

# Fact Sheet



## For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on December 5, 2016.

Permit Number: **R30-03900005-2016**  
Application Received: **June 26, 2017**  
Plant Identification Number: **03900005**  
Permittee: **Union Carbide Corporation**  
Facility Name: **Institute Facility**  
Business Unit: **Catalyst Plant (Group 1 of 8)**  
Mailing Address: **P. O. Box 8361, South Charleston, WV 25303**

Permit Action Number: *MM01*      Revised: *September 25, 2017*

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Physical Location:                      Institute, Kanawha County, West Virginia  
UTM Coordinates:                      432.189 km Easting • 4,248.754 km Northing • Zone 17  
Directions:                                From I-64, take the Institute exit, turn right onto State Route 25. Plant is  
located about ½ mile west on Route 25.

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### Facility Description

Group 1 of 8 includes the Catalyst Plant.

The Catalyst Plant manufactures catalysts for use in the production of ethylene oxide and ethylene glycol. Raw materials are delivered to the plant in containers and tank trucks; and then stored in tanks. These process materials are combined and then sent to a reactor. The processing materials are recovered and the product is sent to storage. The product is shipped in containers. Heat for the process operations is provided by a natural gas heater (F-306).

### Emissions Summary

N/A

## Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Union Carbide Corporation's Institute Facility 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.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR13	Permits for Construction
	45CSR30	Operating permit requirement.
State Only:	N/A	

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

The following table lists the permits/consent orders associated with this modification:

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-1991C	July 27, 2017	

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

### MM01

Condition 4.3.2 required quarterly stack testing to show compliance with the Nitrogen Oxides (NOx) emission limit for the fired heater (F-306) contained in Condition 4.1.1. Historical test results showed that UCC has been under 50% of the NOx emission limit for the previous 20 stack tests. In addition, they have been under 50% of the NOx concentration (ppm basis) defined as an excursion under the CAM program in the Title V permit for 97% of nearly 1,000 NOx analyzer readings. UCC requested to reduce the stack testing to once per Title V permit term. Jesse Adkins of DAQ responded that DAQ would allow them to reduce stack testing for the fired heater to once per three years. Condition 4.3.2 has been updated to allow stack testing on a once per 3-year basis. The next stack test is

scheduled for the first quarter of the calendar year 2020 with additional testing required in the first calendar quarter of every third year following the first test.

Condition 4.4.3 required the Permittee to develop a mathematical model relating reactor operating rate to NO<sub>x</sub> emissions. This Condition has been revised to use an average monthly NO<sub>x</sub> analyzer reading to calculate monthly NO<sub>x</sub> emissions.

The following miscellaneous changes have also been made to the Permit:

- 1) Section 1.2 has been updated to reflect the most current version of the R13 Permit.
- 2) Conditions 3.5.3, 3.5.5, and 3.5.6 have been updated to the most recent version of the Title V Permit form.
- 3) The R13-1991C Permit has been updated to the most current format. The citation changes from the R13-1991B to R13-1991C are summarized below. The citations the Title V Permit have been updated accordingly:
  - A.1. – 4.1.1
  - B.1. – 4.2.1, 4.4.1
  - B.2. – 4.4.2
  - B.3. – 4.3.1
  - B.4. – 4.3.2
  - B.5. – 4.3.3
  - B.6. – 4.3.4
  - B.7. – 4.4.3
  - B.8. – 4.1.2
  - B.9. – 4.4.4
  - B.10. – 4.3.5
  - B.11. – 4.4.5
  - B.12. – 4.1.3
  - B.13. – 4.1.1, 4.1.4 through 4.1.10, 4.3.6, and 4.3.7

### **Non-Applicability Determinations**

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

N/A

### **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: N/A  
Ending Date: N/A

### **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 57<sup>th</sup> 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)**

Not applicable.