

Fact Sheet



For Final 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	18

¹The 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.

Non-Applicability Determinations

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

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§7-2.39 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: December 4, 2015
Ending Date: January 4, 2016

Point of Contact

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

Mike Egnor
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1208 • Fax: 304/926-0478
michael.egnor@wv.gov

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)

Response to comments from Freddie Sizemore (UCC WVO EHS Regulatory Affairs Specialist) received on December 30, 2015:

The diesel fueled East Sump Pump (P-629) has been permanently shut down and will be removed. This unit has been removed from the equipment table and Section 6.0 of the Permit has been removed. The Permit has been renumbered accordingly.

The equipment table has been revised to designate that the emission units P-319 and P-354 were previously identified as EG-1 and EG-2, respectively.

Under the emissions summary of the fact sheet, the 2014 Actual Emissions for Total HAPs from the Wastewater Treatment and Maintenance Operations have been revised from 3 TPY (which was the number of HAPs besides ethylene glycol) to 18 TPY (which includes ethylene glycol and all other HAPs).

Under the non-applicability section of the fact sheet, the citation for the definition of a "Source Operation" has been changed from 45CSR§2-39 to 45CSR§7-2.39.

Response to comments from Paul Wentworth (EPA) received on January 6, 2016:

Comment 1

RE:

4.1.3. The HCl tank and scrubber shall be operated in such a manner so as to comply with all applicable state laws and regulations.

[45CSR13, Permit No. R13 -1248 (Condition B.1.) (010F)

Comment: This applicable requirement is non-specific. There are no standards supplied hereon which to judge whether this requirement is being carried out and therefore is not practically enforceable unless cites to all the

applicable state laws and regulations are provided here. The citations below the requirement only provide authority for this requirement to comply, but there is no reference to the specific requirements that must be complied with. Therefore this requirement is not practically enforceable until the specific requirements are listed here. There must be language supplementing this requirement to provide specific information to which this requirement relies.

Response:

Condition 4.1.3 has been removed and the permit renumbered accordingly. R13-1248 required that the HCl tank and scrubber comply with all applicable state laws and regulations. The applicable requirements for the HCl tank and scrubber are listed in Condition 4.1.2. Therefore the citation to R13-1248 Condition B.1 has been added to Condition 4.1.2 which are the applicable requirements for the HCl tank and scrubber.

Comment 2

RE:

4.1.5. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

[45CSR§7-5.2., 45CSR13, Permit No. R13-1033 (Condition B.1.)]

Comment: This applicable requirement is non-specific. There is no standard on which to judge whether the owner is maintaining particulate control of the plant premises and requirement or when to apply particulate suppressants, and therefore is not practically enforceable. The inclusion of this requirement in the permit is not sufficient to inform the owner what they must do to comply. This requirement needs to be supported by specific terms and standards: there is no definition of the term “good operating practices. The Permit should include a definition of this term.

Response:

The wastewater treatment area is paved with asphalt, concrete, and gravel. There are also speed limits of between 15 and 20 miles per hour. The transfer of lime is done in an enclosed silo, so no fugitive emissions are expected. Renumbered Condition 4.1.4 has been revised as follows:

4.1.4. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

[45CSR§7-5.2., 45CSR13, Permit No. R13-1033 (Condition B.1.)]

To demonstrate compliance with this Condition, the Permittee shall maintain particulate matter control of the wastewater treatment plant area which includes the lime transport vessel unloading area by using concrete, gravel, or paving of plant controlled access roads.

[45CSR§30-12.7]

Comment 3

RE:4.2.1.

At least monthly, visual emission checks of each emission point subject to an opacity limit shall be conducted. These checks shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the unit has visible emissions using procedures outlined in 40 CFR 60, Appendix A, Method 22.

Comment: This requirement needs to be supplemented by establishing a site specified time interval so as to inform the owner as to how long they must carry out each visual opacity check, otherwise there is no way to judge whether or not these visual checks have been sufficient to assure compliance. RE : 4.2.1.....A 45CSR§7A-2.1.a,b evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions.

Comment: This requirement needs to be supplemented by establishing a site specified time interval that corresponds to the term: “timely manner” so as to inform the owner as to how long they have to correct a visible condition.

Response:

Specific time limits have been added to this Condition. Additionally, Condition 4.2.1 only applies to the lime silo (015A), and lime is not transferred every month, a requirement that visual emission checks shall be conducted at least monthly when lime is transferred to the storage silo was also added. The permit condition has been revised as follows:

4.2.1. At least monthly when lime is transferred to the storage silo, visual emission checks of each emission point subject to an opacity limit (Condition 4.1.5) shall be conducted. These checks shall be conducted during periods of normal facility operation for at least one minute ~~a sufficient time interval~~ to determine if the unit has visible emissions using procedures outlined in 40 CFR 60, Appendix A, Method 22. If sources of visible emissions are identified during the survey, or at any other time, the permittee shall conduct an evaluation as outlined in 45CSR§7A-2.1.a,b within twenty-four (24) hours. However, a 45CSR§7A-2.1.a,b evaluation shall not be required more than once per month per emission unit. A 45CSR§7A-2.1.a,b evaluation shall not be required if the visible emission condition is corrected within 24 hours ~~in a timely manner~~ and the units are operated at normal operating conditions. A record of each visible emission check required above shall be maintained on site for a period of no less than five (5) years. Said record shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer.

[45CSR§7A-2.1a,b 45CSR13, Permit No. R13-1033 (Condition B.1.) (015A) and 45CSR§30-5.1.c]

Comment 4

RE: 4.2.2 Compliance with 4.1.2 for the removal of HCl by the scrubber (010F) shall be determined by proper operation and maintenance of the scrubber. Operation and maintenance procedures must be periodically reviewed and updated, as necessary, at least every three years.[45CSR§30-5.1.c (010F)]

Comment: This requirement must be supplemented with information on what constitutes proper operation and maintenance of the scrubber. If there are established procedures they should be documented here or if there is an operating manual it should be referenced here.

Response:

Condition 4.2.2 has been revised as follows:

4.2.2. To demonstrate compliance with Condition 4.1.2, the Permittee shall maintain an operating and maintenance procedure. The procedure shall take into account good engineering practices and manufacturer's specifications. The procedure shall be reviewed, and updated as necessary, every three years.

Comment 5:

RE: 5.0. Emergency Engines 40 C.F.R. 60, Subpart III [P-319 and P-354]

Comment: In Various locations under this section in the permit there are references to attachments (A) and (B). Attachment (A) is a General Permit registration update regarding the construction, modification, relocation, administrative update, and operation of emergency generators issued in May of 2015 to Bayer Crop Science Institute. Attachment (B) is a General permit regarding the construction, modification, relocation, administrative update, and operation of emergency generators issued in May of 2009 to Bayer Crop Science Institute. In short, the Title V permit is incorporating by reference applicable requirements contained in permits issued to Bayer Crop Sciences which has relinquished owner ship of these units though the sale of its business unit to Union Carbide. EPA believes that the applicable requirements of permits issued to one company do not apply to a separate company. The applicable requirements of the permits known as attachment A and attachment B referred to in this draft title V permit for Union Carbide must be contained within the title v permit for Union Carbide.

Response:

General Permit G60-C054A was transferred from Bayer CropScience to Union Carbide along with R13-1033, and R13-1248 on November 5, 2015 (see below). Since Union Carbide has taken ownership of these permits, they are subject to those requirements.



I.D. No. 03900005 ^{DAQ} Reg. Admin
Company Union Carbide Corp
Facility Institute Region 4
Initials JLR

west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304 926 0475 • FAX: 304 926 0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

November 5, 2015



Jonathan M. Raess, WVO Responsible Care Leader
Union Carbide Corporation
P.O. Box 8004
South Charleston, WV 25303

RE: Transfer of Permits G60-C054A
R13-1033 & R13-1248
Plant ID No. 039-00005
Rule 30

Dear Mr. Raess:

We are in receipt of your letter dated September 2, 2015, wherein you acknowledged that you have examined the permits being transferred that were previously issued to Bayer CropScience LP, for the Institute Site located in Kanawha County, West Virginia.

The transfer of General Permit G60-C054A, and Permits R13-1033 and R13-1248 are hereby acknowledged based upon the facts stated in the above-referenced letter and the commitment by Union Carbide Corporation to comply with all permit conditions and regulatory requirements applicable to the processes authorized in said permits. Permits G60-C054A, R13-1033 and R13-1248, and all associated information shall, henceforth, be filed under the name of Union Carbide Corporation.

Should you have any questions concerning this matter, please contact the Permitting Section at the address and telephone number listed above.

Sincerely,

William F. Durham
Director

WFD/jlr

c: File Room

Promoting a healthy environment.

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