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**west virginia department of environmental protection**

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Division of Air Quality  
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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
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**ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Application No.: R13-1147T  
Plant ID No.: 083-00025  
Applicant: Armstrong Hardwood Flooring Company (Armstrong)  
Facility Name: Beverly Plant  
Location: Beverly, Randolph County, WV  
NAICS Code: 321918 - Other Millwork (including flooring)  
Application Type: Class II Administrative Update  
Received Date: July 1, 2016  
Engineer Assigned: July 5, 2016  
Fee Amount: \$300.00  
Date Received: July 5, 2016  
Complete Date: July 12, 2016 (date Affidavit of Publication arrived at DAQ)  
Due Date: September 12, 2016  
Applicant Ad Date: July 9, 2016  
Newspaper: *THE INTER\_MOUNTAIN*  
UTM's: Easting: 597.41 Northing: 4,296.88 Zone: 17  
Description: Installation of a natural gas-fired boiler. This update also removes the temporary propane-fired boiler from the permit.

**DESCRIPTION OF PROCESS**

**Overall Facility Description**

This description is found in Attachment G, page 65 to the permit application:

- Green lumber is purchased and stacked in the Mill Yard to facilitate air drying of lumber.
- The lumber is then further dried in the steam heated pre-dryer and/or one of 38 lumber kilns.

- Kiln-dried lumber is transferred by one of three lumber tilts to the Mill rough end saws.
- The rough end saws cut the lumber into strips for transfer to one of six lines of knot saws, side matchers, and end matchers.
- The unfinished wood flooring is graded, stacked and either stored or transferred to one of two finishing lines.
- Finished hardwood flooring is graded and packaged for shipment to mill customers.
- Two wood-fired boilers provide heat and steam to the plant.
- The proposed natural gas-fired boiler will provide backup heat and steam to the plant, as needed.

**Class II Administrative Update R13-1147T**

The following introduction is found on page 1 of the application:

Armstrong is submitting Class II Administrative Update R13-1147T for the installation of a portable 33.5 MMBtu/hr natural gas-fired boiler (Emission Unit ID: 001-04; Emission Point ID: S31) equipped with low NO<sub>x</sub> burners and flue gas recirculation. The portable boiler will serve as a backup to the two existing wood-fired boilers (Emission Units ID's 001-01 and 001-002), but can also be run when the wood-fired boilers are operating.

In addition, the application will serve to remove a previously permitted temporary propane-fired boiler (Emission Unit ID: 001-03) from the permit.

**Table 1: Changes to the Emission Units Table Resulting from Permit Application R13-1147T.**

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
<del>001-03</del>	<del>S30</del>	<del>Propane Gas-fired Boiler</del>	<del>2007</del>	<del>96.7 MMBtu/hr</del>	<del>None</del>
001-04	S31	Natural Gas-fired Boiler	2016	33.50 MMBtu/hr	None

**Table 2: Natural Gas-fired Boiler - Emission Unit Data Sheet (EUDS).**

Item		Response
<b>Equipment Information</b>		
Manufacturer:		No Information Provided in Application
Use:		
Model No.:		
Serial No.:		
Rated Boiler Horsepower:		800 hp (Proposed Boiler Max Heat Input Capacity; Application R13-1147T; Emission Calculations; page 69.)
Maximum Design Heat Input:		33.5 MMBtu/hr
Steam Produced (at maximum design output)		No Information Provided in Application
Operating Schedule:		
Type of firing equipment to be used:		
Proposed type of burners and orientation:		
Type of Draft:		
<b>Stack or Vent Data</b>		
Emission Point ID:		S31
Inside Diameter or Dimensions:		No Information Provided in Application
Gas Exit Temperature:		
Height:		
Gas Flow Rate:		
Stack Serves:		
<b>Fuel Requirements</b>		
Quantity	Hourly	Natural Gas - 32,843 ft <sup>3</sup> /hr
	Annual	Annual Natural Gas Usage Rates Expect Actual - 36.127 X 10 <sup>6</sup> ft <sup>3</sup> /yr (based on operating 1,100 hr/yr)  Permitted - 287.7 X 10 <sup>6</sup> ft <sup>3</sup> /yr (based on operating 8,760 hr/yr)

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**Table 2: Natural Gas-fired Boiler - Emission Unit Data Sheet (EUDS).**

Item	Response
BTU Content:	1,020 Btu/ft <sup>3</sup> - Natural Gas
Gas Burner Mode of Control:	No Information Provided in Application
Gas Burner Manufacturer:	
Oil Burner Manufacturer:	
Fuel Oil Preheated:	

**SITE INSPECTION**

The writer did not conduct a site inspection/visit for this update.

Armstrong's Beverly Plant is an existing facility. It was last inspected (full on-site inspection) on June 10, 2015 by DAQ Enforcement Inspector Dan Bauerle who found that the facility did not conduct 2014 boiler tune ups (wood-fired boilers: 001-01 and 001-02) which are on a biennial frequency (every other year).

Directions to the facility as given in the application are as follows:

From Charleston, take Interstate 79 North to exit 99. Proceed east on US Rout 33 to Elkins, West Virginia. Take US Route 250 South from Elkins to Beverly. The facility is located on the right of and adjacent to US Route 250, approximately 1.6 miles south of Beverly in Randolph County.

**ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER**

The writer review Armstrong's calculations and found them to be logical and correct. Maximum annual emissions are based on operating the natural gas-fired boiler 8,760 hr/yr. Note that Armstrong only expects to operate the boiler 1,100 hr/yr.

Pollutant	Maximum Emissions <sup>(1)</sup>	
	(lb/hr)	(ton/yr) <sup>(2)</sup>
PM/PM <sub>10</sub> /PM <sub>2.5</sub> <sup>(3)</sup>	0.25	1.09
NO <sub>x</sub>	1.64	7.19
CO	2.76	12.08

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Pollutant	Maximum Emissions <sup>(1)</sup>	
	(lb/hr)	(ton/yr) <sup>(2)</sup>
SO <sub>2</sub>	0.02	0.09
VOC	0.18	0.79
(1) Emissions based on manufacturer-provided emission rates. (2) Based on operating 8,760 hr/yr. (3) The hourly particulate matter emission limit is more stringent than the maximum allowable emission limit under 45CSR§2-4.1.b. (3.015 lb/hr). Compliance with this streamlined limit assures compliance with 45CSR§2-4.1.b.		

## REGULATORY APPLICABILITY

Armstrong's Beverly Plant is a major, stationary source under Rule 13, a Title V source and an area source for Hazardous Air Pollutants (HAPs).

The following State and Federal Rules were examined for applicability:

45CSR2 - "To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers"

No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

[45CSR§2-3.1.]

Compliance with the visible emission requirements of subsection 3.1 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. [45CSR§2-3.2.]

For Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units in million B.T.U.'s per hour, provided however that no more than six hundred (600) pounds per hour of particulate matter shall be discharged into the open air from all such units; [45CSR§2-4.1.b.]

$$\begin{aligned} \text{Hourly PM Limit} &= 0.09 \times 33.5 \\ &= 3.015 \text{ lb/hr} \end{aligned}$$

No person shall construct, modify or relocate any fuel burning unit without first obtaining a permit in accordance with the provisions of W.

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Va. Code §22-5-1 et seq., and Series 13, 14, 19 and 30 of Title 45.  
**[45CSR§2-7.1.]**

The owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each fuel burning unit in a manner to be established by the Director. Such records are to be maintained on-site and made available to the Director or his duly authorized representative upon request.  
**[45CSR§2-8.3.c.]**

Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in electronic form. **[45CSR§2-8.3.d.]**

At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. **[45CSR§2-9.2.]**

45CSR2A - “Testing, Monitoring, Recordkeeping and Reporting Requirements under 45CSR2”

Series 2A provides guidance and clarification for complying with the testing, monitoring, recordkeeping and reporting requirements of 45CSR2 - “To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.”

The owner or operator of a fuel burning unit(s) shall maintain records of the operating schedule, and the quality and quantity of fuel burned in each fuel burning unit as specified in paragraphs 7.1.a.1 through 7.1.a.6, as applicable. **[45CSR§2A-7.1.a.]**

For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.  
**[45CSR§2A-7.1.a.1.]**

For fuel burning unit(s) which burn only wood, such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis and a quarterly ash and BTU analysis.  
**[45CSR§2A-7.1.a.3.]**

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45CR10 - "To Prevent and Control Air Pollution From the Emission of Sulfur Oxides."

Rule is applicable, but for a natural gas-fired boiler there are no substantive requirements.

45CSR13 - "Permits for Class II Administrative Update, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation."

Armstrong submitted a complete application (deemed complete on July 12, 2016, the date the newspaper affidavit of publication arrived at the DAQ) for the addition of a portable 33.5 MMBtu/hr natural gas-fired boiler; ran a legal advertisement (in *THE INTER\_MOUNTAIN* newspaper on July 9, 2016); and paid a \$300.00 application fee (July 5, 2016) to obtain a Class II Administrative Update permit.

45CSR16 "Standards of Performance for New Stationary Sources"

Adopts by reference the standards of performance for new stationary sources promulgated by the United States Environmental Protection Agency pursuant to section 111(b) of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement the standards of performance for new stationary sources set forth in 40 CFR Part 60. The rule also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

40 CFR 60, Subpart Dc was found to be applicable. See the discussion which follows:

40 CFR 60,  
Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units."

Because the boiler will have a heat input of greater than 10 MMBtu/hr and less than or equal to 100 MMBtu/hr and will be constructed after June 9, 1989, it is subject to this subpart. However no emissions limit(s) apply to boiler because it will burn only natural gas. The following requirements apply:

- Submit a notification of construction within 30 days of commencing construction and a notification of actual startup within 15 days after

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startup, including the design heat input capacity of the affected facility and the fuel(s) to be combusted in the affected facility.

**[40 CFR 60.48c(a), 40 CFR 60.7]**

- Maintain records of the amount of each fuel combusted in the affected source during each calendar month or as an alternative, the owner or operator of the affected source may elect to maintain records of the total amount of each fuel delivered of the property during each calendar month. **[40 CFR 60.48c(g)(2)]**

This requirement was streamlined. See below, section entitled: "MONITORING OF OPERATIONS," 4.4.5. Also, see above, Rule 45CSR2A.

**40CSR30 - "Requirements for Operating Permits."**

Armstrong's facility has the potential to emit over 100 tons per year of carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), and volatile organic compounds (VOCs). Due to this facility's potential to emit over 100 tons per year of criteria pollutants, Armstrong is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

**45CSR34 - "Emission Standards for Hazardous Air Pollutants for Source Categories Pursuant to 40 CFR, Part 63"**

This rule establishes and adopts a program of national emission standards for hazardous air pollutants (NESHAPS) and other regulatory requirements promulgated by the United States Environmental Protection Agency pursuant to 40 CFR Parts 61, 63 and section 112 of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit (or have the potential to emit) one or more of the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a), or one or more of the substances listed as hazardous air pollutants in section 112(b) of the CAA. The Secretary hereby adopts these standards by reference. The Secretary also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

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40 CFR 63, Subpart JJJJJJ is not applicable. See the discussion which follows:

40 CFR 63,  
Subpart JJJJJJ

“National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources”

Not Applicable. This rule does not apply because Armstrong’s boiler (001-004; S31) will burn only natural gas, i.e., the boiler meets the definition of a gas-fired boiler given in §40 CFR§63.11237:

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.  
**[40 CFR §63.11237]**

## **TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS**

The combustion of natural gas results in the formation of very small amounts of Hazardous Air Pollutants (HAP).

## **AIR QUALITY IMPACT ANALYSIS**

No modeling studies were performed.

## **MONITORING OF OPERATIONS**

The following changes or additions were made to the Monitoring (Section 4.2.), Recordkeeping (Section 4.4.) and Reporting (Section 4.5.) Sections of permit R13-1147T:

- 4.2.1. For the purpose of determining compliance with the opacity limit of 4.1.5., the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for the wood-fired boilers (001-01 & 001-02) **and the natural gas-fired boiler (001-04)**. The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40 CFR Part 60, Appendix A, Method 9 certification course.

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These checks shall be performed at the stacks (emission points S08 and S31) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

Visible emission checks shall be conducted on a weekly basis. If visible emissions are present, the permittee shall conduct an opacity reading using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the visible emission check. In accordance with Method 9, each observation shall be a minimum of six (6) minutes, unless any one 15 second reading is greater than the opacity limit, in which case the observation period shall be extended to a minimum of 60 minutes or until a violation of the emissions standard has been documented; whichever is a shorter period.

[45CSR§13-5.11.]

4.4.5. The owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each of the two wood-fired fuel burning units (001-01 & 001-02). Such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily (001-01 & 001-02) basis and a quarterly ash (001-01 & 001-02) and BTU (001-01 & 001-02) analysis. Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in electronic form.

[45CSR§§2-8.3.c., 8.3.d.; 45CSR§§2A-7.1.a.1., 7.1.a.3.]

4.4.5. The owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in the natural gas-fired boiler (001-04). Such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a monthly (001-04) basis. Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in electronic form.

[45CSR§§2-8.3.c., 8.3.d.; 45CSR§§2A-7.1.a.1., 7.1.a.3.; 40 CFR § 60.48c(g)(2)]

4.5.2. A notification of construction shall be submitted within 30 days of commencing construction of the natural gas-fired boiler (001-04). A notification of actual startup shall be submitted within 15 days after startup, including the design heat input capacity of the affected facility and the fuel(s) to be combusted in the affected facility.

[40 CFR § 60.48c(a), 40 CFR § 60.7]

## RECOMMENDATION TO DIRECTOR

The information supplied in permit application R13-1147T indicates that compliance with all applicable regulations will be achieved. Therefore, it is the writer's recommendation that this Class II Administrative Update permit for the addition of a portable 33.5 MMBtu/hr natural gas-fired boiler at Armstrong's Beverly Plant, Randolph County, WV be granted.

  
\_\_\_\_\_  
John Legg  
Permit Writer  
  
\_\_\_\_\_  
September 9, 2016

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This permit will supersede and replace Permit R13-~~147R~~147S.

Facility Location: Beverly, Randolph County, West Virginia  
Mailing Address: PO Box 160  
Beverly, WV 26253  
Facility Description: Hardwood Flooring Manufacturing  
NAICS Codes: 321918  
UTM Coordinates: 597.41km Easting • 4,296.88 km Northing • Zone 17  
Permit Type: Class III Administrative Update  
Description of Change: Typographical Errors in Table 1.0, Installation of a natural gas-fired boiler (Emission Limits Unit ID: 001-04; Emission Point ID: S31). The natural gas-fired boiler and the two wood-fired boilers can be operated at the same time. This update also removes the temporary propane-fired boiler (Emission Unit ID: 001-03) from the permit.

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.*

*The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.*

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
001-01	S08	No. 1 Wood-Fired Boiler	1990	48.8 MMBtu/hr	Cyclone #2, Dry ESP (008)
001-02	S08	No. 2 Wood-Fired Boiler	1990	48.8 MMBtu/hr	Cyclone #2, Dry ESP (008)
001-0304	S30S31	<del>Propane</del> Portable Natural Gas—Fired Boiler (with low-NOx burners and flue gas recirculation)	<del>2007</del> 2016	<del>96.7</del> 33.5 MMBtu/hr	N/A
002-01	S03	No. 1 Finishing Line	1993	8,500 ft <sup>2</sup> /hr	Baghouse (003)
002-01A	S12.01	No. 1 Finish Line - Rollcoaters (2) (apply stain and/or water)	1993	10.11 gal/hr (stain)	Baghouse (003)
002-01B	S13.01	Vacuum Stain Table	1993	N/A	N/A
002-01C	S14.01	No. 1 Finish Line – Stain Oven	1993	1.6 MMBtu/hr	N/A
002-01D	S15.01	UV Lights	1993	300 Watts	N/A
002-01D.1	S15.01.1	No. 1 Finish Line – DE-Nibbers (3 Head)	2009	NA	Baghouse (003)
002-01D.2	S15.01.2	Fill Coater	2009	6 gal/hr	N/A
002-01D.3	S15.01.3	UV Oven	2009	300 Watts	N/A
002-01D.4	S15.01.4	No. 1 Finish Line –DE-Nibbers (3 Head)	1993	NA	Baghouse (003)
002-01E	S16.01	No. 1 Finish Line – Sealer #1	1993	6.0 gal/hr	N/A
002-01F	S17.01	UV Lights, Exhaust A	1993	175-275 MJ	N/A
002-01G	S18.01	UV Lights, Exhaust B	1993	175-275 MJ	N/A
002-01H	S19.01	No. 1 Finish Line – Sealer #2	1993	6.0 gal/hr	N/A
002-01I	S20.01	UV Lights, Exhaust A	1993	450-650 MJ	N/A
002-01J	S21.01	UV Lights, Exhaust B	1993	450-650 MJ	N/A
002-01D.5	S21.01.1	No. 1 Finish Line – DE-Nibbers (3 Head)	1993	NA	Baghouse (003)
002-01K	S22.01	No. 1 Finish Line – Topcoat Rollcoater 1	1993	6.0 gal/hr	N/A
002-01L	S23.01	UV Lights, Exhaust A	1993	175-275 MJ	N/A
002-01M	S24.01	UV Lights, Exhaust B	1993	175-275 MJ	N/A
002-01N	S25.01	No. 1 Finish Line – Topcoat Rollcoater 2	1993	6.0 gal/hr	N/A
002-01O	S26.01	No. 1 Finish Line – Topcoat Rollcoater 3	1993	6.0 gal/hr	N/A
002-01P	S27.01	UV Lights, Exhaust A	1993	750-1000 MJ	N/A

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### 2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

### 2.4. Term and Renewal

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-~~1147Q~~1147S. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

### 2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit ~~Application~~Applications R13-1147 through R13-~~1147R~~1147T, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;  
[45CSR§§13-5.11 and 10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

### 2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Combined emissions from the two (2) 48.8 MMBtu/hr boilers (001-01, 001-02) shall be vented to and controlled by an electrostatic precipitator (008), prior to release to the atmosphere. Due to unavoidable malfunction or maintenance of the electrostatic precipitator, only one (1) boiler may be operated. The permittee shall keep records of all electrostatic precipitator shutdowns, and note which boiler is operated during this time period.  
 [45CSR§13-5.11.]

4.1.2. Maximum emissions to the atmosphere from the electrostatic precipitator (emission point ID: S08) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions <sup>(1)</sup> (lb/hr)	Maximum Annual Emissions (ton/year) <sup>(1)</sup>
Nitrogen Oxides (NOx)	24.20	106.00
Carbon Monoxide (CO)	51.56	225.85
Particulate Matter <sup>(2)</sup> (PM)	16.34	71.60
Sulfur Dioxide <sup>(3)</sup> (SO <sub>2</sub> )	64.58	95.01
Volatile Organic Compounds (VOC)	9.02	39.52
Hazardous Air Pollutants		
Acrolein	0.40	1.75
Benzene	0.41	1.80
Formaldehyde	0.43	1.88
Hydrogen Chloride (HCL)	1.86	8.15
Total Aggregated HAPs <sup>(4)</sup>	3.76	16.46

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(1) Maximum hourly and annual emissions limitations represent aggregated emissions from both boilers (001-01 & 001-02).

(\*)

(2) The hourly particulate emission limit reflects the maximum allowable under 45CSR§2-4.1.c. for boilers 001-01 and 001-02.

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(3) The hourly SO<sub>2</sub> emission limit is more stringent than the maximum allowable emission limit under 45CSR§10-3.3.f. (312.32 lb/hr). Compliance with this streamlined limit assures compliance with 45CSR§10-3.3.f.

(4) Total aggregated HAPs for the boilers listed above also include non-speciated HAPs listed in the application.

[45CSR§13-5.11.]

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4.1.3. Maximum emissions to the atmosphere from the 96.7 MMBTU/hr propane gas-fired boiler (Emission Unit ID: S30001-04; Emission Point ID: S31) shall burn only natural gas at rates not to exceed 32,850 scf/hr and 287.7 MM scf/yr based on firing natural gas with a heating value of 1,020 Btu/scf at a maximum operating rate of 8,760 hr/yr.

4.1.3.4.1.4. The natural gas-fired boiler (001-04; S31) shall not exceed the following maximum emissions limitations:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions Limitations (ton/year) <sup>(1)</sup>
Nitrogen Oxides	20.12	174.02
Carbon Monoxide	3.39	0.68
Particulate Matter (PM <sub>10</sub> /PM <sub>2.5</sub> ) <sup>(2)</sup>	0.6425	0.13109
NO <sub>x</sub>	1.64	7.19
CO	2.76	12.08
Volatile Organic Compounds (VOC)	0.5318	0.1179

(1) Maximum annual emissions limitations represent emissions associated with 400 hours of operation of the boiler.

(1) Based on operating 8,760 hours per year.

(2) The hourly particulate matter emission limit is more stringent than the maximum allowable limit allowed under 45CSR§2-4.1.b. (8,793.015 lb/hr). Compliance with this streamlined limit assures compliance with 45CSR§2-4.1.b.

[45CSR§13-5.11.]

4.1.4. The operation of the 96.7 MMBTU/hr propane gas-fired boiler shall be limited to 400 hours of operation per year.

[45CSR§13-5.11.]

4.1.5. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

[45CSR§2-3.1.]

4.1.6. Compliance with the visible emission requirements of subsection 4.1.5. shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director.

[45CSR§2-3.2.]

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4.1.7. No person shall cause, suffer, allow or permit any source of fugitive particulate matter to operate that is not equipped with a fugitive particulate matter control system. This system shall be operated and maintained in such a manner as to minimize the emission of fugitive particulate matter. Sources of fugitive particulate matter associated with fuel burning units shall include, but not be limited to, the following:

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- a. Stockpiling of ash or fuel either in the open or in enclosures such as silos;
- b. Transport of ash in vehicles or on conveying systems, to include spillage, tracking or blowing of particulate matter from or by such vehicles or equipment; and
- c. Ash or fuel handling systems and ash disposal areas.

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[45CSR§2-5.1.]

4.1.8. At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.  
[45CSR§2-9.2.]

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4.1.9. Unless otherwise approved by the Director, the maximum allowable emission rate for an individual stack shall not exceed by more than twenty-five percent (25%) the emission rate determined by prorating the total allowable emission rate specified in subsections 3.1, 3.2, or 3.3 of 45CSR10, on the basis of individual unit heat input at design capacity for all fuel burning units discharging through that stack.  
[45CSR§10-3.4.a.]

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4.1.10. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.  
[45CSR§13-5.11.]

#### 4.2. Monitoring Requirements

4.2.1. For the purpose of determining compliance with the opacity limit of 4.1.5., the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for the wood-fired boilers (001-01 & 001-02) and the natural gas-fired boiler (001-04). The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40 CFR Part 60, Appendix A, Method 9 certification course.

These checks shall be performed at the ~~stackstacks~~ (emission ~~pointpoints~~ S08 and S31) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

Visible emission checks shall be conducted on a weekly basis. If visible emissions are present, the permittee shall conduct an opacity reading using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the visible emission check. In accordance with Method 9, each observation shall be a minimum of six (6) minutes, unless any one 15 second reading is greater than the opacity limit, in which case the observation period shall be extended to a minimum of 60 minutes or until a violation of the emissions standard has been documented; whichever is a shorter period.  
[45CSR§13-5.11.]

4.2.2. The permittee shall maintain and operate the electrostatic precipitator (ESP) in accordance with the manufacturer's specifications and with good air pollution control practices. This shall include monitoring of the secondary voltage and amperage for performance:

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.4.44.4.4. The permittee shall maintain records of all monitoring data required by 4.2.1. documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9. If the emission unit is out of service during the normal weekly evaluation, the record of observation may note "out of service" (O/S) or equivalent.  
[45CSR§13-5.11.]

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4.4.54.4.5. The owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each of the two wood-fired fuel burning units (001-01 & 001-02). Such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily (001-01 & 001-02) basis and a quarterly ash (001-01 & 001-02) and BTU (001-01 & 001-02) analysis. Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in ~~electric~~electronic form.  
[45CSR§§2-8.3.c., 8.3.d.; 45CSR§§2A-7.1.a.1., 7.1.a.3.]

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4.4.64.4.6. The owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in the ~~propanatural~~ gas-fired ~~fuel-burning-unit~~boiler (001-0304). Such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis. -Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in ~~electric~~electronic form.  
[45CSR§§2-8.3.c., 8.3.d.; 45CSR§§2A-7.1.a.1., 7.1.a.3.; 40 CFR § 60.48c(g)(2)]

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4.4.74.4.7. In order to determine compliance with the SO<sub>2</sub> emissions limits in condition 4.1.2 of this permit, the permittee shall conduct monthly wood sampling and analysis for sulfur content. The permittee will use the average monthly wood sulfur content values to calculate monthly and 12 month rolling total SO<sub>2</sub> emission rates.

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#### 4.5. Reporting Requirements

4.5.1. Any violation(s) of the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix Method 9 must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.  
[45CSR§13-5.11.]

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4.5.2. A notification of construction shall be submitted within 30 days of commencing construction of the natural gas-fired boiler (001-04). A notification of actual startup shall be submitted within 15 days after startup, including the design heat input capacity of the affected facility and the fuel(s) to be combusted in the affected facility.  
[40 CFR § 60.48c(a), 40 CFR § 60.7]