west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-1147U
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:	November 16, 2016
Engineer Assigned:	John Legg
Fee Amount:	$300.00
Date Received:	November 17, 2016
Complete Date:	November 22, 2016 (date paper copy of application arrived at DAQ)
Due Date:	January 22, 2016
Applicant Ad Date:	November 17,2016
Newspaper:	*THE INTER_MOUNTAIN*
UTM's:	Easting: 597.41 Northing: 4,296.88 Zone: 17
Description:	- Relocation of a scrap grinder, rip saw and two knot saws to be used for re-sizing scrap for use in the lumber yard. Equipment will exhaust to two dust collection systems. - Installation of a vacuum coater to replace manual spray touch up. - Installation of a small (22 kW/25 hp) natural gas-fired emergency generator for backup power supply.

DESCRIPTION OF PROCESS

Overall Facility Description

This description is taken from the permit application, Attachment G:

- 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 natural gas-fired boiler provides backup heat and steam to the plant, as needed.

Flooring Mill

This description is taken from the permit application, Attachment G:

The Flooring Mill consists of six (6) lines where cutting, planing and edging operations are performed to convert kiln-dried hardwood lumber into unfinished hardwood flooring. The kiln-dried lumber is fed to the rough end for preliminary sorting, cutting and sizing, and then to one of the six processing lines. The Flooring Mill also includes several hogs, three hogged fuel silos and two truck loadouts for hogged fuel.

Class II Administrative Update R13-1147U

The following information is taken from the cover letter to the application and Attachment G in the application,:

- The re-purposing of a scrap grinder, rip saw and two knot saws which were previously permitted as part of the Flooring Mill in a December 2015 permit application (R13-1147R).

  The scrap grinder and saws will be used to re-size scrap wood for use in the lumber yard and will exhaust to two Nederman dust collection systems which will collect wood chips and saw dust to be used as hog fuel in the boilers or will be sold as useful material for animal bedding or other beneficial product.

Each of the two Nederman dust collection systems will be equipped with two integrated layer polyester bag filters rated at 99% control efficiency for PM, PM-10 and PM-2.5

- A vacuum coater will also be installed to replace manual spray coating application needed to touch up coating due to variations in the wood.

  This change is expected to increase application efficiency, thereby decreasing coating consumption and actual VOC emissions from the Visually Distressed Flooring Lines.

  However, the operation is subject to a VOC emission limit of 5.1 tons per year. No changes are being requested to this limit. Therefore, potential VOC emissions from the Flooring Lines will not be affected by any of the proposed changes to the site.

- A 22 kW natural gas emergency generator is also being installed to provide backup power supply for emergency lighting and other critical plant operations.

- One administrative change is also being requested with this application. Upon further review of the recently issued Title V Permit, R30-08300025-2013 (MM04), it was discovered that the new 33.5 MM Btu/hr natural gas-fired boiler was assigned the duplicate Emissions Point ID of S31.

  To avoid confusion, the ID for the natural gas-fired boiler (Emission Unit ID 001-04) was revised to S34 (from S31).

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

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
004-01	FUG	Yard Operations - Scrap Recovery (scrap grinder, rip saw, and knot saws)	2017	6,640 f^{t2}/hr	Dust Collection DC-01 & DC-02
003-02	S33	Visually Distressed Finishing Line - Vacuum Coater	2017	3,620 ft^2/hr	None
005-01	S35	Natural Gas-fired Emergency Generator Engine	2017	22 kW 29.5 HP	None
001-04	~~S31~~ S34	Natural Gas-fired Boiler (with low-NOx burners and flue gas recirculation)	2016	33.50 MMBtu/hr	None

Table 2: Emission Unit Data Sheets (EUDS).

Equipment Information	
Yard Operations -	**Scrap recovery system consisting of scrap grinder, rip saws and knot saws.**
Item	**Response**
Material & Maximum Amount of Process Material Charged per hour	Scrap Wood 6,640 ft^2/hr; 35,000 ft^2/shift
Material & Maximum Amount of Process Material Produced per hour	Woods Chips
Operating Schedule	<8 hr/day; <6 days/wk; <50 wk/yr
PM10 Emitted from Source - No Controls	60 lb/hr; 2.0 grains/ACF
Monitoring	Monthly - Visible Emission Checks from Dust Collectors DC-01 & DC-02; Monthly - Pressure Drop Across Filters
Recordkeeping	Monthly Log - Visible Emissions Monthly Log - Pressure Drop Across Filters
Dust Collection Systems DC-01 and DC-02	
Manufacturer	Nederman
Model No.	S-750 and S-1000
Design Inlet Volume	DC-01 = 3,500 SCFM DC-02 = 5,000 SCFM
Pressure (mm HG)	Maximum = +3.68 Typical = +1.84
Type pollutant controlled:	Particulate
DC-01 Particulate Matter	60 lb/hr into collector 0.0132 lb/hr out of collector 99.9% control efficiency
DC-02 Particulate Matter	86 lb/hr into collector 0.0189 lb/hr out of collector 99.9% control efficiency
Describe Collection Material Disposal System	Wood waste is filtered out by (24) Beane material filter bags and drops into (3) 40-gallon clear bags. To be used as hog fuel or sold as animal bedding or other beneficial product.

Monitoring	Monthly - Visible Emission Checks from Dust Collectors DC-01 & DC-02; Monthly - Pressure Drop Across Filters
Recordkeeping	Monthly Log - Visible Emissions Monthly Log - Pressure Drop Across Filters

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. Annual and hourly potential emission increases resulting from the changes proposed in R13-1147U are presented in Tables 3 and 4 below:

Table 3: Annual Potential Emission Increases Resulting from R13-1147U.					
Activity	Annual Potential Emission Increases (ton/yr)				
	PM	NOx	SO2	CO	VOC
(1) Scrap Wood Recovery	0.07	--	--	--	--
Vacuum Coater	--	--	--	--	--
(2) NG Combustion Emergency Generator Engine	0.000702	0.29	0.0000413	0.02	0.01
Total Potential Emissions Increase (ton/yr)	0.07	0.29	--	0.02	0.01

(1) Dust Collection Systems DC-01 and DC-02, emissions after 99.9% control, both systems operating 1,000 hr/yr.
(2) Emission factors for Emergency Generator from EPA AP-42 Section 3.2 for a 4-stroke lean-burn engine. Assumes Emergency Generator is operated 500 hr/yr.

Table 4: Hourly Potential Emission Increases Resulting from R13-1147U.					
Activity	Hourly Potential Emission Increases (lb/hr)				
	PM	NOx	SO2	CO	VOC
(1) Scrap Wood Recovery	0.15	--	--	--	--
Vacuum Coater	--	--	--	--	--
(2) NG Combustion Emergency Generator Engine	0.0028	1.15	0.00016	0.09	0.04
Total Potential Emissions Increase (lb/hr)	0.15	1.15	--	0.09	0.04

(1) Dust Collection Systems DC-01 and DC-02, emissions after 99.9% control.
(2) Emission factors for Emergency Generator from EPA AP-42 Section 3.2 for a 4-stroke lean-burn engine.

Emissions from Scrap Wood Recovery Operation

Design Parameters	Dust Collector Systems			
	DC-01		DC-02	
Air Flow Rate	3,500	acfm	5,000	acfm
Inlet Temp.	70	Degrees F	70	Degrees F
Control Efficiency	99.90%		99.90%	
Inlet Grain Loading	2	grains/cu ft	2	grains/cu ft
Outlet Grain Loading	0.00044		0.00044	

Actual Hours of Operation = 20 hr/wk X 50 wk/yr = 1,000 hr/yr
Max. Hours of Operation = 8,760 hr/yr

PM Emissions = [grains/ cu ft] x [cu ft/min] x [min/hr] x [1 lb/7000 grains/lb]

Emission Calculations	Dust Collector Systems			
	DC-01		DC-02	
Uncontrolled PM Emissions	60	lb/hr	85.71	lb/hr
	30	ton/hr	42.86	lb/hr
Max. Controlled PM Emissions	0.06	lb/hr	0.09	lb/hr
	0.03	ton/yr	0.04	lb/hr

VOC Emissions from Vacuum Coater

Vacuum coaters 0.85 gal/hr
Manual spraying 1 gal/hr

Product Code	Product Description	Density (lb/gal)	VOC Content (lb/gal)	HAP Content (wt%)
A1468D35	Blackwash	8.55	0.13	0.00%
GF121-58 (F1)	WB Whitewash	11.77	0.06	0.00%

VOC Emissions from manual spraying = 0.13 lb/hr
= 0.35 ton/yr

VOC Emissions from vacuum coaters = 0.1105 lb/hr
= 0.30 ton/yr

Change in actual VOC Emissions from project = -0.05 ton/yr

There will be no change to potential VOC emissions from the Visually Distressed Flooring Lines since no permit changes are being proposed to the existing VOC Emissions Limits:

5.1.6. Combined VOC emissions from the Visual Distressed Flooring Lines (003-02 & 003-03) shall not exceed 1.9 lb/hr nor 5.1 tons per year.

Emissions from Natural Gas-fired Emergency Generator

Parameter	Value	Units	Source
Max. Input	22	kW	Manufacture Engine Specs
Max. Gas Flow Rate	0.28	MM Btu/hr	Manufacture Engine Specs
Max. Hrs of Operation	500	hr/yr	Manufacture Engine Specs

Pollutant	PM	NOx	SO2	CO	VOC	HAP
(1) Emission Factor (lb/ MM Btu)	0.00991	4.08	0.000588	0.0317	0.118	0.72
Total Emissions (lb/hr)	0.00278	1.14	0.000165	0.0089	0.033	0.020
Total Emissions (lb/yr)	1.39	573.24	0.083	44.54	16.58	10.14
Total Emission (ton/yr)	0.000696	0.287	0.0000413	0.0223	0.00829	0.0051
(1) Emisson Factors from EPA AP-42 Section 3.2 for a 4-stroke lean-burn engine.						

Certified Emissions for Natural Gas-fired Emergency Generator Based on 40 CFR 60, Subpart JJJJ.

Pollutant	g/HP-hr (1)	(lb/hr)	(ton/yr) (2)
Nox + HC	10	0.65	0.16
CO	387	25.17	6.29

(1) Based on Table 1 of Subpart JJJJ of Part 60 – NOx, CO and VOC Emission Standards for Stationary Non-emergency SI Engines ≥ 100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines > 25 HP. Emergency Generator's horsepower is 29.5. Converse Factor: 453.59 grams = 1 lb.

(2) Based on 500 hr/yr of operation.

REGULATORY APPLICABILITY

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

The facility is an existing source, and as such, the State and Federal Rules that apply to it have been discussed in the past. Only the State and Federal Rules that apply to the new administrative update (R13-1147U) are discussed below.

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."

On November 16, 2016, Armstrong submitted to the DAQ, permit application R13-1147U for a class II administrative update to their current air permit (R13-1147T). On November 17, 2016,

the company's legal advertisement ran in *THE INTER_MOUNTAIN*, and they paid the required $300.00 application fee. On November 22, 2016, the writer deemed Armstrong's application complete after the company submitted a paper copy of the application to the DAQ.

Maximum PM emission rates from the two new dust collection systems for wood scrap recovery in the Yard Operation were established in section 5.1.1. of the revised permit. The permittee is to conduct monthly visible emission checks for these two dust collection systems. Pressure drop ranges across the two dust collection systems were determined to reflect normal operating conditions in section 5.2.2. of the revised permit.

45CSR16 "Standards of Performance for New Stationary Sources"

This state rule 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).

It 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 JJJJ applies to the 22 kW natural gas-fired emergency generator engine. See below.

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.

The 22 kW natural gas-fired emergency generator engine is subject to 40 CFR 63, Subpart ZZZZ. See below.

40 CFR 60
Subpart JJJJ — Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

The permittee must comply with the emission standards in Table 1 of Subpart JJJJ. The generator must be operated and maintained to meet these emission standards over the entire life of the engine. A non-resettable hour meter must be installed. Demonstration of compliance is obtained by purchasing a certified engine, and operating and maintaining the engine according to the engine manufacturer's emission-related written instructions. Records of conducted maintenance are to be kept demonstrating compliance. Engine adjustments must be according to the manufacturer's instructions. If the engine is not operated and maintained to the manufacturer's emission-related written standards, the engine will be considered a non-certified engine. The emergency engine must be operated in accordance with 40 CFR §60.4243(d) or it will not be considered an emergency engine. Records must be kept of all notifications submitted to comply with JJJJ, of all maintenance conducted on the engine, and if the engine is certified: all manufacturer's documentation of certification. Records must be kept that the engine was operated as an emergency engine.

40 CFR 63
Subpart ZZZZ — "Natural Emissions Standards for Hazardous Air Pollutants (NESHAP)"

The emergency generator engine is subject to this subpart. Compliance with ZZZZ is demonstrated by meeting the requirements of 40 CFR 60, Subpart JJJJ. See above.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

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

AIR QUALITY IMPACT ANALYSIS

No modeling studies were performed.

CHANGES MADE TO R13-1147T TO ARRIVED AT R13-1147U

New permit update R13-1147U was compared to former permit update R13-1147T and a compare/difference file was generated. This file is given in Attachment 1 to this evaluation.

RECOMMENDATION TO DIRECTOR

The information supplied in permit application R13-1147U indicates that compliance with all applicable regulations will be achieved. Therefore, it is the writer's recommendation that this Class II Administrative Update for Armstrong's Beverly, WV Plant be granted.

John Legg
Permit Writer

12/22/16
December 22, 2016

Attachment 1

Difference/Compare File Showing the Changes

Made to R13-1147T to Arrived At R13-1147U

West Virginia Department of Environmental Protection

Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Class II Administrative Update

R13-~~1147T~~1147U

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

Armstrong Hardwood Flooring Company
Beverly Plant
083-00025

William F. Durham
Director

Issued: ~~September 12, 2016~~Draft

This permit will supersede and replace Permit R13-~~1147S~~1147T.

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 II Administrative Update
Description of Change:	Relocation of a scrap grinder, rip saw and two knot saws to be used for re-sizing scrap for use in the lumber yard. Equipment will exhaust to two new dust collection systems. Installation of a vacuum coater to replace manual spray touch up. Installation of a small (22 kW/29.5 hp) natural gas-fired emergency generator for backup power supply. The generator engine is certified to meet applicable emission standards by the engine manufacturer.~~Installation of a natural gas-fired boiler (Emission 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.

Table of Contents

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)
001-04	~~S31~~S34	Portable Natural Gas-Fired Boiler (with low-NOx burners and flue gas recirculation)	2016	33.5 MMBtu/hr	N/A
002-01	S03	No. 1 Finishing Line	1993	8,500 ft^2/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

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
003-01	F01	Yard Operations – Haul Roads	1990	0.86 Miles	N/A
003-02	S07	Visually Distressed Flooring Line (planer, denibber, sander, scuffer)	2012	3,620 ft^2/hr	007
003-02	S33	Visually Distressed Finishing Line - Vacuum Coater	2017	3,620 ft^2/hr	N/A
003-02A	S29	Vacuum Table	2012	3,620 ft^2/hr	N/A
003-02B	S30	Stain Coater	2012	3,620 ft^2/hr	N/A
003-02C	S31	Stain Wipe	2012	3,620 ft^2/hr	N/A
003-02D	S32	Oven	2012	3,620 ft^2/hr	N/A
003-03	S07	Visually Distressed Flooring Line (planer, sander, brushing, rework)	2014	3,620 ft^2/hr	007
004-01	N/A	Yard Operations – Lumber Kilns (steam-heated ~~predryer~~pre-dryer and 38 steam-heated lumber kilns to dry green lumber).	Various	130,000,000 Board-ft/yr	N/A
004-01	FUG	Yard Operations – Scrap Recovery (scrap grinder, rip saw, and knot saws)	2017	6,640 ft^2/hr	Dust Collection DC-01 & DC-02
005-01	S35	Natural Gas-fired Emergency Generator	2017	22 kW (29.5 HP)	N/A
N/A	N/A	Edge Coaters, parts washers, welding operations, and other activities	Various	N/A	N/A
Control Devices					
N/A	S08	Dry Electrostatic Precipitator (Services No. 1 & No. 2 Boilers)	2003	9.6 KW	008
N/A	S03	No. 1 Baghouse (Services No. 1 and No. 2 Finish Line Sanders)	1993	79,556 ACFM	003
N/A	S04	No. 2 Baghouse (Services No. 2, No. 5 Flooring Mill Lines & Flooring Mill Rough End)	1990	49,701 ACFM	004
N/A	S05	No. 3 Baghouse (Services No. 2 Wood Hog and No. 5 Wood Hog (No. 4 Cyclone), Services No. 5 & No. 6 Flooring Mill Lines)	1990	57,077 ACFM	005
N/A	S06	No. 4 Baghouse (Services No. 3 Wood Hog (No. 3 Cyclone))	1990	27,489 ACFM	006
N/A	S07	No. 5 Baghouse (No. 3 Flooring Mill Line & Visually Distressed Flooring Line)	2003	43, 295 ACFM	007
N/A	S09	No. 6 Baghouse (Services No. 4 Wood Hog (No. 1 Cyclone), No. 1 Wood Hog (No. 5 Cyclone~~)&~~) & Main Relay Line (No. 6 Cyclone)	2005	59,748 ACFM	009

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
N/A	S10	No. 7 Baghouse (Services No. 1 Flooring Mill Line, Rough End & No. 1 Wood Hog (No. 7 Cyclone))	2005	49,857 ACFM	010
N/A	S11	No. 8 Baghouse (Services Flooring Mill Rough End)	2005	68,597 ACFM	011
N/A	S09	No. 1 Cyclone (From No. 4 Wood Hog to Silo II)	1990	24,100 ACFM	012
N/A	S05	No. 2 Cyclone~~(~~ (Boilers/ESP to Silo III)	1990	27,489 ACFM	018
N/A	S06	No. 3 Cyclone (From No. 3 Wood Hog to Silo III)	2004	6,500 ACFM	013
N/A	S07	No. 4 Cyclone (From No. 2 Wood Hog to No. 1 Cyclone)	2005	16,157 ACFM	014
N/A	S09	No. 5 Cyclone (From No. 7 Cyclone (No. 1 Wood Hog) to Silo I)	2005	4,768 ACFM	016
N/A	S09	No. 6 Cyclone (From No. 1, 2, 3, 4, & 5 Baghouses to No. 6 Baghouse)	2005	27,490 ACFM	017
N/A	S10	No. 7 Cyclone (From No. 1 Wood Hog, Exhaust to No. 7 Baghouse)	1990	24,100 ACFM	015
N/A	---	Dust Collection System (DC-01) Nederman, Model No. S-750 (From Yard Operation – Scrap Recovery)	2017	3,500 SCFM	Dust Collection DC-01
N/A	---	Dust Collection System (DC-02) Nederman, Model No. S-1000 (From Yard Operation – Scrap Recovery)	2017	5,000 SCFM	Dust Collection DC-02

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-~~1147S~~1147T. 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 Applications R13-1147 through R13-~~1147T~~1147U, 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.

5.0. Source-Specific Requirements [Flooring Mill (003-01), Visually Distressed Flooring Lines (003-02) ~~&(~~& (003-03)]

5.1. Limitations and Standards

5.1.1. Particulate matter emissions from each of the stacks venting from the baghouses and dust collectors shall be limited as follows:

Emission Unit	Emission Point ID No.	Maximum Emission Rates			
		PM(1)		PM_{10} (2)	
		lb/hour	TPY	lb/hour	TPY
No. 2 Baghouse	S04	2.13	9.33	0.43	1.87
No. 3 Baghouse	S05	2.45	10.71	0.49	2.14
No. 4 Baghouse	S06	1.18	5.16	0.24	1.03
No. 5 Baghouse	S07	1.86	8.13	0.37	1.63
No. 6 Baghouse	S09	2.56	11.22	0.51	2.24
No. 7 Baghouse	S10	2.14	9.36	0.43	1.87
No. 8 Baghouse	S11	2.94	12.88	0.59	2.58
(3) Dust Collection System (DC-01)	---	0.06	0.03	0.02	0.01
(3) Dust Collection System (DC-02)	---	0.09	0.04	0.02	0.01

(1) Compliance with these particulate limits assures compliance with 45CSR§7-4.1.
(2) Based on the assumption that PM_{10} is 20% of the PM emitted.
(3) Yard Operations – Scrap Recovery.
[45CSR§13-5.11.]

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5.1.2. All cyclone systems (control device IDs: 012 – 017) shall be maintained and operated in accordance with manufacturer's performance specifications.
[45CSR§13-5.11.]

5.1.3. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.
[45CSR§7-3.1.]

5.1.4. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that pursuant to section 5.1.5. is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.]

5.1.5. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To

minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.
[45CSR§7-5.1.]

5.1.6. Combined VOC emissions from the Visual Distressed Flooring Lines (003-02 & 003-03) shall not exceed 1.9 lb/hr nor 5.1 tons per year.

5.1.7 Only stains with 0% vHAP content shall be used in the Visually Distressed Flooring Lines.

5.2. Monitoring Requirements

5.2.1. For the purpose of determining compliance with the opacity limit of 5.1.3., the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for the Baghouses (004, 005, 006, 007, 009, 010, 011~~).~~) and Dust Collectors (DC-01 & DC-02). 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 40CFR Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted on a weekly basis~~.~~ for the above Baghouses and on a monthly basis for the above Dust Collectors. These checks shall be performed at the stack (emission points ~~S3, S4, S5, S6, S7, S9~~S04, S05, S06, S07, S09, S10, S11; DC-01 stack & DC-02 stack) 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.

If visible emissions are present, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A as soon as practicable, but within seventy-two (72) hours of the visual emission check.
[45CSR§13-5.11.]

5.2.2. The permittee shall operate and maintain each baghouse and exhaust system in accordance with manufacturer's specifications to ensure proper operation and 99.9% control efficiency. This shall include the prompt replacement of broken bags, proper fan operation, prompt replacement of fans and duct work, and daily inspections. Said inspections shall include conducting pressure drop measurements for each baghouse. The following pressure drop ranges have been determined to reflect normal operating conditions:

Control Device ID No.	Baghouse Specifications	
	Emission Unit	Pressure Drop [1] (inches of H_2O)
004	No. 2 Baghouse	0.2 to 6.5
005	No. 3 Baghouse	0.2 to 6.5
006	No. 4 Baghouse	0.2 to 6.5
007	No. 5 Baghouse	0.2 to 6.5
009	No. 6 Baghouse	0.2 to 6.5

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010	No. 7 Baghouse	0.2 to 6.5
011	No. 8 Baghouse	0.2 to 6.5
DC-01	Yard Operations – Scrap Recovery Dust Collection System	0.2 to 6.5
DC-02	Yard Operations – Scrap Recovery Dust Collection System	0.2 to 6.5

(1) The permittee may request changes to the specified pressure drop range(s), given appropriate documentation demonstrating that compliance with applicable requirements have been determined at that particular pressure drop reading.
[45CSR§13-5.11.]

5.2.3 In order to determine compliance with the emissions limits of condition 5.1.6 of this permit, the permittee shall maintain certifiable monthly records of the amount and VOC content of any stain used.

5.3. Testing Requirements

5.3.1. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.
[45CSR§7-8.1.]

5.3.2. The Director, or his duly authorized representative, may conduct such other tests as he or she may deem necessary to evaluate air pollution emissions.
[45CSR§7-8.2.]

5.4. Recordkeeping Requirements

5.4.1. The permittee shall maintain records of all monitoring data required by 5.2.1. 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 45CSR7A, the data records of each observation shall be maintained per the requirements of 45CSR7A. 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.]

5.4.2. The permittee shall maintain records of monitoring data involved with the proper operation and daily inspections of the baghouses as specified in section 5.2.2., including pressure drop readings.
[45CSR§13-5.11.]

7.0. Source-Specific Requirements [22 kW/29.5 HP, Natural Gas-fired Emergency Generator (005-01; S35)]

7.1. Limitations and Standards

7.1.1. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 kW (25 HP) and less than 75 kW (100 HP) must comply with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE.

Pollutant	Emission Standards	
	(lb/hr) (2)	(tons/yr) (1)
NO_x + HC	0.65	0.16
CO	25.17	6.29

(1) Based on 500 hours per year of operation.

(2) Based on Table 1 of Subpart JJJJ of Part 60—NOx, CO, and VOC Emission Standards for Stationary Non-emergency SI Engines >100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines > 25 HP.

[40 CFR § 60.4233(d)]

7.1.2. Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

[40 CFR § 60.4234]

7.1.3. If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

[40 CFR § 60.4237(c)]

7.1.4. If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233 (d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(b)(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

[40 CFR § 60.4243(b)(1)]

(a)(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacture's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are

an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

[40 CFR § 60.4243(a)(1)]

(a)(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

[40 CFR § 60.4243(a)(2)]

[40 CFR § 60.4243(b)]

7.1.5. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(d)(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(d)(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (d)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(2).

(d)(2)(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provide that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(d)(2)(ii) Emergency stationary Ice may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(d)(2)(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(d)(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (d)(2) of this section. Except as provided in paragraph (d)(3)(i) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 CFR § 60.4243(d)]

7.1.6. Maximum Yearly Operation Limitation. The maximum yearly hours of operation for the 22 kW/29.5 HP generator engine shall not exceed 500 hours per year. Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the hours of operation at any given time during the previous twelve consecutive calendar months.

7.2. Monitoring Requirements

7.3. Testing Requirements

[Reserved]

7.4. Recordkeeping Requirements

7.4.1. Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(a)(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(a)(2) Maintenance conducted on the engine.

(a)(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

[40 CFR § 60.4245(a)]

7.4.2. Per the requirements described in section 7.1.5. of this permit, the permittee shall keep records showing that the 22 kW/29.5 HP generator engine was operated as an emergency stationary ICE.

7.4.3. Per the requirement given in section 7.1.6. of this permit, the permittee shall keep records showing that the maximum yearly operation limitation/twelve month rolling total for the 22 kW/29.5 HP generator engine did not exceed 500 hrs/yr.

7.5. Reporting Requirements

[Reserved]