



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

Application No.: R13-3322 *After-the-Fact*
Plant ID No.: 049-00192
Applicant: Cummins Crosspoint, LLC
Facility Name: Fairmont Facility
Location: White Hall, Marion County, WV
NAICS Code: 441310
Application Type: Construction
Received Date: May 25, 2016
Engineer Assigned: Thornton E. Martin Jr.
Fee Amount: \$2,500.00
Date Received: May 27, 2016
Complete Date: August 25, 2016
Newspaper: *Times West Virginian*
Applicant Ad Date: May 27, 2016
UTMs: Easting: 569.472 km Northing: 4,364.614 km Zone: 17
Description: After acquiring Crosspoint, Cummins Inc. has been conducting environmental compliance audits at all of the Crosspoint facilities. The following identified potential emission units will include one (1) emergency generator rated at 100 kW, one (1) Filter Cleaner, five (5) parts washers and two (2) used oil heaters, 0.275 mmbtu each.

DESCRIPTION OF PROCESS

The Cummins Crosspoint, LLC facility located at 25 Gateway Drive in White Hall, West Virginia is an engine repair and rebuild shop. The facility performs various maintenance and repair on engines as well as Diesel Particulate Filter (DPF) cleaning. The facility also has

Promoting a healthy environment.

multiple parts washers and waste oil heaters. There is no paint booth or painting operations associated with this site. Emission units identified at this facility include:

Emergency Generator (1S)

Equipment – Cummins Inc. 100 kW

There is a Cummins Inc., 2011 Model GGHH-8983821, natural gas-fueled emergency generator [1S] with propane backup located onsite rated at 100 kW (153.2 bhp). This emission unit only operates during emergencies and for limited testing and maintenance. The only emissions associated with this unit are from natural gas combustion (or backup propane) that vent out a small stack outdoors [1E]. This is an EPA Certified Engine (Certificate No. BCEXBO6.8GBD-005).

Diesel Particulate Filter Cleaner (2S)

Equipment – Enclosed Booth (1)

The DPF (Filter Cleaner) [2S] is utilized to clean diesel particulate filters using forced air and electric heat as needed in an enclosed booth. All emissions are captured and controlled via a dust collector [1C] that vents indoors [2E]. The only emissions associated with this unit result from particulates removed from the filters that are not captured by the dust collector. The dust collector is an FSX Sootsucker that utilizes 2-stage filtering consisting of a Paper Cartridge Filter (98.5%) and a HEPA Panel Filter (99.7%). Estimated emissions are based on a control efficiency of 98%.

Parts Washers (3S)

Equipment – Parts Washer (2)

The Applicant identified two (2) parts washers (degreasers) [3S] located onsite. Calculations from the Applicant for this emission unit consists of one (1) Crystal Clean Parts Washer and one (1) Rotary Parts Washer. Emissions are based solely on the evaporation of the cleaning material (Crystal Clean Premium 142 Mineral Spirits) stored in the parts washer, assuming the lid will be closed 90% of the time. During the site inspection, however, Mr Dettinger identified five total parts washers. Four (4) identical Crystal Clean Parts Washers and one (1) Cuda aqueous parts washer. The Applicant submitted estimated emissions for one (1) Crystal Clean Parts Washer and one (1) Rotary Parts Washer with both utilizing Crystal Clean Premium 142 Mineral Spirits as the cleaning agent. The estimated emissions presented in this evaluation and subsequent permit will be based on four (4) Crystal Clean Parts Washers and one (1) Rotary Parts Washer; all utilizing Crystal Clean Premium 142 Mineral Spirits as the cleaning agent. All emissions from this unit emit indoors [2E].

**Waste Oil Heaters (4S)
Equipment – Space Heater (2)**

Finally, there are two (2) waste oil heaters [4S]. These units are small space heaters (0.275 mmbtu each) used only for creature comfort. The only emissions result from the combustion of waste oil, which vent outdoors [3E and 4E]. The (2) heaters have a total heat rating of 0.55 MMBtu/hr. The Manufacturer specifies acceptable fuels to be #2 fuel oil, waste ATF and crankcase oil only. Estimated emissions are based on the combustion of 1.8 gallons of waste oil per hour and a total of 16,060 gallons per year.

PROPOSED EQUIPMENT LIST

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device ¹
1S	1E	2011 Emergency Generator (1) Natural Gas-Fired (Propane Backup)	1/2012	100 kW	None
2S	2E	Diesel Particulate Filter Cleaner (1)	1/2012	N/A	1C
3S	2E	Crystal Clean Parts Washers (4) Rotary Parts Washer (1)	1/2012	N/A	None
4S	3E, 4E	Waste Oil Heaters (2) #2 Fuel Oil, Waste ATF, Crankcase Oil	1/2012	0.275 mmBtu/hr 1.8 gal/hr 16,060 gal/yr	None

¹ 1C - FSX SootSucker Dust Collector (Two stage filtration consisting of a paper cartridge filter and HEPA panel filter)

SITE INSPECTION

Karl Dettinger of the Division of Air Quality’s, North Central Regional Office conducted a site inspection of the facility on August 02, 2016. Mr. Dettinger identified four (4) solvent parts washers as opposed to the one (1) identified by the applicant. The four parts washers are Crystal Clean brand units and are all identical. There is also a Cuda aqueous parts washer (assumed to be the Rotary Parts Washer identified by the Applicant) that uses hot soapy water to clean parts.

Directions: From I-79, take exit 132. Continue on US-250S/White Hall Blvd. for 0.5 miles then turn right onto Middletown Rd. After 0.2 miles on Middletown Rd., turn right onto Gateway Dr., facility will be on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions generated by the Emergency Generator were estimated using emission factors from the USEPA's AP-42 Fifth Edition, Supplement F, Ch. 3.2 (Natural Gas-fired Reciprocating Engines) Table 3.2-3 (08/2000) using a maximum hourly fuel input of 1.199 (MMBtu/hr) and a maximum annual hours of operation at 500 hours. Emission factors from the USEPA's AP-42 Fifth Edition, Ch. 1.5 (Liquefied Petroleum Gas Combustion) Table 1.5-1 (07/2008) were utilized to estimate emission from using Propane as backup.

Emissions generated by the Filter Cleaner (FSX TrapBlaster Pneumatic DPF Cleaner) were estimated using Manufacturer Supplied Data. The dirty filter is loaded into the chamber (2/hour) and a nozzle blows pressurized air and generates electric heat to clean the filter. The exhaust is then run through two filters (98% control efficiency) in the piece of equipment before venting inside the facility.

Emissions from the five parts washers were estimated using the SDS for Crystal Clean Premium 142 Mineral Spirits (evaporative VOC emissions) and a control efficiency of 90% (percent time the washer lid is closed). The Applicant identified two parts washers, however, our DAQ inspection identified five total. Estimated emissions will reflect the use of four identical units and one Rotary (all utilizing Crystal Clean Premium 142 Mineral Spirits as the cleaning agent).

Emissions generated by the Waste Oil Heaters were estimated using emissions factors from AP-42, Fifth Edition, Ch. 1.11, SCC 1-05-001-13 Atomizing Space Heaters.

Emission estimates were performed by the Applicants' consultant and checked for accuracy and completeness by the writer.

The following table(s) summarize the proposed emissions from the Cummins Crosspoint, LLC (Fairmont Facility):

Table # 1	Proposed PTE				
Criteria Pollutant	Total Controlled Emissions (lb/hr)				
	Emission Unit ID				
	1S	2S ¹	3S	4S	Total
VOC	0.034	0	0.339	0.004	0.377
PM	0.012	0.111	0	0.112	0.235
PM ₁₀	0.011	0.111	0	0.096	0.218
PM _{2.5}	0.011	0.111	0	0.096	0.218
NO _x	0.007	0	0	0.040	0.047
CO	0.003	0	0	0.006	0.009
SO ₂	0.020	0	0	0.098	0.118
Total HAPs	<0.01	0	0	<0.01	<0.01
Lead	0	0	0	0.005	0.005

¹ Uncontrolled emissions PM/PM₁₀/PM_{2.5} would be 5.55 lb/hr and 24.4 tpy

Table # 2	Proposed PTE				
Criteria Pollutant	Total Controlled Emissions (TPY)				
	Emission Unit ID				
	1S	2S	3S	4S	Total
VOC	0.0084	0	1.49	0.016	1.514
PM	0.003	0.488	0	0.488	0.979
PM ₁₀	0.002	0.488	0	0.421	0.911
PM _{2.5}	0.002	0.488	0	0.421	0.911
NO _x	0.0017	0	0	0.177	0.180
CO	0.001	0	0	0.027	0.028
SO ₂	0.005	0	0	0.430	0.435
Total HAPs	9.67E-03	0	0	7.60E-03	0.017
Lead	0	0	0	0.005	0.005

REGULATORY APPLICABILITY

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

The heaters have been determined to meet the definition of a “fuel burning unit” under 45CSR2 and are, therefore, subject to the applicable requirements therein. 45CSR2 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat input of the waste oil heaters (4S) is below 10 MMBTU/hr. Therefore, this unit is exempt from the aforementioned sections of 45CSR2. The heaters are subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average.

45CSR4 — To Prevent and Control the Discharge of Air Pollutants Into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors

The facility is subject to the requirements of 45CSR4 and shall not allow the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.

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

The purpose of this rule is to set forth the procedures for stationary source reporting, and the criteria for obtaining a permit to construct and operate a new stationary source which is not a major stationary source, to modify a non-major stationary source, to make modifications which are not major modifications to an existing major stationary source and to relocate non-major stationary sources within the State of West Virginia.

Cummins Crosspoint, LLC has identified emission sources that have a potential to emit, before controls, greater than 6 pounds per hour and 10 tons per year of particulate matter. Thus, Cummins Crosspoint, LLC must obtain a permit to Construct as required in 45CSR§13-5.1. The company has complied with the public review procedures in 45CSR§13-8.3. by publishing a legal ad in the *Times West Virginian* on May 27, 2016. In addition, the applicant submitted a complete application and paid the permit application fees.

45CSR22 — Air Quality Management Fee Program

In accordance with 45CSR22 - "Air Quality Management Fee Program", the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the Certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

40CFR60 Subpart JJJJ — Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Pursuant to §60.4230(a)(4)(iv), emergency generators greater than 25 hp and manufactured after January 1, 2009 are subject to Subpart JJJJ. For emergency generators greater than 130 hp manufactured after January 1, 2009, Table 1 to Subpart JJJJ sets a NO_x emission limit of 2 g/bhp-hr, a CO emission limit of 4 g/bhp-hr and a VOC emission limit of 1 g/bhp-hr.

The EPA Certified, 2011 Emergency Generator [1S], Cummins Inc., Model GGHH-8983821 (100 kW), will not exceed 500 hours per year of operation. The 153.2 bhp engine will meet the emission limits specified above and shall not exceed 0.68 lb/hr of NO_x; 1.35 lb/hr of CO; and 0.34 lb/hr of VOC's.

40CFR63 Subpart ZZZZ — National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Cummins Crosspoint, LLC is subject to 40CFR63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, because [1S] is considered a new area source of HAPs since the facility was constructed on or after June 12, 2006, however, the only requirements that apply are those required under 45CFR60 Subpart JJJJ.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Small amounts of non-criteria regulated hazardous or toxic air pollutants such as benzene, ethylbenzene, toluene, xylenes and formaldehyde may be emitted when natural gas is combusted in reciprocating engines. The Director has previously determined that due to the rural location and the typically small amounts emitted, these non-criteria regulated hazardous/toxic pollutants should not adversely impact an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare.

AIR QUALITY IMPACT ANALYSIS

The proposed construction does not meet the definition of a “major stationary source” pursuant to 45CSR14 and, therefore, an air quality impact (computer modeling) analysis was not required. Additionally, based on the nature of the construction, modeling was not required under 45CSR13, Section 7.

MONITORING OF OPERATIONS

Registrant will be required to perform the following monitoring:

1. Monitor and record calendar monthly and calendar annual hours of operation for the emergency engine.
2. Monitor and record calendar monthly and calendar annual quantity of Crystal Clean Premium 142 Mineral Spirits consumed.
3. Conduct visual observations of all vent points listed in the permit that are subject to 45CSR2 opacity limits.
4. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application R13-3322 indicates that Cummins Crosspoint, LLC should meet all the requirements of the applicable rules when operated according to the permit application. Therefore, the writer recommends granting the applicant a Rule 13 construction permit for their engine rebuild facility.

Permit Engineer

August 25, 2016

Date

Fact Sheet R13-3322
Cummins Crosspoint, LLC
Fairmont Facility