

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-08300025-2018**
Application Received: **July 18, 2017**
Plant Identification Number: **03-54-083-00025**
Permittee: **Armstrong Hardwood Flooring Company**
Facility Name: **Beverly Mill**
Mailing Address: **P. O. Box 160, Beverly, WV 26253**

Physical Location: Beverly, Randolph County, West Virginia
UTM Coordinates: 597.41 km Easting • 4,296.88 km Northing • Zone 17
Directions: From Charleston take I-79 North to exit 99, proceed east on US Route 33 to Elkins. From Elkins take US Route 250 South. The facility is located approximately 1.6 miles south of Beverly in Randolph County.

Facility Description

The Beverly facility manufactures finished and unfinished hardwood flooring under Standard Industrial Classification (SIC) code 2426. Green lumber is purchased and stacked in the Mill Yard to facilitate air drying of the 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.

The facility currently operates two wood fuel-fired boilers (Emission Unit IDs-001-01 and 001-02) (each 48.8 MMBTU/hr) and a natural gas fired boiler (Emission Unit ID-001-04) (33.5 MMBTU/hr) to provide steam for the drying kilns, the stain curing ovens, and the building heating system. A small (22 kW/29.5 hp) natural gas-fired emergency generator (Emission Unit ID-005-01) provides backup power supply for emergency lighting and other critical plant operations.

Boilers: The facility currently operates two wood fuel-fired boilers (each 48.8 MMBTU/hr) to provide steam for the drying kilns, the stain curing ovens, and the building heating system. A third natural gas fired boiler (33.5 MMBTU/hr) is used as backup for periods of shutdown of the wood fired boilers. Each of the wood-fired boilers (001-01 & 001-02) is equipped with 7,600 square feet of heat surface for generating steam from the combustion of wood waste. Sawdust and wood waste from the mill operations are collected in silos and burned as fuel. These boilers are designed to generate a maximum of 37,110 pounds of steam by burning a maximum of 6,445 pounds per hour of wood waste fuel. An electrostatic precipitator controls particulate matter emissions from the two wood fired boilers.

Flooring Mill: 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. The flooring mill is designed to convert 163,800,000 board-feet of kiln-dried lumber into 109,200,000 square feet of unfinished hardwood flooring per year. Particulate emissions are controlled by seven (7) baghouses (No.'s 2 through 8).

Finishing Lines: Unfinished hardwood flooring is supplied to two (2) Finishing Lines for sanding, staining, sealing, application of topcoat, and packaging for shipment. Each line contains a stain rollcoater unit with stain applicators and a two-zone, natural gas-fired high velocity stain cure oven; a sealer rollcoater unit with hooded roll applicators and UV cure oven; a hooded topcoat rollcoater and UV cure oven; and a two-stage hooded topcoat rollcoater. Each finishing line is designed to produce 59,600,000 square feet of finished hardwood flooring per year. Particulate emissions from the finishing lines are controlled by Baghouse No. 1.

Yard Operations: Yard operations consist of receiving green lumber to the pre-dryer and/or lumber kilns, and transfer of dried lumber from the lumber kilns to dry storage. The mill operates one steam-heated pre-dryer and 38 steam-heated lumber kilns to dry green lumber for further processing in the mill and finishing lines. The pre-dryer is designed for 1,600,000 board-feet per charge (charge cycle is approximately 35 days). Each of the 38 kilns is designed for 102,000 board-feet per charge (charge cycle normally averages 15 days). Rolling stock transport of lumber results in the generation of fugitive particulate matter emissions.

This renewal permit includes changes from minor modifications (MM06), (MM07) and (MM08) which are described as follows:

Minor modification (MM06) incorporates changes from R13-1147W (issued 7/21/17) which includes the replacement of an existing planer, rip saw, and knot saw in the Yard Operations – Scrap Recovery (004-01; FUG) with a new planer, a new chop saw, and a new rip saw.

Minor modification (MM07) incorporates changes from R13-1147X (issued 9/22/17) which includes the addition of an emergency fire pump (Emission Unit ID-005-02) powered by a 47.8 kW (64 hp), diesel-fueled engine.

Minor modification (MM08) incorporates changes from R13-1147Y (issued 11/27/17). This modification is to increase the emergency fire pump engine's (Emission Unit ID-005-02) horsepower from 64 hp to 86 hp.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2017 Actual Emissions
Carbon Monoxide (CO)	245.83	93.82
Nitrogen Oxides (NO _x)	115.24	70.0
Particulate Matter (PM _{2.5})	16.07	1.96
Particulate Matter (PM ₁₀)	34.76	6.20
Total Particulate Matter (TSP)	154.60	8.80
Sulfur Dioxide (SO ₂)	95.14	41.78
Volatile Organic Compounds (VOC)	249.98	86.5

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2017 Actual Emissions
Acrolein	1.75	1.20
Benzene	1.80	1.30
Hydrogen Chloride (HCl)	8.15	5.72
Formaldehyde	1.90	1.33
Other HAPs	10.8 (<9.4 of a single HAP Permit Limit)	8.75
Total HAPs	24.4 (Permit Limit)	18.30

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

This facility has the potential to emit over 100 tons per year of carbon monoxide (CO), nitrogen oxides (NO_x), and volatile organic compounds (VOCs). Due to this facility's potential to emit over 100 tons per year of criteria pollutants, Armstrong Hardwood Flooring Company is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate matter from Fuel Burning Units.
	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter from manufacturing source(s).
	45CSR10	SO ₂ from Fuel Buring Units.

45CSR11 45CSR13 45CSR16	Standby plans for emergency episodes. Construction permit requirements. Emission standards for New Stationary Sources pursuant to 40 C.F.R. Part 60
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
45CSR30 45CSR 34	Operating permit requirement. Emission Standards for Hazardous Air Pollutants Pursuant to 40 C.F.R. Part 63
40 C.F.R. 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
40 C.F.R. Part 61 40 C.F.R. Part 60, Subpart JJJJ	Asbestos inspection and removal NSPS for Stationary Spark Ignition Internal Combustion Engines
40 C.F.R. Part 63, Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
40 C.F.R. 63 Subpart ZZZZ 40 C.F.R. Part 64 40 C.F.R. Part 82, Subpart F	RICE MACT Compliance Assurance Monitoring Plan Ozone depleting substances
State Only: 45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-1147Y	11/27/2017	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

Minor modification(MM06): This modification is for the replacement of an existing planer, rip saw, and knot saw in the Yard Operations – Scrap Recovery (004-01; FUG) with a new planer, a new chop saw, and a new rip saw. This equipment is used for re-sizing scrap in the lumber yard and now consists of a new planer, a new chop saw, a new rip saw, and an existing scrap grinder, and an existing knot saw. Although “Yard Operations - Scrap Recovery” is used several times in the permit, the specific equipment in the yard operations is not listed, and therefore, only the Emission Units Table was revised as a result of this modification.

The emissions from this new equipment are controlled by the same control devices as the previously permitted scrap recovery equipment. The emissions from the control devices (two Nederman dust collection systems) are based on air flow rate and outlet grain loading data provided by the manufacturer, which are not affected by replacement of the equipment. Therefore, there was no increase in potential PM emissions nor was the operation subject to any additional regulations as a result of the equipment changes.

Minor modification(MM07): This modification was to add an emergency fire pump (Emission Unit ID-005-02) powered by a 47.8 kW (64 hp), diesel-fueled engine. The engine is subject to 40 C.F.R. 60, Subpart IIII because the new emergency diesel-fueled fire pump’s engine is a stationary CI ICE that commenced construction after July 11, 2005 and was manufactured after April 1, 2006. According to the permit application the engine is USEPA Certified and as such is not required to perform an initial performance test. The unit will be operated as an emergency fire pump and will be limited by the permit to 100 hours per year of non-emergency operation and 500 hours per year of emergency operation. The specific requirements related to the new emergency diesel-fueled fire pump engine and 40 CFR 60, Subpart IIII are included in section 8 of this permit.

The new engine for the emergency fire pump is classified as an affected source under 40 CFR 63 Subpart ZZZZ. §§63.6590 (c) and (c) (1) states that for an engine located at an area source of HAPs, the engine meets the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII.

Minor modification(MM08): This modification is to increase the emergency fire pump engine’s (Emission Unit ID-005-02) horsepower from 64 hp to 86 hp. Armstrong determined that a larger engine would be necessary to accommodate the fire suppression needs for the facility. Emission standards remained the same. Regulatory applicability for the fire pump also remained the same as described in previous modification (MM07).

Changes in Title V Permit conditions:

- Old permit condition, 4.5.3 has been removed from the permit since the one-time requirement was completed and the condition is no longer necessary.
- Since 40 C.F.R. Part 63, Subpart JJJJJ was amended on September 14, 2016, the existing applicable requirements were updated in the permit.

Changes in the Title V Permit Emission Units Table:

- All the UV Lights and the UV Oven (Emission Unit IDs-002-01D, 002-01D.3, 002-01F, 002-01G, 002-01I, 002-01J, 002-01L, 002-01M, 002-01P, 002-01Q, 002-02D, 002-02F, 002-02G, 002-02I, 002-02J, 002-02L, 002-02M, 002-02P, 002-02Q) have been removed from the Emission Units Table of the Title V permit per company’s request. This was done because these units do not have any emissions or any applicable requirements, therefore they are not emission units.

Since the NSR permit R13-1147Y still has these emission units in the Emission Units Table, Armstrong will include a request to remove these emission units from the NSR permit the next time Armstrong is making a change to its NSR permit in order to minimize any confusion caused by the discrepancies in the NSR and Title V permits.

40 C.F.R. Part 64- CAM applicability determinations due to changes in the permit (since the renewal permit R30-08300025-2013) are as follows:

- CAM for emission units 001-01 and 001-02 was already included in the Title V permit. The increased SO₂ emission limits included in significant modification (SM01) did not change the CAM applicability for these emission units. The emission units at this station are not subject to CAM for SO₂ emissions because the Dry ESP (008) only controls particulate matter emissions. There are no SO₂ control devices for these boilers.
- The only air pollution control device associated with the Visually Distressed Flooring Lines (003-02 and 003-03) is Baghouse No.5 which is already subject to CAM. The changes did not result in a change to the existing CAM plan or an increase in the frequency of data collection under 40 CFR §64.3(b)(4). The visually distressed Flooring Lines (003-02 and 003-03) are not subject to CAM for VOC emissions because Baghouse No.5 only controls particulate matter emissions.
- The natural gas-fired boiler (Emission Unit ID- 001-04) does not have a control device so it doesn't trigger a CAM review.
- Potential pre-control device emissions from Scrap Recovery (Emission Unit ID-004-01; FUG) are less than major source thresholds; and an emergency fire pump (Emission Unit ID-005-02) and emergency generator (005-01) do not have a control device so they don't trigger a CAM review.
- The Visually Distressed Finishing Line Vacuum Coater (003-02), edge coaters, parts washers, welding operations, haulroads, and lumber kilns have been added, but they do not have control devices, so they are not subject to CAM.
- The repurposing of existing equipment, installation of sanders and saws and addition of a new hog did not impact the existing CAM requirements on Baghouse Nos. 2, 3, 5, and 7.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

- a. 40 CFR 60 Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. The two (2) wood-fired boilers located at Armstrong Hardwood Flooring Company's Beverly Mill are not subject to these requirements because the boilers had been purchased prior to the date the rule was proposed.
- b. 40 CFR 63 Subpart QQQQ – *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products*. The facility has demonstrated that by the compliance date of May 15, 2006, they were a minor source of HAPs. With the establishment of HAP emission limits below major source thresholds, the facility shall not be subject to Subpart QQQQ.

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: Friday, May 25, 2018
Ending Date: Monday, June 25, 2018

Point of Contact

All written comments should be addressed to the following individual and office:

Beena Modi
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1228 • Fax: 304/926-0478
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Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

On June 5, 2018, Rebecca McBride from Armstrong Hardwood Flooring Company submitted the following comment via e-mail to the permit writer.

Comment:

In the permit Condition 6.2.4, the beginning of the condition shows the text “Quality Improvement Plan (QIP) –” twice.

Response to Comment: Condition 6.2.4 has been corrected.