



west virginia department of environmental protection

Division of Air Quality
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Randy C. Huffman, Cabinet Secretary
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G60-C023A
Plant ID No.: 039-00005
Applicant: Union Carbide Corporation
Facility Name: Institute
Location: Institute, Kanawha County
SIC Code: 2869
Application Type: Class II Administrative Update
Received Date: September 23, 2015
Engineer Assigned: Caraline Griffith
Fee Amount: \$1,300
Date Fee Received: September 24, 2015
Complete Date: October 6, 2015
Due Date: November 23, 2015
Applicant Ad Date: September 24, 2015
Newspaper: *The Charleston Gazette*
UTM's: Easting: 432.189 km Northing: 4248.754 km Zone: 17
Description: This is an administrative update to change the Applicant name from Bayer Cropscience to Union Carbide Corporation under the Facility ID: 039-00005. This update is also to revise estimated maximum potential emissions for some regulated air pollutants.

DESCRIPTION OF PROCESS

Union Carbide Corporation (UCC) owns and operates a stationary reciprocating internal combustion engine that is used to power an emergency (backup) electrical generator. The electrical generator provides backup power to the site emergency response center. The engine, Cummins, Inc. Model QSM11-G4, is diesel fuel-fired. The engine is ran for testing purposes to ensure proper operation in the event of an electrical outage to the emergency response center.

SITE INSPECTION

On April 29, 2014, John Money Penny from DAQ's Compliance and Enforcement Section conducted a site inspection of Union Carbide Corporation's Institute facility. The facility received a site rating of 30.

Directions to the facility:

From Charleston, take I64 W toward Huntington. Turn right at Institute Exit. Proceed West approximately 0.5 miles on SR 25 W to traffic light. UCC facility is located on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Estimated emission rates based on operating 500 hr/yr.

Emission Unit	Pollutant	G60-C023		G60-C023A		Change in Maximum Annual Emission (TPY)
		Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)	
EG-1	Nitrogen Oxides	2.87	0.72	3.11	0.77	+0.05
	Carbon Monoxide	0.02	0.05	2.69	0.67	+0.62
	Volatile Organic Compounds	0.02	0.05	0.02	0.05	--
	Sulfur Dioxide	0.96	0.24	0.96	0.24	--
	Particulate Matter-10	0.08	0.02	0.16	0.03	+0.01
	Formaldehyde	0.004	0.001	0.004	0.001	--

REGULATORY APPLICABILITY

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

45CSR13 applies to this permit application for a Class II Administrative Update. Class II Administrative Updates are limited to a change in a permit condition as necessary to allow changes in operating parameters, emission points, control equipment or any other aspect of a source which results in an increase or no change in the emissions of any existing regulated air pollutant or any new regulated air pollutant. Since this application is requesting an increase in emissions that does not exceed 6 lb/hr and 10 TPY of any regulated pollutant or 144 lb/day of any regulated pollutant, it is classified as a Class II Administrative Update.

Union Carbide Corporation published their legal advertisement in *The Charleston Gazette* on September 24, 2015. They must also pay all fees associated with this update request.

45CSR22 Air Quality Management Fee Program

On September 24, 2015 Union Carbide Corporation paid the \$300 application fee and the \$1000 NSPS fee. They must also maintain a certificate to operate.

40CFR60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)

This facility's engine was manufactured after April 1, 2006 (in October 2010) and is therefore subject to Subpart IIII. 40CFR89.112 Table 1 provides the allowable emission standards from non-road engines. EG-1 is a 470 hp engine constructed on November 1, 2010 which is a Tier 3 engine and has allowable emissions standards (g/kW-hr) of: $\text{NO}_x = 4.0$, $\text{CO} = 3.5$, and $\text{PM} = 0.20$. Converting these values to allowable hourly emissions, results in the following allowable emissions: $\text{NO}_x = 3.09$ lb/hr, $\text{CO} = 2.71$ lb/hr, and $\text{PM} = 0.16$ lb/hr. The estimated air emissions for Bayer CropScience's engine are below these allowable emission thresholds.

RECOMMENDATION TO DIRECTOR

Based on the information provided in the permit application this facility seems to be in compliance with all applicable air pollution rules and regulations. Therefore, I recommend to the Director of Air Quality the issuance of Permit Number G60-C023A to Union Carbide Corporation located in Institute, Kanawha County, WV.


Caraline Griffith
Permit Engineer

10/27/15
Date

Fact Sheet G60-C023A
Union Carbide Corporation
Institute Facility