

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 January 9, 2018.

Permit Number: **R30-03900003-2018**
Applications Received: **December 6, 2018 (MM03)**
Plant Identification Number: **03-54-03900003**
Permittee: **Union Carbide Corporation**
Facility Name: **South Charleston Plant**
Mailing Address: **P.O. Box 8361 South Charleston WV 25303**

Permit Action Number: *MM03* Revised: *February 26, 2019*

Physical Location: South Charleston, Kanawha County, West Virginia
UTM Coordinates: 440.026 km Easting • 4,246.927 km Northing • Zone 17
Directions: I-64 West and take the Montrose Exit. Come down Montrose Avenue towards the river and proceed straight through the traffic light across MacCorkle Avenue directly into the South Charleston facility.

Facility Description

Dow's Union Carbide facility produces a variety of specialty chemicals under SIC #2869. Their business units are grouped into the following classes:

<u>Process</u>	<u>End Use</u>
Specialty Surfactants	TRITON™ - Hard Surface Metal Cleaners, Emulsion Polymerization, Paints, and Coatings, Rinse Aids, Textile Processing, Degreasers, Industrial Laundry Applications, Car Wash Applications and Personal Care Applications
Oxide Adducts	The Oxide Adducts unit produces various Polyether Polyols used in surfactants, brake fluids, hydraulic and metal working fluids.

Chemical Mixing	Miscellaneous organic chemicals (e.g. mixing and blending of organic chemical raw materials with other substances)
Energy Systems & Pipeline/Environmental Operations	Site Utilities – e.g. steam, plant air/nitrogen, etc. Operations include water treatment plant, waste water flume/sump system, and ethylene oxide distribution.
Remediation Operations	Soil and groundwater corrective action
Infrastructure Operations	Maintenance Operations and Bulk Shipping/Receiving of raw materials and products

Emissions Summary

There are no changes in permitted emissions associated with this Minor Modification.

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit over 100 tons per year of VOCs, over 100 tons per year of NO_x, over 100 tons per year of CO and over 25 tons per year of aggregate HAPs. Therefore, Union Carbide Corporation, South Charleston 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	Preconstruction permits for minor sources.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants for Source Categories Pursuant to 40 CFR, Part 63.
	40CFR63, Subpart GGGGG	National Emission Standards for Hazardous Air Pollutants: Site Remediation

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 Permits/Consent Orders are affected by this modification:

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-3308B	01-02-2019	

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

Minor Modification MM03 makes the following changes regarding R13-3308B:

On October 18, 2018, the Director of the WV Division of Air Quality approved an alternative monitoring plan with regards to 40CFR63, Subpart GGGGG, National Emission Standards for Hazardous Air Pollutants: Site Remediation (Site Remediation MACT). The letter reads, in part:

“Mr. Putnam:

This letter responds to your April 10, 2018 letter to Ms. Christina Fernandez, Air Protection Division Director for USEPA Region III, regarding a request for alternative monitoring for two catalytic oxidizers subject to 40 CFR 63, Subpart GGGGG, National Emission Standards for Hazardous Air Pollutants: Site Remediation (Site Remediation MACT) at the South Charleston, WV facility. USEPA Region III has determined that this is a minor change in the monitoring requirements, and that the West Virginia Department of Environmental Protection’s Division of Air Quality (DAQ) is the delegated NESHAP and permitting authority.

UCC/Dow asserts that the catalytic oxidizers cannot meet the requirements of the Site Remediation MACT at §63.7927(f), specifically requiring a difference in inlet and outlet temperatures across the catalyst bed, due to low and varying flow rates and low concentrations of process vent gas sent to the control devices. A January 18, 2018 from the catalytic oxidizer manufacturer, Anguil, was provided as technical justification. §63.7927(f) requires

If you use a catalytic incinerator, you must use a CPMS [continuous parameter monitoring system] with two temperature sensors to measure and record the hourly average temperature at the inlet of the catalyst bed, the hourly average temperature at the outlet of the catalyst bed, the hourly average temperature difference across the catalyst bed, and to determine and record the daily average temperature difference across the catalyst bed.

Pursuant to the DAQ’s delegated NESHAP and Title V permitting authority, the following alternative monitoring approvals for the catalytic oxidizer temperature monitoring requirements of the Site Remediation MACT are hereby granted to the following units at the South Charleston facility:

Middle Island Second (M12) Source Soil Vapor Extraction System

The minimum inlet temperature of the catalyst bed installed in 2014, must be 650 °F, on a continuous basis, as established during performance testing under R13-3025B, 4.1.4.1.

Compliance with this limit is based on a daily average. The average daily temperature will be determined by monitoring the temperature every 15 minutes to determine the hourly average, and then averaging the 24 hourly averages for the day.

To measure the temperature of the combustion chamber, the unit includes two dual Pyromation thermocouples. Prior to installation, the thermocouples are calibrated and certified by the manufacturer. The thermocouples are calibrated using Method WI-525-36, Revision 4, which is based on ASTM Method E220-13, Standard Test Method for Calibration of Thermocouples By Comparison Techniques. Tolerance criteria are from ASTM E230/230M-12, Standard Specification and Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples. In lieu of preventative maintenance, the thermocouples are replaced annually with new calibrated and certified thermocouples.

Middle Island Groundwater Containment System

This alternative monitoring approval affects R13-3308A, conditions 4.1.1.j and 4.1.1.k., 4.1.2.i.ii. and 4.1.2.j.

The minimum outlet temperature of the catalyst bed installed in 2017 must be as established during performance testing demonstrating compliance with the emission limits in R13-3308A, and maintained continuously at or above that value.

Compliance with this limit is based on a daily average. The average daily temperature will be determined by monitoring the temperature every 15 minutes to determine the hourly average, and then averaging the 24 hourly averages for the day.

To measure the temperature of the combustion chamber, the unit includes two dual Pyromation thermocouples will be installed. Prior to installation, the thermocouples must be calibrated and certified by the manufacturer. The thermocouples are to be calibrated using Method WI-525-36, Revision 4, which is based on ASTM Method E220-13, Standard Test Method for Calibration of Thermocouples By Comparison Techniques. Tolerance criteria are from ASTM E230/230M-12, Standard Specification and Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples. In lieu of preventative maintenance, the thermocouples will be replaced annually with new calibrated and certified thermocouples.

Any activities that trigger a permitting requirement, including NSR and Title V, of this agency must obtain appropriate approval(s) from those program(s) in a timely manner.

Please be aware that this alternative monitoring approval is specific to the location on-site where performance testing is conducted. If a catalytic oxidizer is moved to another location at the site, or used to treat groundwater different than tested, then a new alternative monitoring request must be submitted in advance for a review and re-establishment of parameters via a new set of performance testing.”

On January 2, 2019, R13-3308B was issued to remove the measurement of the inlet temperature to the MIGCS CATOX. The following changes were made to this Title V Permit:

- 1) Section 1.2 has been updated to reference current Permit R13-3308B.
- 2) Condition 6.1.1.j has been revised to only require measurement and recordkeeping of the outlet temperature of the catalyst bed of the CATOX.
- 3) Condition 6.1.1.k has been revised to only require compliance with the average daily outlet temperature limit of Condition 6.1.2.i.ii.
- 4) Condition 6.1.2.i.ii has been revised to operate with a daily average outlet temperature instead of a temperature difference across the catalyst bed.
- 5) Condition 6.1.2.j has been revised to only require the daily average outlet temperature of the catalyst bed.
- 6) Condition 6.2.3 has been revised to require continuous parametric monitoring that measures and records the temperature of only the outlet of the catalyst bed.
- 7) Condition 6.3.1 has been revised to require only the average outlet temperature of the catalyst bed.

Additional changes to the Title V Permit as a result of the alternative monitoring approval are as follows:

- 1) Condition 10.1.8.4 has been revised to only require maintaining the daily average temperature of the outlet greater than or equal to the minimum outlet temperature.
- 2) Condition 10.2.3 has been revised to require the two temperature sensors to measure and record the hourly average temperature at the inlet (for MI2CO) and outlet for (MIGCS CO), and record the daily average temperature of the catalyst bed.

Non-Applicability Determinations

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

None.

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 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)

N/A