



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3197
Plant ID No.: 069-00140
Applicant: Seaboard International, Inc.
Facility Name: Wheeling Facility
Location: Ohio County
NAICS Code: 333132 - Oil and Gas Field Machinery and Equipment
Manufacturing
Application Type: Construction (After-the-fact)
Received Date: February 14, 2014; Application Re-submitted April 21, 2014
Engineer Assigned: John Legg
Fee Amount: \$1,000.00
Date Received: February 17, 2014
Complete Date: June 18, 2014 (Affidavit of publication sent via email)
Due Date: September 18, 2014
Applicant Ad Date: 2nd Ad: April 25, 2014
(1st Newspaper ad incorrectly stated that the application was for relocation/modification application)
Newspaper: *The Intelligencer*
UTM's: Easting: 537.2549 km Northing: 4,435.1322 km Zone: 17
Description: Construction of a paint booth to paint oil and gas pressure control equipment. PM emissions from the booth are controlled by filter pads have a 98.81% PM removal efficiency. VOC are not controlled.

Seaboard International, Inc. (Seaboard) is proposing to construction (after-the-fact; startup mid-December 2013) and operate a paint booth (1S) at their new Wheeling Facility located near Triadelphia, Ohio County, WV. The company specializes in minor repairs and installation of highly engineered oil and gas pressure control equipment. It intends to operate a paint booth (1S) to perform coating of this equipment. Equipment, once painted, is air dried inside the paint booth.

Seaboard's original application was received on February 14, 2014. The \$1,000.00 application fee was paid by credit card on February 17, 2014 and the application was assigned to the writer for review. An incomplete letter was sent to the company on April 2, 2014. (For further details, see Attachment A to this evaluation). A revised application was received by the DAQ on April 21, 2014. The affidavit of publication for the 2nd legal ad was received by the writer via email on June 18, 2014.

DESCRIPTION OF PROCESS

The following information was taken from the process description in Attachment G of the permit application:

- Pre-coating Operation
 - Oil and gas pressure control equipment is received from the field.
 - The equipment is tested and repaired.
 - Equipment requiring coating is pressure washed with water, air dried, and moved to the paint booth (1S) for coating.
- Coating Operation
 - The facility has one paint booth located inside the building.
 - Paints and cleaning solvents used at the facility are listed below. They are received in 1 and 5 gallon containers and stored in a designated storage area.
 - The paint booth's exhaust system is equipped with Air Flow Technology Inc. filter pad(s) having a particulate matter (PM) removal efficiency of 98.8%.
 - Equipment is coated using a HVLP air atomized paint gun and allowed to air dry inside the paint booth. Drying time ranges from 1 to 5 hours depending on the number of coats applied.
 - The coating application equipment is cleaned (FUG 01) using a cleaning solvent after use.
 - PM and volatile organic compound (VOC) emissions from the coating operation are vented through filter pad(s) located in the paint booth stack (1E).

Fact Sheet R13-3197
Seaboard International, Inc.
Triadelphia, Ohio County, WV

Post-coating Operation - Once the equipment is air dried inside of the paint booth, it is shipped or stored at the facility.

Table 1: Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1E	Paint Booth	2013	Charging Weigh 100 TPH	1C Filter Pads

Table 2: 1S - Paint Booth

Name	Col-Met Paint Booth
Process material charge per hour	1 gallon of Quick Dry Enamel, Gloss White paint
Operating Schedule	8 hr/day; 5 day/wk; 52 wk/yr
Pollutants Emitted	PM10 - 0.12 lb/hr; VOCs - 8.34 lb/hr; and HAPs - 3.63 lb/hr

Table 3: 1C - Paint Booth Filters

Manufacture; Model No.	Air Flow Technology : 15-gram/ft ² filter - The progressively dense two-stage 15 g media is manufactured from continuous strands of glass fibers engineered to collect and retain a wide range of automotive and industrial-type coatings. The backing is a tightly woven 100% fiberglass construction allowing low initial static pressure. This widely popular overspray media is green/white in color and provides compliant efficiency at an economical price. Air Enters White Side, Air Exit Green Side.
Filter Size	20" X 20"
Design Inlet Volume	24,880 scfm
Capacity	24,800 scfm
Monitoring Equipment Provided to Measure Pressure Drop Across Filter	Manometer
Recordkeeping	Log Filter Change Frequency
Manufacturer's Guaranteed Control Efficiency	PM - 98.81%

Table 3: Air Flow Technology Paint Booth Filter Specifications			
Filter Type	Average Efficiency	Capacity (lbs/ 20" X 20" Pad)	Initial Resistance (Water Column)
15-Gram	98.81 %	0.9	0.02

SITE INSPECTION

On June 18, 2014 Al Carducci of DAQ's Northern Panhandle Regional Office inspected Seaboard's Wheeling/Triadelphia Facility and deemed the location to be acceptable for the construction (> 300 ft from residential dwelling). In Attachment E to the application, Seaboard included a plot plan diagram showing the nearest residential (546.6') and commercial (186.3') properties to the facility.

Directions as given in the application:

Headed southeast on Dallas Pike from Nation Road in Triadelphia, travel for approximately 2,5 miles and the destination will be on the right.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The writer reviewed Seaboard's emission calculations in Attachment N to the permit application and found them to be reasonable.

Potential emissions (controlled) for the facility, as advertised in Seaboard's April 25, 2014 legal advertisement (*The Intelligencer*), are given below in Table 4.

Table 4: Emissions as Listed in Seaboard's April 25, 2014 Legal Advertisement for Their Wheeling/Triadelphia Facility.

Pollutant	Controlled Emission (ton/yr)
VOC	3.34
PM ₁₀	8.34 ⁽¹⁾
Combined HAPs	1.81

- (1) Advertised annual PM₁₀ emission rate listed too high. The "8.34" listed in the ad came from the total pounds of VOC per hour emitted from the facility, paint booth plus cleanup solvent usage. The calculated annual PM10 emission rate in Attachment N is 0.06 ton/yr.

Hourly and annual emissions as calculated in Attachment N are given in Table 5 below.

Fact Sheet R13-3197
Seaboard International, Inc.
Triadelphia, Ohio County, WV

Table 5: Emissions Calculated in Attachment N to Permit Application R13-3197, Seaboard's Wheeling/Triadelphia Facility.

Pollutant		Controlled Emission	
		(lb/hr)	(ton/yr)
VOC	Paint Booth	5.99 (1)	3.00 (2)
	Solvent Cleanup	2.35 (4)	0.34 (3)
	Total	8.34	3.34
PM ₁₀	Paint Booth	0.12	0.06
HAPs	Paint Booth	3.63	1.81

- (1) Based on spraying 10 gal/hr of Quick Dry Enamel, Gloss White F77W6 containing 5.99 lb of VOC per gallon.
- (2) Based on 1,000 gal/yr of Quick Dry Enamel, Gloss White F77W6.
- (3) Based on 100 gal/yr of Safety-Kleen Premium Solvent (100% VOC; 0% HAPs). VOC content per gallon equals 6.7 lb/gal.
- (4) Maximum solvent usage rate assumed to be 0.35 gal/hr.

REGULATORY APPLICABILITY

Seaboard's Wheeling, WV facility is a non-major stationary source, not subject to Title V (45SCR30) because it is not subject to a standard or other requirement under § 112 of the Clean Air Act.

Applicable State Rules:

45CSR7 - To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations

The purpose of Rule 7 is to prevent and control particulate matter air pollution from manufacturing processes and associated operations.

The paint booth (1S) is subject to the emissions standards of 45CSR7.

45CSR§7-3.1. - Opacity can not exceed 20%.

45CSR§7-5.1. - Must be equipped with control system(s) to minimize fugitive PM. The paint booth has a filter(s) located in the exhaust steam downstream of the paint booth to control PM emissions.

Fact Sheet R13-3197
Seaboard International, Inc.
Triadelphia, Ohio County, WV

- 45CSR§7-8.1. - Director may required PM stack testing.
- 45CSR§7-8.2. - Director or his representative may conduct tests to evaluate emissions.
- 45CSR§7-9.1. - Continued operation allowances for unavoidable malfunction of equipment.

45CSR13 - **Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation**

Seboard's Wheeling Facility has the potential to discharge more than six (6) pounds per hour and ton (10) tons per year of PM and VOC.

Seboard is subject to substantive requirements of emission control rules promulgated by the Secretary:

- The paint booth (1S) is subject to the PM emission standards of 45CSR7.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Two MSDS were submitted in Attachment H to the application. HAPs are listed after name of the MSDS.

No.	Name of Coating/Cleaning Solvent	Reference No.	HAP		
			CAS	Name	% by Weight
1	Quick Dry Enamel, Gloss White (The Sherwin-Williams Company)	F77W8	108-88-3	Toluene	17
			100-41-4	Ethylbenzene	4
			1330-20-7	Xylenes	22
2	Safety-Kleen Premium Solvent (100%- Distillates (petroleum), hydrotreated light; CAS 64742-47-8)	6605, 6616	---	None	---

AIR QUALITY IMPACT ANALYSIS

Seboard's Wheeling, WV facility is considered to be a non-major source. No impact analysis study was conducted for the source.

Fact Sheet R13-3197
Seboard International, Inc.
Triadelphia, Ohio County, WV

MONITORING & RECORD KEEPING REQUIREMENTS

Permit

Section 5.2.1. Monthly visible emission checks (and/or opacity monitoring) are to be conducted for the Paint Booth (1S; 1E). See permit section 5.1.6. **[45CSR§7-3.1.]**

Permit

Section 5.4.1. Paint Booth (1S; 1E) VOC Emission Rate. The following records are to be kept on a daily basis: name, identification number, and number of gallons of coating applied; the mass of VOC per volume of each coating (minus water and exempt compounds), as applied each day; the 12-month rolling total for the number of gallons of coating applied; and VOC emission total for the Paint Booth (1S; 1E). An example record is given in Appendix B to the permit. Records are to be kept for three years. See permit section 5.1.3. **[45CSR§21-19.3.a.3.]**

Permit

Section 5.4.2. Records of monthly visible emission checks (and/or opacity monitoring) of the Paint Booth (1S; 1E) are to be kept for three years. An example record is given in Appendix A. See permit section 5.1.6. **[45CSR§7-3.1.]**

Permit

Section 5.4.3. Cleaning Solvent(s) VOC Emission Rates. Daily records of the amount of cleaning solvent(s) used, the VOC content of the cleaning solvent(s) (if less than 100%), the amount of cleaning solvent(s) emitted [subtracting out any used cleaning solvent(s) captured and not allowed to evaporate] and the 12-month rolling VOC cleaning solvent(s) emission rate for the facility. Records are to be maintained for three years. See permit section 5.1.3.

Permit

Section 5.4.4. Permittee to record the date and time the exhaust stream filter pad(s) are changed out. If not all the pads/filters are changed out at the same time, then the location of the changed out and non-changed out filter pads are to be noted for the record.

Permit

Section 5.5.1. Permittee is to notify DAQ/Director in writing of the use of any new surface coating containing any HAP(s) within thirty days of use. An MSDS shall be included with the notice to the DAQ. See permit section 5.1.1.a.

RECOMMENDATION TO DIRECTOR

Seaboard's request for a construction permit (after-the-fact) for a coating operation at their new Wheeling, Ohio County, WV facility meets the requirements of all applicable rules and therefore should be granted said construction permit (R13-3197).

John Legg
Permit Writer

June 19, 2014

Fact Sheet R13-3197
Seaboard International, Inc.
Triadelphia, Ohio County, WV