8E-08
Fluoranthene	3.0E-06	(1)	1.1E-08	4.4E-08
Fluorene	2.8E-06	(1)	9.9E-09	4.1E-08
Formaldehyde	7.5E-02	(1)	2.6E-04	1.1E-03
Hexane	1.8E+00	(1)	6.4E-03	2.6E-02
Indeno(1,2,3,c,d)pyrene	1.8E-06	(1)	6.4E-09	2.6E-08
Manganese	3.8E-04	(2)	1.3E-06	5.6E-06
Mercury	2.6E-04	(2)	9.2E-07	3.8E-06
Naphthalene	6.1E-04	(1)	2.2E-06	9.0E-06
Nickel	2.1E-03	(2)	7.4E-06	3.1E-05
Phenanthrene	1.7E-05	(1)	6.0E-08	2.5E-07
Pyrene	5.0E-06	(1)	1.8E-08	7.3E-08
Selenium	2.4E-05	(2)	8.5E-08	3.5E-07

Table 11b
Primeline Ovens (PL - E13) Natural Gas Combustion HAP Emissions
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Emission Factor (lbs/MMscf)		Maximum Emissions	
			lbs/hr [(a)]	tons/yr [(b)]
Toluene	3.4E-03	(1)	1.2E-05	5.0E-05
2-Methylnaphthalene	2.4E-05	(1)	8.5E-08	3.5E-07
3-Methylchloranthrene	1.8E-06	(1)	6.4E-09	2.6E-08
Dichlorobenzene	1.2E-03	(1)	4.2E-06	1.8E-05
7,12-Dimethylbenz(a)anthracene	1.6E-05	(1)	5.6E-08	2.3E-07
	Total HAPs		0.01	0.03

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (emission factor [lbs/MMscf]) x (maximum hourly ovens combustion [MMBtu/hr]) / (natural gas heating value [MMBtu/MMscf])

Maximum hourly oven combustion [MMBtu/hr] = 3.8 (3)

Natural gas heating value [MMBtu/MMscf] = 1,077 (4)

(b) Maximum annual emissions (tons/yr) = (emission factor [lbs/MMscf]) x (maximum annual ovens combustion [MMBtu/yr]) / (natural gas heating value [MMBtu/MMscf]) / (2000 lbs/ton)

Maximum annual ovens combustion [MMBtu/yr] = 31,624 (3)

Natural gas heating value [MMBtu/MMscf] = 1,077 (4)

Notes:

(1) Emission factors were taken from AP-42, Chapter 1.4, Table 1.4-3, Emission Factors for Speciated Organic Compounds from Natural Gas Combustion (July 1998).

(2) Emission factors were taken from AP-42, Chapter 1.4, Table 1.4-4, Emission Factors for Metals from Natural Gas Combustion (July 1998).

(3) See Table 1, Production and Process Rates (sum of Oven #1 and Oven #3; Oven #2 is steam-heated).

(4) Provided by Dominon Hope Natural Gas.

JELD-WEN WINDOWS & DOORS

Table 12

Primeline Paint Booth (PL - E14) VOC, HAP, and Particulate Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Material (1)	Pollutant	Maximum Emissions			
		lbs/hr		tons/yr	
Interior Primers JELD-WEN	Total VOC	21.31	(a)	80.18	(b)
	Total HAPs	0.18	(a)	0.67	(b)
	Styrene	0.03	(a)	0.09	(b)
	Methyl Methacrylate	0.01	(a)	0.02	(b)
	Formaldehyde	0.01	(a)	0.04	(b)
	Glycol Ether	0.13	(a)	0.49	(b)
	PM/PM10/PM2.5 (1)	0.59	(c)	2.22	(d)

Maximum hourly primer usage [gals/hr] =	71.0	(2)
Maximum annual primer usage [gals/yr] =	534,560	(2)
Percent interior primer usage [%] =	100.0%	(3)
Interior primer VOC content [lbs/gal] =	3.0E-01	(4)
Interior primer HAP content [lbs/gal] =	2.5E-03	(4)
Styrene content [lbs/gal] =	3.6E-04	(4)
Methyl Methacrylate content [lbs/gal] =	7.1E-05	(4)
Formaldehyde content [lbs/gal] =	1.4E-04	(4)
Glycol Ether content [lbs/gal] =	1.8E-03	(4)
Interior primer density [lbs/gal] =	13.86	(4)
Interior primer solids content [wt %] =	69.0%	(4)

Calculations:

(a) Maximum hourly VOC/HAP emissions (lbs/hr) = (maximum hourly primer usage [gals/hr]) x (percent primer usage [%]) x (VOC/HAP content [lbs/gal])

(b) Maximum annual VOC emissions (tons/yr) = (maximum annual primer usage [gals/yr]) x (percent primer usage [%]) x (VOC content [lbs/gal]) / (2000 lbs/ton)

(c) Maximum hourly PM emissions (lbs/hr) = (maximum hourly primer usage [gals/hr]) x (percent primer usage [%]) x (PM Emission Factor [lbs/gal])

(d) Maximum annual PM emissions (tons/yr) = (maximum annual primer usage [gals/yr]) x (percent primer usage [%]) x (PM Emission Factor [lbs/gal])/2000

Notes:

(1) PM Calculations assume that 100% of PM is PM2.5.
The emission factor is equal to the average of the test values plus two standard deviations.
PM Emission Factor [lbs/gal] = 0.0083

(2) See Table 1, Production and Process Rates.

(3) Provided by JELD-WEN Wood Fiber Division - West Virginia.

(4) From vendor MSDS sheet, product information sheet, or telephone conversation with the vendor.

Table 13

Material Handling Conveyors Particulate Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Unit	Maximum Hourly Throughput (1) (tons/hr)	Pollutant	Maximum Emissions	
			lbs/hr (a)	tons/yr (b)
Truck Dump to Rotary Classifier (CV1) - Furnish	18.4	PM	0.43	0.67
		PM10	0.20	0.32
		PM2.5	0.03	0.05
Rotary Classifier to Metal Detector (CV2) - Furnish	18.4	PM	0.43	0.67
		PM10	0.20	0.32
		PM2.5	0.03	0.05
Metal Detector to Furnish Silo (CV3) - Furnish	18.4	PM	0.43	0.67
		PM10	0.20	0.32
		PM2.5	0.03	0.05
Furnish Storage Silo to Refiner (CV4) - Furnish	12.0	PM	0.28	1.09
		PM10	0.13	0.52
		PM2.5	0.02	0.08
Fuel Storage Silo to Boiler (CV5) - Hogged Fuel	3.9	PM	1.96	7.73
		PM10	0.93	3.66
		PM2.5	0.14	0.55
		Total TSP	3.51	10.83
		Total PM10	1.66	5.12
		Total PM2.5	0.25	0.78

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum hourly throughput [tons/hr]) x (emission factor [lbs/ton])

Furnish PM emission factor (lbs/ton) =	0.02	(c)
Hogged Fuel PM emission factor (lbs/ton) =	0.50	(c)
Furnish PM10 emission factor (lbs/ton) =	0.01	(c)
Hogged Fuel PM10 emission factor (lbs/ton) =	0.24	(c)
Furnish PM2.5 emission factor (lbs/ton) =	0.00	(c)
Hogged Fuel PM2.5 emission factor (lbs/ton) =	0.04	(c)

(b) Maximum annual emissions (tons/yr) = (maximum hourly emissions [tons/yr]) x (truck dump hours of operation [hrs/yr[) / (2000 lbs/ton)

Truck dump hours of operation [hrs/yr] =	3,143	(2)
Boiler & Silo conveyor hours of operation [hrs/yr] =	7,884	(2)

(c) Emission factor (lbs/ton) = (particle size multiplier) x (0.0032) x (((wind speed [mph] / 5)^1.3) / ((moisture content [wt%] / 2)^1.4))

PM Particle size multiplier =	0.74	(3)
PM10 Particle size multiplier =	0.35	(3)
PM2.5 Particle size multiplier =	0.053	(3)
Wind speed (mph) =	5.8	(4)
Furnish moisture content [%] =	45%	(5)
Hogged fuel moisture content [%] =	5%	(5)

Notes:

(1) Hourly capacities based on maximum hourly furnish truck dump throughput (BD-lbs/hr) = (number of trucks per hour [trucks/hr]) x (weight of truck load [wet-lbs/hr]) x (1 - moisture content [%])

Number of trucks per hour [trucks/hr] =	1.33	(5)
Weight per truck load [wet-lbs/truck] =	50,195	(5)
Moisture content [%] =	45%	(5)

Maximum hourly fuel truck dump throughput (BD-lbs/hr) = (maximum wood fuel purchased [lbs/hr]) x (1 - moisture content [%])

Maximum wood fuel purchased [lbs/hr] =	4,700	(6)
Moisture content [%] =	45%	(5)

(2) See Table 1, Production and Process Rates.

(3) Emission factor equation and constants were taken from AP-42, Chapter 13.2.4, Aggregate Handling and Storage Piles (11/2006).

(4) A 57 year annual average wind speed for Charleston, WV take from the Comparative Climatic Data for the United States through 2004 from the National Climatic Data Center Website.

(5) Provided by JELD-WEN Wood Fiber Division - West Virginia.

(6) An estimate of fuel required, in addition to fuel from production operations, in order to operate the boiler at rated capacity.

JELD-WEN WINDOWS & DOORS

Table 14

Paint Manufacturing (DC2 - E15) VOC/HAP Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Raw Material		Pollutant	VOC/HAP Content [1]		Maximum Annual Usage [2] (gals/yr)	Maximum Emissions	
Material	Density [1] (lbs/gal)					lbs/hr [a]	tons/yr [c]
Dispersing Agent	8.97	Total VOC	70	wt %	7,718	0.044	0.080
Fungicide	8.85	Total VOC	6.56	lbs/gal	2,055	0.012	0.022
		Glycol Ether	40	wt %		0.007	0.012
Preservative	9.26	Total VOC	0.15	lbs/gal	2,400	0.000	0.001
		Formaldehyde	1.5	wt %		0.0003	0.001
Polymer	8.6	Total VOC	0.014	lbs/gal	296,400	0.004	0.007
		Glycol Ether	0.090	wt %		0.002	0.004
		Styrene	0.050	wt %		0.001	0.002
Additive	8.93	Total VOC	0.010	lbs/gal	197,400	0.002	0.003
Glycol Ether	8.62	Total VOC	7.910	lbs/gal	39,717	0.288	0.518
		Glycol Ether	99.000	wt%		0.311	0.559
Alkyl	7.43	Total VOC	7.430	lbs/gal	3,544	0.024	0.043
Pigment	15.65	Total VOC	0.080	lbs/gal	1,723	0.000	0.000
Solution	7.73	Total VOC	3.680	lbs/gal	37,616	0.127	0.228
Defoamer	7.34	Total VOC	0.22	lbs/gal	11,400	0.002	0.004
					Total VOC	0.50	0.91
					Total HAP	0.32	0.58

Calculations:

(a) Maximum hourly emissions (lbs/hr) = (maximum annual emissions [tons/yr]) x (2000 lbs/ton) / (paint manufacturing hours of operation [hrs/yr])

Paint manufacturing hours of operation [hrs/yr] = 3,600 (b)

(b) Paint manufacturing hours of operation (hrs/yr) = (maximum annual batch rate [batch/yr]) x (hourly batch rate [hrs/batch])

Maximum annual batch rate [batch/yr] = 600 (2)

Hourly batch rate [hrs/batch] = 6 (2)

(c) Maximum annual emissions (tons/yr) = (maximum annual product usage [gals/yr]) x (density [lbs/gal]) x (VOC/HAP content [wt %]) x (percent VOC/HAP

Maximum annual emissions (tons/yr) = (maximum annual product usage [gals/yr]) x (VOC/HAP content [lbs/gal]) x (percent VOC/HAP loss [%]) / (2000 l

Percent VOC/HAP loss [%] = 0.33% (3)

Notes:

(1) From vendor MSDS sheet, product information sheet, or telephone conversation with the vendor.

(2) Provided by JELD-WEN Wood Fiber Division - West Virginia.

(3) JELD-WEN laboratory testing under actual process conditions, excluding water.

JELD-WEN WINDOWS & DOORS

Table 15

Paint Manufacturing (DC2, BH5 - E15) Particulate Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Unit	Maximum Annual Usage [1] (tons/yr)	Annual Throughput (Before Baghouse) [a] (tons/yr)	Maximum Emissions [2]	
			lbs/hr [b]	tons/yr [c]
Titanium Dioxide	600	0.94	5.2E-04	9.4E-04
Calcium Carbonate Slurry	5,504	8.64	4.8E-03	8.6E-03
Talc	1800	2.83	1.6E-03	2.8E-03
Pigment	7.50	0.01	6.5E-06	1.2E-05
Additives	1,800	2.83	1.6E-03	2.8E-03
Various KLN Clays	400.0	0.63	3.5E-04	6.3E-04
		Total TSP	0.01	0.02

Calculations:

(a) Maximum annual throughput before baghouse (tons/yr) = (maximum annual usage [tons/yr]) x (dust generation factor [lbs/ton]) / (2000 lbs/ton)

Dust generation factor [lbs/ton] = 3.14 (3)

(b) Maximum hourly emissions (lbs/hr) = (maximum annual emissions [tons/yr]) x (2000 lbs/ton) / (paint manufacturing hours of operation [hrs/yr])

Paint manufacturing hours of operation [hrs/yr] = 3,600 (4)

(c) Maximum annual emissions (tons/yr) = (maximum annual throughput before baghouse [ton/yr]) x (1 - baghouse control efficiency [%])

Baghouse control efficiency (%) = 99.9% (1)

Notes:

(1) Provided by JELD-WEN Wood Fiber Division - West Virginia.

(2) Calculations assume that 100% of TSP is $PM_{10}/PM_{2.5}$.

(3) From AP-42, Chapter 11.12, Table 11.12-2, Total Particulate Matter Emission Factor for Uncontrolled Cement Unloading to an Elevated Storage Silo (10/2001).

(4) See Table 20, Paint Manufacturing VOC/HAP Emissions.

JELD-WEN WINDOWS & DOORS

Table 16

Die Coating (DC-E17) Emissions

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Raw Material [1]			Hourly PTE Usage (gal)[2]	Annual PTE Usage (gal)[3]	Raw Material Components [1]			Estimated PTE [3]					
Product	Density (lbs/gal)	Solids Content (wt %)			Name	Amount in Product	Units	VOC [a] (lbs/hr)	VOC [b] (tons/yr)	HAP [a] (lbs/hr)	HAP [b] (tons/yr)	TSP/PM10 [c,4] (lbs/hr)	TSP/PM10 [c,4] (tons/yr)
Cleaner Degreaser (wipe-on cleaner)	8.85		0.50	500	Total VOC	3.98	wt%	0.18	0.1				
					Diethylene glycol monbutyl ether	3	wt%			0.13	0.07		
Isopropyl Alcohol (wipe-on cleaner)	6.59		0.22	216	Total VOC	100	wt%	1.42	0.7				
Die Coating	10.85	63.5	0.14	145	Total VOC	46	wt%	0.72	0.4			0.01	0.01
					Methanol	8	wt%			0.13	0.06		
					Silane	28	wt%						
					Isopropyl Alcohol	5	wt%						
					Ethyl Alcohol	5	wt%						
					Totals			2.32	1.2	0.26	0.1	1.5E-02	7.5E-03

Calculations:

(a) Hourly PTE emissions [lbs/hr] = (hourly PTE usage [gals/hr]) x (density [lbs/gal]) x (VOC/HAP content [wt%])

(b) Annual PTE VOC/HAP emissions [tons/yr] = (annual PTE usage [gals/yr]) x (density [lbs/gal]) x (VOC/HAP content [wt%]) / (2000 [lbs/ton])

(c) Annual PTE TSP emissions [tons/yr] = (annual PTE usage [gal/yr]) x (density [lbs/gal]) x (1 - spray transfer efficiency [%]) / 100) x (solids content [wt %] / 100) x (1 - spray booth filter efficiency [%]) / 100)) / 2000 [lbs/ton]

Spray Transfer Efficiency [%] = 70 (5)

Filter Efficiency [%] = 95 (5)

Notes:

(1) Based on maximum from manufacturer's product MSDS.

(2) Hourly product usage conservatively estimated based on several months of product trials at JELD-WEN Wood Fiber of Oregon.

(3) Annual product usage conservatively estimated based on the volume required to clean and coat dies for each press opening once every seven days of production. JELD-WEN Engineering estimates dies will be coated a maximum of once every 14 days of production based on several months of product trials at JELD-WEN Wood Fiber Division - Oregon.

(4) 100% of PM is assumed to be PM_{10} and $PM_{2.5}$.

(5) Conservative engineering estimate.

Table 17
Maximum Annual Emissions Summary
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Point	Emission Point ID #	Maximum Annual Emissions (tons/yr)										
		TSP	PM10	PM 2.5	SO_2	CO	NOx	VOC	Lead	N_2O	CH_4	CO_2
Wood Boiler (B1)	E5	4.28	4.28	4.28	6.50	84.3	138.3	4.51	0.01	2.41	18.35	53,779
Natural Gas Boiler (B2)	E6	1.11	0.83	0.28	0.09	0.10	24.8	0.80	0.00	0.04	0.42	22,275
Truck Dump (TD)	E1	4.90	1.23	1.23	--	--	--	--	--	--	--	--
East Furnish Silo (FSE)	E2a,b,c,d,e	2.02	0.50	0.50	--	--	--	--	--	--	--	--
West Furnish Silo (FSW)	E3a,b,c,d,e	2.02	0.50	0.50	--	--	--	--	--	--	--	--
Former Baghouse (BH2)	E10	1.75	1.75	1.75	--	--	--	0.31	--	--	--	--
Waste Baghouse (BH3)	E4	0.69	0.69	0.69	--	--	--	0.82	--	--	--	--
Sizer Baghouse (BH4)	E12	4.22	4.22	4.22	--	--	--	0.16	--	--	--	--
Primeline - Ovens (PL)	E13	0.11	0.08	0.03	0.01	1.23	1.47	0.08	0.00	0.004	0.04	2,245
Primeline Paint Booth (PL)	E14	2.22	2.22	2.22	--	--	--	80.2	--	--	--	--
Facility-Wide VOCs (FWVOC)	FWVOC	--	--	--	--	--	--	--	--	--	--	--
Conveyors (CV1 - CV5)	Fugitive	10.83	5.12	0.78	--	--	--	--	--	--	--	--
Paint Manufacturing (DC2)	E15	0.02	0.02	0.02	--	--	--	0.91	--	--	--	--
Rotary Valve (RV)	E16	4.66	1.16	1.16	--	--	--	1.60	--	--	--	--
Die Coating Paint Booth (DC)	E17	0.01	0.01	0.01	--	--	--	1.16	--	--	--	--
Biofilter (BF)	E18	0.34	0.34	0.34	0.05	7.00	8.18	64.45	0.00	0.02	0.22	11,817
Pollutant Total		39.2	23.0	18.0	6.6	92.6	172.8	155.0	0.0126	2.5	19.0	90,117

Table 18

Maximum HAP Emissions Summary

JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

Emission Point	Maximum Emissions	
	Hourly (lbs/hr)	Annual (tons/yr)
Total Formaldehyde (excluding NG combustion)	0.80	2.53
Total Methanol	0.22	0.90
Total HAPs from Hogged-Fuel Boiler (B1)	2.42	10.05
Total HAPs from Natural Gas Boiler (B2)	0.07	0.27
Total HAPs from Biofilter	0.25	1.02
Total HAPs from Rotary Valve (RV)	0.54	1.07
Total HAPs from Baghouses (B2, B3, B4)	0.63	1.83
Total HAPs from Primeline (PL)	0.67	0.70
Total HAPs from Paint Manufacturing (DC2)	0.32	0.58
Total HAPs from Die Coating (DC)	0.26	0.13
Total HAP	**5.1**	**15.64**

JELD-WEN WINDOWS & DOORS

Table 19
Maximum HAP Emissions Detailed Summary
JELD-WEN, inc., Wood Fiber Division - Craigsville, West Virginia

HAP	Wood-Fired Boiler (tons/yr)	Natural Gas- Fired Boiler (tons/yr)	Rotary Valve (tons/yr)	Biofilter Outlet (tons/yr)	Baghouses (tons/yr)	Paint Manufacturing (tons/yr)	Prime Line (tons/yr)	Die Coating (tons/yr)	Potential Emissions (tons/yr)
Acenaphthene	2.4E-04	2.6E-07		1.4E-07			2.6E-08		**2.4E-04**
Acenaphthylene	1.3E-03	2.6E-07		1.4E-07			2.6E-08		**1.3E-03**
Acetaldehyde	2.2E-01		7.9E-03	0.1					**2.9E-01**
Acetophenone	8.3E-07								**8.3E-07**
Acrolein	1.0E+00		2.6E-01	0.1					**1.4E+00**
Anthracene	7.8E-04	3.5E-07		1.9E-07			3.5E-08		**7.8E-04**
Antimony	2.1E-03								**2.1E-03**
Arsenic	5.7E-03	2.9E-05		1.5E-05			2.9E-06		**5.8E-03**
Benzene	1.1	3.1E-04		6.6E-02			3.1E-05		**1.2E+00**
Benzo(a)anthracene	1.7E-05	2.6E-07		1.4E-07			2.6E-08		**1.7E-05**
Benzo(a)pyrene	6.8E-04	1.7E-07		9.3E-08			1.8E-08		**6.8E-04**
Benzo(b)fluoranthene	2.6E-05	2.6E-07		1.4E-07			2.6E-08		**2.6E-05**
Benzo(g,h,i)perylene	2.4E-05	1.7E-07		9.3E-08			1.8E-08		**2.4E-05**
Benzo(k)fluoranthene	9.4E-06	2.6E-07		1.4E-07			2.6E-08		**9.8E-06**
Beryllium	2.9E-04	1.7E-06		9.3E-07			1.8E-07		**2.9E-04**
bis(2-Ethylhexyl)phthalate	1.2E-05								**1.2E-05**
Bromomethane (Methyl Bromide)	3.9E-03								**3.9E-03**
Cadmium	1.1E-03	1.6E-04		8.5E-05			1.6E-05		**1.3E-03**
Carbon tetrachloride	1.2E-02								**1.2E-02**
Chlorine	2.1E-01								**2.1E-01**
Chlorobenzene	8.6E-03								**8.6E-03**
Chloroform	7.3E-03								**7.3E-03**
Chloromethane (Methyl Chloride)	6.0E-03								**6.0E-03**
Chromium (Total)	5.5E-03	2.0E-04		1.1E-04			2.1E-05		**5.8E-03**
Chrysene	9.9E-06	2.6E-07		1.4E-07			2.6E-08		**1.0E-05**
Cobalt	1.7E-03	1.2E-05		6.5E-06			1.2E-06		**1.7E-03**
Dibenzo(a,h)anthracene	2.4E-06	1.7E-07		9.3E-08			1.8E-08		**2.7E-06**
Dichlorobenzene		1.7E-04		9.3E-05			1.8E-05		**2.9E-04**
1,2-Dichloroethane (Ethylene dichloride)	7.5E-03								**7.5E-03**
Dichloromethane (Methylene Chloride)	7.5E-02								**7.5E-02**
1,2-Dichloropropane (Propylene dichloride)	8.6E-03								**8.6E-03**
7,12-Dimethylbenz(a)anthracene		2.3E-06		1.2E-06			2.3E-07		**3.8E-06**
2,4-Dinitrophenol	4.7E-05								**4.7E-05**
Ethylbenzene	8.1E-03								**8.1E-03**
Fluoranthene	4.2E-04	4.4E-07		2.3E-07			4.4E-08		**4.2E-04**
Fluorene	8.8E-04	4.1E-07		2.2E-07			4.1E-08		**8.8E-04**
Formaldehyde	1.1	1.1E-02	1.6E-02	0.0	1.3	5.5E-04	3.7E-02		**2.6E+00**
Glycol ethers						5.8E-01	4.9E-01	6.6E-02	**1.1E+00**
Hexane		2.6E-01		1.4E-01			2.6E-02		**4.3E-01**
Hydrogen chloride	4.9								**4.9E+00**
Indeno(1,2,3,c,d)pyrene	2.3E-05	2.6E-07		1.4E-07			2.6E-08		**2.3E-05**
Lead	1.2E-02	7.3E-05		3.9E-05			7.3E-06		**1.3E-02**
Manganese	0.42	0.00		0.00			5.58E-06		**0.42**
Mercury	0.00	0.00		0.00			3.82E-06		**0.00**
Methanol			0.77	0.37	0.54			0.06	**1.73**
Methyl Methacrylate							1.90E-02		**0.02**
Methylene Diphenyl Diisocyanate (MDI)				0.01					**0.01**
2-Methylnaphthalene		0.00		0.00			3.52E-07		**0.00**
3-Methylchloranthrene		0.00		0.00			2.64E-08		**0.00**
Naphthalene	0.03	0.00		0.00			8.96E-06		**0.03**
Nickel	0.01	0.00		0.00			3.08E-05		**0.01**
4-Nitrophenol	0.00								**0.00**
Pentachlorophenol (PCP)	0.00								**0.00**
Phenanthrene	0.00	0.00		0.00			2.50E-07		**0.00**
Phenol	0.01		0.01	0.17					**0.19**
Polychlorinated Biphenyls	0.00								**0.00**
Polychlorinated dibenzo-p-dioxins	0.00								**0.00**
Polychlorinated dibenzo-p-furans	0.00								**0.00**
Propionaldehyde	0.02		0.01	0.09					**0.11**
Pyrene	0.00	0.00		0.00			7.34E-08		**0.00**
Selenium	0.00	0.00		0.00			3.52E-07		**0.00**
Styrene	0.49					2.10E-03	9.49E-02		**0.59**
Tetrachloroethene	0.01								**0.01**
Toluene	0.24	0.00		0.00			4.99E-05		**0.24**
Trichloroethene	0.01								**0.01**
1,1,1-trichloroethylene (Methyl Chloroform)	0.01								**0.01**
Vinyl chloride	0.00								**0.00**
Xylene	0.01								**0.01**
Totals	**10.05**	**0.28**	**1.07**	**1.02**	**1.83**	**0.58**	**0.67**	**0.13**	**15.62**

ATTACHMENT J: PROPOSED REQUIREMENTS PER 40 CFR PART 63 SUBPART JJJJJJ

Wood Fiber WV – Craigsville, WV

40 CFR Part 63 Subpart JJJJJJ - Proposed Applicable Requirements

What This Subpart Covers

§63.11193 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler as defined in §63.11237 that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in §63.2, except as specified in §63.11195

§63.11194 What is the affected source of this subpart?

(a) This subpart applies to each new, reconstructed, or existing affected source as defined in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers within a subcategory, as listed in §63.11200 and defined in §63.11237, located at an area source.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler within a subcategory, as listed in §63.11200 and as defined in §63.11237, located at an area source

(b) An affected source is an existing source if you commenced construction or reconstruction of the affected source on or before June 4, 2010.

§63.11196 What are my compliance dates?

(a) If you own or operate an existing affected boiler, you must achieve compliance with the applicable provisions in this subpart as specified in paragraphs (a)(1) through (3) of this section.

(1) If the existing affected boiler is subject to a work practice or management practice standard of a tune-up, you must achieve compliance with the work practice or management practice standard no later than March 21, 2014.

(2) If the existing affected boiler is subject to emission limits, you must achieve compliance with the emission limits no later than March 21, 2014.

(3) If the existing affected boiler is subject to the energy assessment requirement, you must achieve compliance with the energy assessment requirement no later than March 21, 2014.

(b) If you start up a new affected source on or before May 20, 2011, you must achieve compliance with the provisions of this subpart no later than May 20, 2011.

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) If you own or operate an industrial, commercial, or institutional boiler and would be subject to this subpart except for the exemption in §63.11195(b) for commercial and industrial solid waste incineration units covered by 40 CFR part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the waste to fuel switch as specified in §60.2145(a)(2) and (3) of subpart CCCC or §60.2710(a)(2) and (3) of subpart DDDD.

Emission Limits, Work Practice Standards, Emission Reduction Measures, and Management Practices

§63.11200 What are the subcategories of boilers?

The subcategories of boilers, as defined in §63.11237 are:

(a) Coal.

(b) Biomass.

(c) Oil.

(d) Seasonal boilers.

(e) Oil-fired boilers with heat input capacity of equal to or less than 5 million British thermal units (Btu) per hour.

(f) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.

(g) Limited-use boilers.

[78 FR 7506, Feb. 1, 2013]

§63.11201 What standards must I meet?

(a) You must comply with each emission limit specified in Table 1 to this subpart that applies to your boiler.

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to this subpart satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement.

(c) You must comply with each operating limit specified in Table 3 to this subpart that applies to your boiler.

(d) These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time you must comply only with Table 2 to this subpart.

General Compliance Requirements

§63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) You must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or a continuous monitoring system (CMS), including a continuous emission monitoring system (CEMS), a continuous opacity monitoring system (COMS), or a continuous parameter monitoring system (CPMS), where applicable. You may demonstrate compliance with the applicable mercury emission limit using fuel analysis if the emission rate calculated according to §63.11211(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using stack testing.

(c) If you demonstrate compliance with any applicable emission limit through performance stack testing and subsequent compliance with operating limits (including the use of CPMS), with a CEMS, or with a COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (3) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (vi) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.11224.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 8 to this subpart), (e)(1), and (e)(2)(i).

(2) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(3) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

Initial Compliance Requirements

§63.11210 What are my initial compliance requirements and by what date must I conduct them?

(a) You must demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by either conducting performance (stack) tests, as applicable, according to §63.11212 and Table 4 to this subpart or, for mercury, conducting fuel analyses, as applicable, according to §63.11213 and Table 5 to this subpart.

(b) For existing affected boilers that have applicable emission limits, you must demonstrate initial compliance with the applicable emission limits no later than 180 days after the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (k) of this section.

(c) For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, you must demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in paragraph (j) of this section.

(i) For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within subpart JJJJJJ or the boiler becoming subject to subpart JJJJJJ, you must demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes must be submitted according to §63.11225(g).

(j) For boilers located at existing major sources of HAP that limit their potential to emit (*e.g.,* make a physical change or take a permit limit) such that the existing major source becomes an area source, you must comply with the applicable provisions as specified in paragraphs (j)(1) through (3) of this section.

(1) Any such existing boiler at the existing source must demonstrate compliance with subpart JJJJJJ within 180 days of the later of March 21, 2014 or upon the existing major source commencing operation as an area source.

(3) Notification of such changes must be submitted according to §63.11225(g).

§63.11211 How do I demonstrate initial compliance with the emission limits?

(a) For affected boilers that demonstrate compliance with any of the emission limits of this subpart through performance (stack) testing, your initial compliance requirements include conducting performance tests according to §63.11212 and Table 4 to this subpart, conducting a fuel analysis for each type of fuel

burned in your boiler according to §63.11213 and Table 5 to this subpart, establishing operating limits according to §63.11222, Table 6 to this subpart and paragraph (b) of this section, as applicable, and conducting CMS performance evaluations according to §63.11224. For affected boilers that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler. For purposes of this subpart, boilers that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected boilers that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.11213 and Table 5 to this subpart.

(c) If you elect to demonstrate compliance with an applicable mercury emission limit through fuel analysis, you must conduct fuel analyses according to §63.11213 and Table 5 to this subpart and follow the procedures in paragraphs (c)(1) through (3) of this section.

(1) If you burn more than one fuel type, you must determine the fuel type, or mixture, you could burn in your boiler that would result in the maximum emission rates of mercury.

(2) You must determine the 90th percentile confidence level fuel mercury concentration of the composite samples analyzed for each fuel type using Equation 1 of this section.

$$P_{90} = \text{mean} + (SD * t) \quad \text{(Eq. 1)}$$

View or download PDF

Where:

P_{90} = 90th percentile confidence level mercury concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.

SD = Standard deviation of the mercury concentration in the fuel samples analyzed according to §63.11213, in units of pounds per million Btu.

t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable mercury emission limit, the emission rate that you calculate for your boiler using Equation 1 of this section must be less than the applicable mercury emission limit.

§63.11212 What stack tests and procedures must I use for the performance tests?

(c) You must conduct performance stack tests at the representative operating load conditions while burning the type of fuel or mixture of fuels that have the highest emissions potential for each regulated pollutant, and you must demonstrate initial compliance and establish your operating limits based on these performance stack tests. For subcategories with more than one emission limit, these requirements could result in the need to conduct more than one performance stack test. Following each performance

stack test and until the next performance stack test, you must comply with the operating limit for operating load conditions specified in Table 3 to this subpart.

(d) You must conduct a minimum of three separate test runs for each performance stack test required in this section, as specified in §63.7(e)(3) and in accordance with the provisions in Table 4 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A-7 to part 60 of this chapter to convert the measured PM concentrations and the measured mercury concentrations that result from the performance test to pounds per million Btu heat input emission rates.

§63.11213 What fuel analyses and procedures must I use for the performance tests?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) and (c) of this section and Table 5 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury in Table 1 of this subpart.

(b) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in Table 5 to this subpart. Each composite sample must consist of a minimum of three samples collected at approximately equal intervals during a test run period.

(c) Determine the concentration of mercury in the fuel in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 5 to this subpart.

§63.11214 How do I demonstrate initial compliance with the work practice standard, emission reduction measures, and management practice?

(b) If you own or operate an existing or new biomass-fired boiler or an existing or new oil-fired boiler, you must conduct a performance tune-up according to §63.11210(c) or (g), as applicable, and §63.11223(b). If you own or operate an existing biomass-fired boiler or existing oil-fired boiler, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted an initial tune-up of the boiler.

(c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, you must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to this subpart and that the assessment is an accurate depiction of your facility at the time of the assessment or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

(d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a

unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted 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

Continuous Compliance Requirements

§63.11220 When must I conduct subsequent performance tests or fuel analyses?

(a) If your boiler has a heat input capacity of 10 million Btu per hour or greater, you must conduct all applicable performance (stack) tests according to §63.11212 on a triennial basis, except as specified in paragraphs (b) through (e) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test

(d) If you demonstrate compliance with the mercury emission limit based on fuel analysis, you must conduct a fuel analysis according to §63.11213 for each type of fuel burned as specified in paragraphs (d)(1) through (3) of this section. If you plan to burn a new type of fuel or fuel mixture, you must conduct a fuel analysis before burning the new type of fuel or mixture in your boiler. You must recalculate the mercury emission rate using Equation 1 of §63.11211. The recalculated mercury emission rate must be less than the applicable emission limit.

(1) For existing boilers and new or reconstructed boilers that commenced construction or reconstruction on or before September 14, 2016, when demonstrating initial compliance with the mercury emission limit, if the mercury constituents in the fuel or fuel mixture are measured to be equal to or less than half of the mercury emission limit, you do not need to conduct further fuel analysis sampling until September 14, 2017, but must continue to comply with all applicable operating limits and monitoring requirements and must comply with the provisions as specified in paragraphs (d)(1)(i) and (ii) of this section.

(i) Fuel analysis sampling for mercury must be conducted by September 14, 2017.

(ii) If your fuel analysis results show that the mercury constituents in the fuel or fuel mixture are equal to or less than half of the mercury emission limit, you may choose to conduct fuel analysis sampling for mercury every 12 months.

§63.11221 Is there a minimum amount of monitoring data I must obtain?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.11205(c).

(b) You must operate the monitoring system and collect data at all required intervals at all times the affected source is operating and compliance is required, except for periods of monitoring system malfunctions or out-of-control periods (see §63.8(c)(7) of this part), repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any

sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data collected during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or quality control activities in calculations used to report emissions or operating levels. Any such periods must be reported according to the requirements in §63.11225. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan), failure to collect required data is a deviation of the monitoring requirements.

§63.11222 How do I demonstrate continuous compliance with the emission limits?

(a) You must demonstrate continuous compliance with each emission limit and operating limit in Tables 1 and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart and to paragraphs (a)(1) through (4) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.11196, whichever date comes first, you must continuously monitor the operating parameters. Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. Operating limits are confirmed or reestablished during performance tests.

(2) If you have an applicable mercury or PM emission limit, you must keep records of the type and amount of all fuels burned in each boiler during the reporting period. If you have an applicable mercury emission limit, you must demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of mercury than the applicable emission limit (if you demonstrate compliance through fuel analysis), or result in lower fuel input of mercury than the maximum values calculated during the last performance stack test (if you demonstrate compliance through performance stack testing).

(3) If you have an applicable mercury emission limit and you plan to burn a new type of fuel, you must determine the mercury concentration for any new fuel type in units of pounds per million Btu, using the procedures in Equation 1 of §63.11211 based on supplier data or your own fuel analysis, and meet the requirements in paragraphs (a)(3)(i) or (ii) of this section.

(i) The recalculated mercury emission rate must be less than the applicable emission limit.

(ii) If the mercury concentration is higher than mercury fuel input during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.11212 to demonstrate that the mercury emissions do not exceed the emission limit.

(4) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 and 3 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in §63.11225.

§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(b) Except as specified in paragraphs (c) through (f) of this section, you must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.

(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to

exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.

(g) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, you must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted 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.

§63.11224 What are my monitoring, installation, operation, and maintenance requirements?

(b) If you are using a control device to comply with the emission limits specified in Table 1 to this subpart, you must maintain each operating limit in Table 3 to this subpart that applies to your boiler as specified in Table 7 to this subpart. If you use a control device not covered in Table 3 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under §63.8(f).

(c) If you demonstrate compliance with any applicable emission limit through stack testing and subsequent compliance with operating limits, you must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section, you must develop, and submit to the EPA Administrator for approval upon request, a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan (if requested) at least 60 days before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device).

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii).

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(e) If you have an applicable opacity operating limit under this rule, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (e)(1) through (8) of this section by the compliance date specified in §63.11196.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8 and according to Performance Specification 1 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must calculate and record 6-minute averages from the opacity monitoring data and determine and record the daily block average of recorded readings, except as provided in §63.11221(c).

(8) For purposes of collecting opacity data, you must operate the COMS as specified in §63.11221(b). For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, except that you must exclude certain data as specified in §63.11221(c). Periods when COMS data are unavailable may constitute monitoring deviations as specified in §63.11221(d).

§63.11225 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.

(2) An Initial Notification must be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard.

(3) If you are required to conduct a performance stack test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin.

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you own or operate a new boiler subject only to a requirement to conduct a biennial or 5-year tune-up or you must conduct a performance stack test. If you

own or operate a new boiler subject to a requirement to conduct a tune-up, you are not required to prepare and submit a Notification of Compliance Status for the tune-up. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of this section. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13.

(ii) “This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler.”

(iii) “This facility has had an energy assessment performed according to §63.11214(c).”

(iv) For units that install bag leak detection systems: “This facility complies with the requirements in §63.11224(f).”

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.

(5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to the energy assessment requirement and/or a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the

source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(iii) “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.”

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) of this chapter, you must keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1) of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4, you must keep records documenting that the material is a listed non-waste under §241.4(a).

(iii) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. For each new oil-fired boiler that meets the requirements of §63.11210(e) or (f), you must keep records, on a monthly basis, of the type of fuel combusted.

(v) For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.

(vi) For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

(3) For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation that were done to demonstrate compliance with the mercury emission limits. Supporting documentation should include results of any fuel analyses. You can use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(6) You must keep the records of all inspection and monitoring data required by §§63.11221 and 63.11222, and the information identified in paragraphs (c)(6)(i) through (vi) of this section for each required inspection or monitoring.

(i) The date, place, and time of the monitoring event.

(ii) Person conducting the monitoring.

(iii) Technique or method used.

(iv) Operating conditions during the activity.

(v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation.

(vi) Maintenance or corrective action taken (if applicable).

(7) If you use a bag leak detection system, you must keep the records specified in paragraphs (c)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output.

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings.

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

(e)(1) Within 60 days after the date of completing each performance test (as defined in §63.2) required by this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (e)(1)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*https://www3.epa.gov/ttn/chief/ert/ert_info.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in §63.13.

(2) Within 60 days after the date of completing each CEMS performance evaluation (as defined in §63.2), you must submit the results of the performance evaluation following the procedure specified in either paragraph (e)(2)(i) or (ii) of this section.

(i) For performance evaluations of continuous monitoring systems measuring relative accuracy test audit (RATA) pollutants that are supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) Performance evaluation data must be submitted in a file format generated through the use of the EPA's ERT or an alternate file format consistent with the XML schema listed on the EPA's ERT Web site. If you claim that some of the performance evaluation information being

submitted is CBI, you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic storage media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For any performance evaluations of continuous monitoring systems measuring RATA pollutants that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the evaluation, you must submit the results of the performance evaluation to the Administrator at the appropriate address listed in §63.13.

(f) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(g) If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within this subpart, in the boiler becoming subject to this subpart, or in the boiler switching out of this subpart due to a fuel change that results in the boiler meeting the definition of gas-fired boiler, as defined in §63.11237, or you have taken a permit limit that resulted in you becoming subject to this subpart or no longer being subject to this subpart, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice.

(2) The date upon which the fuel switch, physical change, or permit limit occurred.

Other Requirements and Information

§63.11235 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you

§63.11236 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or an administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that

agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (c) of this section are retained by the EPA Administrator and are not transferred to the state, local, or tribal agency.

(c) The authorities that cannot be delegated to state, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emission standard and work practice standards in §63.11223(a).

(2) Approval of alternative opacity emission standard under §63.6(h)(9).

(3) Approval of major change to test methods under §63.7(e)(2)(ii) and (f). A “major change to test method” is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” is defined in §63.90.

(5) Approval of major change to recordkeeping and reporting under §63.10(f). A “major change to recordkeeping/reporting” is defined in §63.90.

Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices

As stated in §63.11201, you must comply with the following applicable work practice standards, emission reduction measures, and management practices:

If your boiler is in this subcategory . . .	**You must meet the following . . .**
1. Existing or new coal-fired, new biomass-fired, or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)	Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
2. Existing coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.

3. New coal-fired boilers with heat input capacity of less than 10 MMBtu/hr that do not meet the definition of limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in §63.11223.
4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.
5. New oil-fired boilers with heat input capacity greater than 5 MMBtu/hr that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in §63.11223.
6. Existing biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.
7. New biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler, or use an oxygen trim system that maintains an optimum air-to-fuel ratio	Conduct a tune-up of the boiler biennially as specified in §63.11223.
8. Existing seasonal boilers	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.
9. New seasonal boilers	Conduct a tune-up of the boiler every 5 years as specified in §63.11223.

10. Existing limited-use boilers	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.
11. New limited-use boilers	Conduct a tune-up of the boiler every 5 years as specified in §63.11223.
12. Existing oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.
13. New oil-fired boilers with heat input capacity of equal to or less than 5 MMBtu/hr	Conduct a tune-up of the boiler every 5 years as specified in §63.11223.
14. Existing coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler every 5 years as specified in §63.11223.
15. New coal-fired, biomass-fired, or oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct a tune-up of the boiler every 5 years as specified in §63.11223.
16. Existing coal-fired, biomass-fired, or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater), not including limited-use boilers	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least 1 year between January 1, 2008, and the compliance date specified in §63.11196 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of

	the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237:
	(1) A visual inspection of the boiler system,
	(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
	(3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,
	(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
	(5) A list of major energy conservation measures that are within the facility's control,
	(6) A list of the energy savings potential of the energy conservation measures identified, and
	(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

Table 3 to Subpart JJJJJJ of Part 63—Operating Limits for Boilers With Emission Limits

As stated in §63.11201, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable emission limits using . . .	**You must meet these operating limits except during periods of startup and shutdown . . .**
1. Fabric filter control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Install and operate a bag leak detection system according to §63.11224 and

	operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.
2. Electrostatic precipitator control	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); OR b. Maintain the 30-day rolling average total secondary electric power of the electrostatic precipitator at or above the minimum total secondary electric power as defined in §63.11237.
3. Wet scrubber control	Maintain the 30-day rolling average pressure drop across the wet scrubber at or above the minimum scrubber pressure drop as defined in §63.11237 and the 30-day rolling average liquid flow rate at or above the minimum scrubber liquid flow rate as defined in §63.11237.
4. Dry sorbent or activated carbon injection control	Maintain the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent injection rate or minimum activated carbon injection rate as defined in §63.11237. When your boiler operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction (*e.g.,* actual heat input divided by the heat input during the performance stack test; for 50 percent load, multiply the injection rate operating limit by 0.5).
5. Any other add-on air pollution control type.	This option is for boilers that operate dry control systems. Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average).
6. Fuel analysis	Maintain the fuel type or fuel mixture (annual average) such that the mercury emission rate calculated according to §63.11211(c) are less than the applicable emission limit for mercury.
7. Performance stack testing	For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test.
8. Oxygen analyzer system	For boilers subject to a CO emission limit that demonstrate compliance with an oxygen analyzer system as specified in §63.11224(a), maintain the 30-day rolling average oxygen level at or above the minimum oxygen level as defined in §63.11237. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7).

Table 4 to Subpart JJJJJJ of Part 63—Performance (Stack) Testing Requirements

As stated in §63.11212, you must comply with the following requirements for performance (stack) test for affected sources:

To conduct a performance test for the following pollutant. . .	**You must. . .**	**Using. . .**
1. Particulate Matter	a. Select sampling ports location and the number of traverse points	Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005),[a] or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 in appendix A-3 to part 60 of this chapter.
	e. Measure the particulate matter emission concentration	Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A-3 and A-6 to part 60 of this chapter and a minimum 1 dscm of sample volume per run.
	f. Convert emissions concentration to lb/MMBtu emission rates	Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.
2. Mercury	a. Select sampling ports location and the number of traverse points	Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G in appendix A-2 to part 60 of this chapter.

	c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005),[a] or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 in appendix A-3 to part 60 of this chapter.
	e. Measure the mercury emission concentration	Method 29, 30A, or 30B in appendix A-8 to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784-02.[a] Collect a minimum 2 dscm of sample volume with Method 29 of 101A per run. Use a minimum run time of 2 hours with Method 30A.
	f. Convert emissions concentration to lb/MMBtu emission rates	Method 19 F-factor methodology in appendix A-7 to part 60 of this chapter.
3. Carbon Monoxide	a. Select the sampling ports location and the number of traverse points	Method 1 in appendix A-1 to part 60 of this chapter.
	b. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B in appendix A-2 to part 60 of this chapter, or ASTM D6522-00 (Reapproved 2005),[a] or ANSI/ASME PTC 19.10-1981.[a]
	c. Measure the moisture content of the stack gas	Method 4 in appendix A-3 to part 60 of this chapter.
	d. Measure the carbon monoxide emission concentration	Method 10, 10A, or 10B in appendix A-4 to part 60 of this chapter or ASTM D6522-00 (Reapproved 2005)[a] and a minimum 1 hour sampling time per run.

Table 5 to Subpart JJJJJJ of Part 63—Fuel Analysis Requirements

As stated in §63.11213, you must comply with the following requirements for fuel analysis testing for affected sources:

To conduct a fuel analysis for the following pollutant . . .	You must. . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in §63.11213(b) or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for biomass) or equivalent.
	b. Compose fuel samples	Procedure in §63.11213(b) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B[a] (for solid samples) or EPA SW-846-3020A[a] (for liquid samples) or ASTM D2013/D2013M[a] (for coal) or ASTM D5198[a] (for biomass) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173[a] or ASTM E871[a] or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722[a] (for coal) or EPA SW-846-7471B[a] (for solid samples) or EPA SW-846-7470A[a] (for liquid samples) or equivalent.
	g. Convert concentrations into units of lb/MMBtu of heat content	

Table 6 to Subpart JJJJJJ of Part 63—Establishing Operating Limits

As stated in §63.11211, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
1. PM or mercury	a. Wet scrubber operating parameters	Establish site-specific minimum scrubber pressure drop and	Data from the pressure drop and liquid flow rate	(a) You must collect pressure drop and liquid flow rate data every 15 minutes

		minimum scrubber liquid flow rate operating limits according to §63.11211(b)	monitors and the PM or mercury performance stack tests	during the entire period of the performance stack tests;
				(b) Determine the average pressure drop and liquid flow rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
	b. Electrostatic precipitator operating parameters	Establish a site-specific minimum total secondary electric power operating limit according to §63.11211(b)	Data from the secondary electric power monitors and the PM or mercury performance stack tests	(a) You must collect secondary electric power data every 15 minutes during the entire period of the performance stack tests;
				(b) Determine the average total secondary electric power for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
2. Mercury	Dry sorbent or activated carbon injection rate operating parameters	Establish a site-specific minimum sorbent or activated carbon injection rate operating limit according to §63.11211(b)	Data from the sorbent or activated carbon injection rate monitors and the mercury performance stack tests	(a) You must collect sorbent or activated carbon injection rate data every 15 minutes during the entire period of the performance stack tests;

				(b) Determine the average sorbent or activated carbon injection rate for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
				(c) When your unit operates at lower loads, multiply your sorbent or activated carbon injection rate by the load fraction, as defined in §63.11237, to determine the required injection rate.
3. CO	Oxygen	Establish a unit-specific limit for minimum oxygen level	Data from the oxygen analyzer system specified in §63.11224(a)	(a) You must collect oxygen data every 15 minutes during the entire period of the performance stack tests;
				(b) Determine the average hourly oxygen concentration for each individual test run in the three-run performance stack test by computing the average of all the 15-minute readings taken during each test run.
4. Any pollutant for which compliance is demonstrated by a performance stack test	Boiler operating load	Establish a unit-specific limit for maximum operating load according to §63.11212(c)	Data from the operating load monitors (fuel feed monitors or steam generation monitors)	(a) You must collect operating load data (fuel feed rate or steam generation data) every 15 minutes during the entire period of the performance test.

				(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

Table 7 to Subpart JJJJJJ of Part 63—Demonstrating Continuous Compliance

As stated in §63.11222, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits . . .	**You must demonstrate continuous compliance by . . .**
1. Opacity	a. Collecting the opacity monitoring system data according to §63.11224(e) and §63.11221; and
	b. Reducing the opacity monitoring data to 6-minute averages; and
	c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to §63.11224(f) and operating the fabric filter such that the requirements in §63.11222(a)(4) are met.
3. Wet Scrubber Pressure Drop and Liquid Flow Rate	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.11224 and 63.11221; and
	b. Reducing the data to 30-day rolling averages; and

	c. Maintaining the 30-day rolling average pressure drop and liquid flow rate at or above the minimum pressure drop and minimum liquid flow rate according to §63.11211.
4. Dry Scrubber Sorbent or Activated Carbon Injection Rate	a. Collecting the sorbent or activated carbon injection rate monitoring system data for the dry scrubber according to §§63.11224 and 63.11221; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average sorbent or activated carbon injection rate at or above the minimum sorbent or activated carbon injection rate according to §63.11211.
5. Electrostatic Precipitator Total Secondary Electric Power	a. Collecting the total secondary electric power monitoring system data for the electrostatic precipitator according to §§63.11224 and 63.11221; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average total secondary electric power at or above the minimum total secondary electric power according to §63.11211.
6. Fuel Pollutant Content	a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.11213 as applicable; and
	b. Keeping monthly records of fuel use according to §§63.11222(a)(2) and 63.11225(b)(4).
7. Oxygen content	a. Continuously monitoring the oxygen content of flue gas according to §63.11224 (This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.11224(a)(7)); and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average oxygen content at or above the minimum oxygen level established during the most recent CO performance test.
8. CO emissions	a. Continuously monitoring the CO concentration in the combustion exhaust according to §§63.11224 and 63.11221; and

	b. Correcting the data to 3 percent oxygen, and reducing the data to 1-hour averages; and
	c. Reducing the data from the hourly averages to 10-day rolling averages; and
	d. Maintaining the 10-day rolling average CO concentration at or below the applicable emission limit in Table 1 to this subpart.
9. Boiler operating load	a. Collecting operating load data (fuel feed rate or steam generation data) every 15 minutes; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average at or below the operating limit established during the performance test according to §63.11212(c) and Table 6 to this subpart