

Fact Sheet



For Draft/Proposed Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03900005-2016**

Application Received: **May 1, 2015***

Plant Identification Number: **03900005**

Permittee: **Union Carbide Corporation**

Business Unit: **Infrastructure: Wastewater Treatment and Maintenance Operations
(Group 7 of 7)**

Facility Name: **Institute Plant**

Mailing Address: **P.O. Box 8361**

South Charleston, WV 25303

* Submitted as R30-03900007-2015 Bayer CropScience Institute Plant (Group 1 of 8)

Physical Location:	Institute, Kanawha County, West Virginia
UTM Coordinates:	432.19 km Easting • 4,248.31 km Northing • Zone 17
Directions:	The facility is located west of Institute, WV, adjacent to State Route 25 and West Virginia State University

Facility Description

Bayer CropScience (03900007) sold parts of its equipment in Group 1 of 8 to the Union Carbide Corporation's Institute Plant (03900005) over the course of two different dates. In order to facilitate the sell, Bayer split the Group 1 of 8 Title V Permit renewal as follows:

Group 1 of 8 – Powerhouse/Laboratory (will remain with Bayer)

Group 1A of 8 – Emergency Services (Sold to UCC Institute and now Group 6 of 7)

Group 1B of 8 – Now UCC Institute Group 7 of 7 Wastewater Treatment Unit and Maintenance (was sold to Union Carbide and associated permits transferred on November 5, 2015).

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions Wastewater Treatment and Maintenance Operations	2014 Actual Emissions Wastewater Treatment and Maintenance Operations
Carbon Monoxide (CO)	< 2.0	< 0.1
Nitrogen Oxides (NO _x)	< 4.0	< 0.1
Particulate Matter (PM _{2.5})	< 1.0	< 0.1
Particulate Matter (PM ₁₀)	< 1.0	< 0.2
Total Particulate Matter (TSP)	< 1.0	< 1.0
Sulfur Dioxide (SO ₂)	< 1.0	< 0.1
Volatile Organic Compounds (VOC)	62	8

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions Wastewater Treatment and Maintenance Operations	2014 Actual Emissions Wastewater Treatment and Maintenance Operations
Ethylene Glycol	15 ¹	15
Total HAPs	23	3

¹ The Potential to Emit for Ethylene Glycol was previously higher, but has lowered due to plant changes.

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

Title V Program Applicability Basis

Due to the facility-wide potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of an individual HAP, and 25 tons per year aggregate HAPs, Union Carbide Corporation's Institute Plant 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:	45CSR6	Open burning prohibited.
	45CSR7	PM from manufacturing processes
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for construction, modification, relocation, and operation of stationary sources

	45CSR16	Standards of performance for new stationary sources
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission standards for HAP's
	40 C.F.R. 60, Subpart IIII	Standards of performance for stationary compression ignition internal combustion engines
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 63, Subpart ZZZZ	NESHAP for stationary reciprocating internal combustion engines
	40 C.F.R. Part 82, Subpart F	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>)
R13-1033	9/1/1988	
R13-1248	7/23/1990	
G60-C054A	5/26/2015	
G60-C	5/21/2009	

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

The Union Carbide Corporation Institute Plant has purchased assets owned by the Bayer CropScience Institute Plant. The Bayer CropScience Group 1 of 8 unit was broken up into Group 1 of 8 (Powerhouse/Laboratory), Group 1A of 8 (Emergency Services), and Group 1B of 8 (Infrastructure: Wastewater Treatment Unit and Maintenance). Bayer CropScience submitted a renewal for R30-03900007-2015 (Group 1 of 8) on May 1, 2015. Union Carbide Corporation had the units and permits associated with the Wastewater Treatment Unit and Maintenance transferred to them on November 5, 2015. The applicable units and requirements for wastewater treatment and maintenance operations are being transferred to this Title V Permit.

The equipment table has been revised to rename some of the existing equipment. Some units already existing that had not been listed in the Title V Permit have been added. The General Maintenance Supplies reference has been removed and the actual sources have been added.

Section 4.0 of this Permit contains the Source Specific requirements previously found in Section 6.0 of R13-03900007-2010 (Group 1 of 8). Section 4.0 of this permit has been revised to remove the 45CSR§§7-3.7 and 5.1 requirements for the carbon adsorption bed (010D), filter press (010C), and HCl scrubber vent (010F). Although the previous permit cited the units as being subject to Rule 7 using the authority of R13-1033 Condition B.1, a review of the Permit does not list these units specifically, and none of the supporting documentation in the application show particulate matter emissions from these sources. The carbon adsorption bed is a control device for VOC emissions, the filter press is used to dewater wastewater sludge, and the HCl scrubber vent is a control device for HCl emissions. There are no particulate matter emissions expected to come from these three sources. There are 45CSR§7-4.2 requirements for HCl emission concentrations from the HCl scrubber vent (010F) in Condition 4.1.2. Previous Condition 6.1.7 referenced the Emergency Generator EG-1 and #2 Fuel Oil Tank. These units were included in the R30-03900007-2015 Part 1A of 8 Title V Permit. Current Section 6.0 conditions have been renumbered as Section 4.0 Conditions for the permit renewal. Condition 4.2.1 has been modified to remove language regarding visual checks of open air emission points because the baghouse vent is the only point discharged to the air for the lime handling system. Current Condition 4.2.2 referenced a 45CSR§30-5.1.c monitoring requirement that compliance with the HCl limit in current Condition 4.1.2 be met by following the Preventative Maintenance Plan that was submitted in 2005. That Condition has been revised to note that operation and maintenance procedures must be reviewed and updated, as necessary, at least every three years. Current condition 4.2.3 had a 45CSR§30-5.1.c monitoring requirement that material balances and monthly inspections of the baghouse/filter system (S-1) be utilized to demonstrate compliance with particulate matter limits. However, due to the insignificant amount of particulate matter generated (less than 7 pounds per year), this requirement has been changed to require an annual inspection of the bags and baghouse/filter system.

The Emergency Engines (identified in G60-C054A as EG-1 and EG-2 but renamed P-319 and P-354, respectively) are subject to 40CFR60, Subpart III and 40CFR63, Subpart ZZZZ. Per 40 CFR§63.6590(c)(6), a new emergency RICE with a site rating of less than 500 hp located at a major source of HAP's must meet the requirements of 40CFR63, Subpart ZZZZ by meeting the requirements of 40CFR60 Subpart III. The requirements for P-319 and T-CS Diesel Tank and P-354 and T-WS Diesel Tank are contained in R13 General Permit Registration G60-C054A and General Permit G60-C. The requirements are given in Conditions 5.1.1 and 5.1.2 and the applicable General Permit requirements in Attachments A and B.

The diesel fueled East Sump Pump (P-629) is subject to the existing Stationary Rice (the pump was constructed before June 12, 2006) requirements of 40CFR63, Subpart ZZZZ. These requirements are given in Section 6 of this Permit.

Condition 6.1.1 requires oil changes and inspection of the air cleaner, and hoses and belts. Condition 6.1.2 requires the Permittee to operate and maintain the pump engine in a manner consistent with safety and good air pollution control practices. Condition 6.1.3 requires the Permittee to operate and maintain the pump engine according to the manufacturer's instructions or to develop their own maintenance plan. Condition 6.1.4 requires the Permittee to have a non-resettable hour meter installed on the pump engine. Condition 6.1.5 allows the Permittee to perform an oil analysis to possibly extend the specified oil change requirements. Condition 6.1.6 limits the engine's hours for maintenance and non-emergency situations. Condition 6.1.7 requires the Permittee to be in compliance with all requirements of 40CFR63, Subpart ZZZZ. Condition 6.4.1 requires the Permittee to keep records of any maintenance conducted on the pump engine. Condition 6.4.2 requires the Permittee to keep records of the hours of operation the pump engine is used for emergency and non-emergency operation. Condition 6.5.1 requires the Permittee to report any instance that it did not meet the requirements of Condition 6.1.1 and to report it as required by condition

6.5.3. Condition 6.5.2 requires the Permittee to report each instance they did not meet the general provisions of Subpart ZZZZ for the pump engine. Condition 6.5.3 requires all deviations for the pump engine be reported in the semiannual monitoring report.

Non-Applicability Determinations

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

40CFR60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The East Sump Pump (P-629) was constructed before the applicability date of July 11, 2005 for 40CFR60, Subpart IIII.

40CFR63, Subpart ZZZZ - National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The East Sump Pump (P-629) is a diesel fueled emergency engine to provide power to a pump rather than an electric generator. Since 40CFR63§6640(f) specifies that an engine will not be considered an emergency engine under this subpart if it is not operated according to the requirements in 40CFR63§6640(f)(1) through (4). This engine does not meet 40CFR63§6640(f)(2)(ii) or (iii) since it does not provide power for demand response to the grid. 40CFR63§6604(b) which limits the fuel to diesel fuel and 40CFR63§6650(h) which provides reporting requirements for the fuel requirements are not applicable to this Pump.

45CSR7

The building 334 Grit Blasting, Building 334 Paint Shop, and Building 4 Welding shop are not manufacturing processes and therefore not subject to Rule 7. There are no points, other than the baghouse vent, that discharge to the air. The sentence “For units emitting directly into the open air from points other than a stack outlet, visible emissions are to include visible fugitive dust emissions that leave the plant site boundaries.” has been removed from Condition 4.2.1.

The Phosphoric Tank T-603 is used to supply phosphoric acid to wastewater treatment. Therefore it does not meet the definition of a “Source Operation” under 45CSR§2-39 as wastewater is not a manufacturing process source operation. Therefore the mineral acids concentration limit of 45CSR§7-4.2 does not apply.

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, December 4, 2015

Ending Date: Monday, January 4, 2016

Point of Contact

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

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Division of Air Quality
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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)

N/A