



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2828E
Plant ID No.: 003-00137
Applicant: Allmine Paving, LLC (Allmine)
Facility Name: Inwood Facility
Location: Inwood, Berkeley County
NAICS Code: 324122
Application Type: Modification
Received Date: August 7, 2014
Engineer Assigned: Jerry Williams, P.E.
Fee Amount: \$1,000.00
Date Received: August 7, 2014
Complete Date: September 4, 2014
Due Date: December 3, 2014
Applicant Ad Date: August 6, 2014
Newspaper: The Journal (Martinsburg)
UTM's: Easting: 757.59 km Northing: 4365.70 km Zone: 17
Description: Modification to allow for a change in raw material usage and operational method.

003-00137
Reg R13-2828E
Company ALLMINE PAVING
Facility INWOOD Initials JW

DESCRIPTION OF PROCESS

The asphalt processing and storage facility will prepare processed asphalt for use in manufacturing processes offsite.

The changes requested in Permit Application R13-2828E include the removal of Boiler No. 2 (14S), revise existing tank and loading rack throughput values from gallons to tons, account for use of flux in polymer modified asphalt blend, modify the vacuum tower bottom residuum/extender/resin usage, revise polyphosphoric acid (PPA) usage and operational method, increase polymer modified asphalt processing throughput, construct backup propane tanks for use as a backup fuel, and install a CO2 fire suppression system.

The proposed changes are listed in more detail below:

- Boiler No. 2 (14S) was approved under R13-2828C. The potential to emit (PTE) was calculated assuming Boiler No. 2 operated 8,760 hours per year and Boiler No. 1 (7S) could operate a maximum of 1,750 hours concurrently with Boiler No. 2. However, Boiler No. 2 was never constructed. This removal would result in a decrease in PTE for all criteria pollutants.
- The Loading Rack (5S) throughput limit in R13-2828D is currently represented in gallons. Allmine uses tons of raw materials as its primary measurement unit for receiving, processing, and shipping materials. Allmine requests to change the throughput limit from gallons to tons.
- The storage tank (1S, 2S, 3S, 4S, 10S, 11S) throughput limits in R13-2828D are currently represented in gallons. Allmine uses tons of raw materials as its primary measurement unit for receiving, processing, and shipping materials. Allmine requests to change the throughput limit from gallons to tons.
- The PTE was calculated using two (2) asphalt processes in the original 2010 application (Asphalt Flux Processing at 220,000 tons/year and polymer modified asphalt processing at 4,940 tons/year). The flux (1S) was not accounted for in Permit Condition 9.1.1 (annual tank throughput table). However, this additional 3,065 tons of asphalt flux was used in the emissions calculations. Allmine requests that this permit condition be revised. The Loading Rack (5S) throughput limit is also affected by this change.
- Allmine proposes the flexibility to replace up to 50% of the asphalt flux with vacuum tower bottoms (VTB) processed in Emission Unit 3S (110,000 tons). Additionally, Allmine proposes to increase the throughput limit of Emission Unit 10S by an additional 52,000 tons of VTB and the throughput limit of Emission Unit 1S by an additional 54,000 tons of asphalt flux. These materials may be blended prior to the Processed Asphalt Storage Tanks (4S), or blended/transferred prior to the Loading Rack (5S).
- R13-2828D currently allows the use of 0.5% PPA. Allmine proposes to use PPA up to 1.5% of a batch/blend.
- Allmine proposes to increase the Polymer Modified Asphalt Processing Throughput by 6,260 tons/year for a total of 11,200 tons/year.
- Allmine proposes to use propane as a backup fuel for 1,750 hours/year on Boiler No. 1 (7S), the hot oil heater (6S), and DFTO 1/2 (1C, 2C).
- Allmine proposes to install a CO₂ fire suppression system.

SITE INSPECTION

A site inspection was conducted on April 25, 2013 by Joseph Kreger of the EPRO. The facility was found to be operating in compliance at that time.

Directions as given in the permit application are as follows:

Proceed east on Tabler Station Road (County Road 32) at intersection with Route 81. The facility is located at the northeast corner of Development Drive and Tabler Station Road (County Road 32).

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emission changes associated with this 45CSR13 modification application consist of combustion emissions associated with the removal of Boiler No. 2, Boiler No. 1 PTE based on 8,760 hours per year of operation, the replacement of up to 50% of the asphalt flux with VTB, the additional PPA usage, and the increase in throughput of the polymer modified asphalt.

The total facility potential to emit (PTE) after this proposed modification is shown in the following table:

Pollutant	Maximum Pre-Modification Annual Facility Wide Emissions (tons/year)	Maximum Post-Modification Annual Facility Wide Emissions (tons/year)	Net Facility Wide Emissions Changes (tons/year)
Nitrogen Oxides	14.00	14.62	0.62
Carbon Monoxide	98.00	98.83	0.83
Volatile Organic Compounds	11.00	14.76	3.76
Particulate Matter-10/2.5	56.00	55.59	-0.41
Sulfur Dioxide	99.10	99.36	0.26
Total HAPs	2.20	3.10	0.90

REGULATORY APPLICABILITY

Unless otherwise stated WVDEP DAQ did not determine whether the permittee is subject to an area source air toxics standard requiring Generally Achievable Control Technology (GACT) promulgated after January 1, 2007 pursuant to 40 CFR 63, including the area source air toxics provisions of 40 CFR 63, Subpart ZZZZ, and 40 CFR 63 Subpart AAAAAAA.

The following rules apply to the changes requested in this modification application:

45CSR13 (Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation)

Allmine submitted PD14-036 on April 7, 2014. PD14-036 was submitted to modify an asphalt processing and storage facility. Upon review of this determination, it has been determined that a permit is required for the proposed changes. This is due to the proposed changes directly effecting permit conditions in permit R13-2828D.

Permit Condition 5.1.11 limits the PPA Modifier concentration to a value not to exceed 0.5%. This permit determination request is to increase that value to 1.5%, which would violate the current permit term. This permit condition also specifies how the PPA Modifier is to be introduced into the system and the permit determination request is in violation of the current permit term.

Permit Condition 9.1.1 states that the annual tank throughput for Emission Unit 10S is 5,270,000 gallons per year combined for two (2) tanks. This permit determination request would raise the throughput to 15,810,000 gallons per year, which would violate the permit term.

Because of the reasons listed above, a permit required letter was issued on April 18, 2014.

This modification application was a result of this action.

Allmine paid the appropriate application fee and published the required legal advertisement for a modification application.

45CSR30 (Requirements for Operating Permits)

This permit does not affect 45CSR30 applicability, the source is a nonmajor source subject to 45CSR30. The facility is not subject to the permitting requirements of 45CSR30 and is classified as a deferred source.

The following rules do not apply to the facility:

40CFR60 Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels)

The affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) (19,813 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa. This subpart also does not apply to pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere. The propane tank(s) that Allmine has proposed (either one (1) 60,000 gallon tank or two (2) 30,000 gallon tanks) are high pressure storage tanks that are operated with no evaporative or working emission losses. Therefore, this subpart would not apply to these tanks.

45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants)

45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment)

The Inwood Facility is located in Berkeley County, which is a non-attainment county for PM_{2.5}, therefore the facility is potentially applicable to 45CSR19.

As shown in the following table, Allmine is not a major source subject to 45CSR14 or 45CSR19 review. According to 45CSR14 Section 2.43.e, fugitive emissions are not included in the major source determination because it is not listed as one of the source categories in Table 1. Therefore, the fugitive emissions are not included in the PTE below.

Pollutant	PSD (45CSR14) Threshold (tpy)	NANSR (45CSR19) Threshold (tpy)	Inwood Facility PTE (tpy)	45CSR14 or 45CSR19 Review Required?
Carbon Monoxide	250	NA	98.83	No
Nitrogen Oxides	250	100	13.02	No
Sulfur Dioxide	250	100	99.36	No
Particulate Matter 2.5	250	100	55.59	No
Ozone (VOC)	250	NA	14.76	No

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. HAPs are those pollutants that are specifically identified in section 112(b) of the Clean Air Act. To be listed as a HAP, EPA must find that the chemical in question may present a threat to human health and cause adverse environmental effects. If the facility has the potential to emit 10 tons per year of any pollutant on the HAP list, or any combination of pollutants on that list for a total of 25 tons per year, the facility is considered a major source of HAPs. Otherwise, it is considered an area source.

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at www.epa.gov/iris.

AIR QUALITY IMPACT ANALYSIS

Modeling was not required of this source due to the fact that the facility is not subject to 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) or 45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment) as shown in the table listed in the Regulatory Discussion section under 45CSR14/45CSR19.

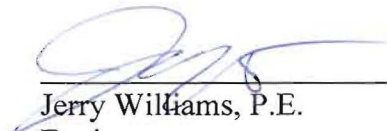
MONITORING OF OPERATIONS

Allmine will be required to perform the following monitoring, recordkeeping, reporting, and testing (MRRT) associated with this modification application:

- Storage tanks and loading rack throughputs.
- Account for the use of flux in the polymer modified asphalt blend.
- Account for the use of VTB residuum/extender/resin usage.
- Account for the additional usage of PPA.
- Throughput for the polymer modified asphalt usage.
- Account for the use of propane as a backup fuel.
- The records shall be maintained on site by Allmine for a period of five (5) years.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates Allmine's Inwood Facility meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the Berkeley County location should be granted a permit modification for these changes.



Jerry Williams, P.E.
Engineer

SEP 25, 2014

Date

