West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03900003-2018**
Application Received: **January 9, 2017**
Plant Identification Number: **03-54-03900003**
Permittee: **Union Carbide Corporation**
(A Subsidiary of The Dow Chemical Company)
Facility Name: **South Charleston Facility**
Mailing Address: **PO Box 8361**
South Charleston, WV 25303

Revised: N/A

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:

Process	End Use
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

With this renewal, overall emissions have decreased due to the permanent shutdown of Boiler 25 and the Gum Base Plant.

Plantwide Emissions Summary [Tons per Year]

Criteria Pollutants	Potential Emissions	(2015) Actual Emissions
Carbon Monoxide (CO)	196	50.76
Nitrogen Oxides (NO_X)	434	56.15
Particulate Matter ($PM_{2.5}$)	30	5.38
Particulate Matter (PM_{10})	30	5.38
Total Particulate Matter (TSP)	30	5.38
Sulfur Dioxide (SO_2)	2	0.44
Volatile Organic Compounds (VOC)	228	64.49

PM_{10} is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	(2015) Actual Emissions
Benzyl Chloride	3.4	2.56
Hexane	5.73	1.24
Hydrogen Fluoride	0.5	0
Hydrogen Chloride	3.4	0.36
Glycol Ethers	8	1.21
Propylene Oxide	7	3.15
Vinyl Acetate	1	0
All other HAPs (<1tpy individual emissions)	16	2.32

Title V Program Applicability Basis

Due to this facility's potential to emit over 100 tons per year of VOCs, over 100 tons per year of NOx, over 100 tons per year of CO and over 25 tons per year of aggregate HAPs, 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:

45CSR2	To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.
45CSR6	Open burning prohibited.
45CSR7	To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations.
45CSR10	To Prevent and Control Particulate Air Pollution from the Emission of Sulfur Oxides.
45CSR11	Standby plans for emergency episodes.
45CSR13	Permits from Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation.
45CSR16	Incorporation of NSPS pursuant to 40CFR60
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	Incorporation of MACT pursuant to 40CFR63
45CSR40	Control of Ozone Season Nitrogen Oxide Emissions
40 C.F.R. Part 60	Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After July 23, 1984.
40 C.F.R. Part 60	Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
40 C.F.R. Part 61	Subpart M – National Emission Standard for Asbestos.
	40 C.F.R. Part 63 Subpart PPP – Polyether Polyols Production National Emission Standards for Hazardous Air Pollutants.

	40 C.R.F. Part 63	Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants of Industrial, Commercial, and Institutional Boilers and Process Heaters.
	40 C.F.R. Part 63	Subpart FFFF – National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
	40 C.F.R. Part 63	Subpart GGGGG – National Emission Standards for Hazardous Air Pollutants: Site Remediation
	40 C.F.R. Part 63	Subpart ZZZZ - National Emission Standard for Reciprocating Internal Combustion Engines (RICE)
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 68	Chemical Accident Prevention Provisions.
	40 C.F.R. Part 82	Subpart F - Protection of Stratospheric Ozone; Recycling and Emissions Reduction.
State Only:	45CSR4	No objectionable odors.
	45CSR21	§45-21-40. Other Facilities that Emit Volatile Organic Compound (VOC) §45-21-37. Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment.
	45CSR27	To Prevent and Control the Emissions of Toxic Air Pollutants

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 *(if any)*
R13-1517D	05-18-2015	
R13-2033D	04-03-2013	
R13-2141C	04-19-2004	
R13-2414C	08-08-2011	
R13-2840B	05-20-2016	
R13-3025B	05-26-2015	

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit *(if any)*
R13-3308	06-07-2017	
CO-R27-97-17-A(94-21)	04-25-1997	
CO-R21-98-22	06-06-1998	

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

Table of Contents
Section 6.0 requirements for Boiler 25 have been removed since the boiler has been removed from site. Section 6.0 will now contain the requirements for the Middle Island Groundwater Containment System permitted by R13-3308 issued on 06/07/2017.
Section 10.0 requirements for the Polyvinyl Acetate PVA Gum Base Plant have been removed from the permit due to the shutdown and removal of the process. Section 10.0 will now contain 40 CFR 63, Subpart GGGGG requirements for the Groundwater/Soil Remediation processes on site.
Section 11.0 has been revised and is now called Groundwater/Soil Remediation Process (SVE1 and MI2VE2)
Section 14.0 has been revised and is called CAM for Groundwater/Soil Remediation Chlorohydrin/Chlorobenzene
The CAIR permit application has been removed from the Attachments and the remaining Attachments have been renamed.

Section 1.1 Emission Units
Gum Base Plant (PVA) - Due to the removal of the Gum Base Plant (PVA), all emission points listed in Section 1.1 have been removed.
Energy Systems – Boiler B25 NG/Liquid Residue Boiler has been removed.
Oxide Adducts – Tank 5694, Tank 9636 and Tank 200 previously had "from AA" in the Emission Unit Description. This description has been removed and the Tank number is listed only.
Chemical Mixing – Tank 2049 has been listed as "out of service". Tank 2051B has been listed as "out of service". Tank 5766 has been removed and has been deleted from the equipment list. Tank 9000 has been listed as "out of service".
Specialty Surfactants (TRITON) – Bin 8702 has been corrected to Bin 8701 and has been listed as "out of service". The following equipment have been listed as "out of service": Tank 8706, Tank 8709, Tank 8721, Tank 8723, Tank 8725, Tank 8729, Tank 8738, and Process funnel for Tank 8738. Emission Unit 8101 control device C8105 has been removed.
Maintenance/Paint Shop & North Charleston Distribution (NCDT) – Tank 9000 has been listed as "out of service". Gasoline Storage Tank T-1490 and Diesel Storage Tank T-2206 have been listed as "out of service". The following equipment has been removed: Tank 9004, Tank 9010, Tank 9011, Tank 9012, Tank 9015, Tank 9099, Tank Truck Racks 1-3, Rail Car Rack 1 and 2, Barge Loading/Unloading LU031BG and Building 463 Carpentry Shop.
Remediation Operations – The emission units, MIGCS and MIGCS CO have been added to this section which were permitted by R13-3308 effective June 7, 2017.

Section 1.2 Active R13, R14, and R19 Permits
Due to the shutdown and removal of Boiler 25, permit R13-2568 which regulated Boiler 25 has been removed. Permit R13-3308 issued on 06/07/2017 has been added for the construction of the Middle Island Groundwater Containment System process.

Section 3.1. Limitations and Standards
Boilers B26 (352 MM Btu/hr) and Boiler 27 (353 MM Btu/hr) are subject to §45-40-5 and §45-40-6 since both units have a maximum design heat input greater than 250 mm Btu/hr. 45CSR40 was amended and became effective on July 1, 2016. Sections 3.1.9 and 3.1.10 contained old language from 45CSR40. This language has been replaced by the applicable sections, §45-40-4, 4.1, §45-40-5, 5.1 and §45-40-6, 6.1. in 3.1.10 of the permit.

Section 3.4 Recordkeeping Requirements
Section 3.4.1. has been modified to add a citation referencing permit R13-3308, Condition 4.4.1. since it was issued after the date of MM03 to include the requirement for monitoring information.

Section 3.5 Reporting Requirements
Sections 3.5.3., 3.5.5. and 3.5.6. have been updated to include the most recent boiler plate language which includes requirements for electronic submittals of reports to the Division of Air Quality and the appropriate email addresses for those submittals.

Section 3.7 Permit Shield
Due to the removal of coal fired Boiler 25, any requirements or exemptions for coal handling facilities are no longer applicable. Applicable requirement exemptions for 45CSR5 and 40CFR60, Subpart Y for coal handling facilities have been removed. Additionally, since Boiler 25 has been removed, the permit shield for 40CFR63, Subpart EEE for burning of hazardous waste in Boiler 25 has also been removed.

Under the 40CFR63, Subpart EEEE for the OLD MACT, reference for the exemption for the Gum Base Plant (GBP) has been removed since the GBP is no longer in operation and has been demolished.

Section 4.0 Source-Specific Requirements [Energy Systems – Boiler Power House and Auxiliary Air Compressors]
Due to the shutdown and removal of Boiler 25, Emission Point ID 25E has been removed.

4.1 Limitation and Standards

4.1.2.4 This has been removed from section 4.1.2. which requires process vent gas from the GBP to be combusted in Boiler 26. This process stream no longer exists due to the shutdown of the GBP.

4.1.7.2. Emission limits for Oxides of Nitrogen (NOx), represented as NO_2, are also presented in 40CFR60 Subpart Db. The limits set forth in section 60.44b(1)ii are equal to 0.20 pounds per million Btu. With the boiler having a heat input of 352 million Btu per hour, the product of the two is equal to 70.4 pounds of NOx per hour, which is the limit. The previous limit in 4.1.7.2. was 0.07 lb/MMBtu based on the original permit R13-2033 prior to the facility sending process gas to be combusted in Boiler 26. With the issuance of R13-2033D allowing combustion of process gas, the 40 CFR 60, Subpart Db NOx limit has been listed as potential NOx emissions and was granted. The update of the requirement was not changed in the most recent MM03. This requirement has been removed and 4.1.7.1., which limits NOx emissions from Boiler 26 to 0.2 pounds per MMBtu is now the standing limit which is consistent with Subpart Db.

4.1.4. This requirement was for Boiler 25 prior to it being shut down. It contained specific requirements for Boiler 26 while Boiler 25 was in the process of being decommissioned. Now that Boiler 25 has been shut down, this requirement is obsolete and can removed from the permit.,

4.1.9. Requirements 4.1.9.1. and 4.1.9.2. require reductions of vinyl acetate as well as specify boiler requirements for Boiler 26 and Boiler 27 when combusting process vents from the GBP as applicable for

compliance with 40 CFR 63, Subpart FFFF. Boilers 26 and 27 were the controls used for all process streams in the GBP subject to the MON MACT for a reduction of at least 98%. Since the GBP is no longer in operation and has been demolished, these requirements have been removed and 4.1.9. has been Reserved for future requirements.

4.1.15. This requirement allows for process vent gasses from the GBP to be sent to Boiler 27 for VOC reduction. Since the GBP has been shutdown and demolished, this requirement is no longer valid and has been removed. 4.1.15.b has now been labeled 4.1.15.a.

4.1.17. This requirement limits emission from Boiler B27. Emissions of Vinyl Acetate have been removed from Table 4.1.17. since these emissions were generated by operation of the GBP which has been shutdown and demolished.

4.1.22. This requirement is for compliance with the Boiler MACT, 40 CFR 63, Subpart DDDDD. It requires that the facility be in compliance with the Boiler MACT by March 21, 2014 and to submit the Notification of Compliance Status. These requirements have been completed by the facility and therefore are no longer applicable since the date of compliance has passed.

4.1.24. and 4.1.25. Boilers 26 and 27 are 352 and 353 MM Btu/hr respectively. Both Boilers are subject to 40 CFR 63, Subpart DDDDD because they are boilers located at a major source of HAPs. For that reason, they are subject to the requirements of the Boiler MACT for natural gas fired boilers. §63.7500(a)(1) states that the facility must meet the requirements of paragraphs (a)(1) through (a)(3). The facility must meet the emission limits and work practice standards of Table 3 Work Practice Standard (1) since Boilers 26 and 27 are existing boilers with continuous oxygen trim systems that maintain an optimum air to fuel ratio. The requirement is to conduct a tune-up of the boilers every 5 years as specified in §63.7540. Since the facility is required to meet the tune-up work practice standard every 5 years, the requirements in §63.7515(d) are applicable and are listed in 4.1.25. The requirements for the 5 year tune-up applicable to Boilers 26 and 27 are listed in §63.7540 (a)(10)(i)-(a)(10)(vi) and are listed in Specific Requirements 4.1.25.1-4.1.25.6.

§63.7515(d) The permittee shall conduct a tune-up of the boilers, B26 and B27, every 5 years in accordance with the provision of 40 CFR 63, Subpart DDDDD. Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. The Permittee may delay the burner inspection specified in Condition 4.1.25.1 until the next scheduled or unscheduled unit shutdown, but the Permittee must inspect each burner at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune up. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. The tune-up shall include the following:

§63.7540 (a)(10)(i)	As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the burner inspection may be performed at any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
§63.7540 (a)(10)(ii)	Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
§63.7540 (a)(10)(iii)	Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the inspection may be delayed until the next scheduled unit shutdown);

§63.7540 (a)(10)(iv) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the unit is subject;

§63.7540 (a)(10)(v) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

§63.7540 (a)(10)(vi) Maintain on-site and submit, if requested by the Director, a tune-up report containing the information in paragraphs 4.1.25.6.1. through 4.1.25.6.3.

§63.7540 (a)(10)(vi)(A) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire of typical operating load, before and after the tune-up of the boiler;

§63.7540 (a)(10)(vi)(B) A description of any corrective actions taken as a part of the tune-up; and

§63.7540 (a)(10)(vi)(C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

Administrative corrections have been made to change all references of Bayer MaterialScience and Bayer Polymers LLC to Covestro LLC. The conditions where this has occurred are in 4.1.2.3, 4.1.8, 4.1.15, 4.1.23, 4.2.5, 4.2.10, and 4.2.13. In 2004, the name Bayer Polymers LLC was changed to Bayer MaterialScience, and in 2015, the name Bayer MaterialScience was changed to Covestro LLC and is the current name.

4.2 Monitoring Requirements

4.2.6. This requirement is for the facility to maintain monthly records of the amount of process vent gas combusted by Boiler 26 from the GBP. Since the GBP is no longer in operation and has been demolished, this monitoring requirement is no longer applicable.

4.2.9. This requirement is for the facility to comply with the applicable monitoring and recordkeeping requirements of 40 CFR 63, Subpart FFFF (MON MACT). The units with control requirements were identified within the Gum Base Unit as T-3080, T-9011, C-501, C-650R, Y-520, and Y-525. The unit emissions were controlled by Boilers 25, 26, or 27. Since the GBP has been shutdown, demolished and is no longer operating, these streams are no longer being sent to the Boiler 26 or 27 for emission control and Boiler 25 has been dismantled and removed. The MON requirements for Section 4.0 are no longer applicable.

4.2.10. Visible emissions for Boilers 26 and 27 are specified in this requirement. There are references to the GBP and requirements for VE's when Boiler 26 is receiving process vent gases which are no longer valid. The appropriate language and requirements have been removed from this section since the GBP is no longer in operation and has been demolished.

4.3 Testing Requirements

4.3.1. Under requirement 4.3.1., the permittee is required to conduct stack tests to determine emissions of vinyl acetate from Boiler 26. Emissions of vinyl acetate are generated from combusting process vent gases from the GBP. Since the GBP is no longer in operation and has been demolished, this requirement is no

longer valid. Reference to vinyl acetate has been removed from 4.3.1., and 4.3.1.1. which requires stack testing of Boiler 26 for vinyl acetate emissions has been removed. Requirement 4.3.1.2. has been renamed 4.3.1.1.

4.3.3. The applicable testing requirement for 40 CFR 63, FFFF was removed due to the shutdown of the GBP. Process streams from the GBP subject to the MON are no longer being controlled by Boilers 26, and 27. This requirement is no longer applicable.

4.3.6. This requirement has been removed because it is no longer applicable because it has been removed from 45CSR40.

4.4 Recordkeeping Requirements

4.4.4. Specific Requirement 4.4.4. has been removed since the citation has been removed from 45CSR40. It has now been replaced and a new 4.4.4 and 4.4.5. have been added. These requirements were added to include the applicable recordkeeping requirements from 40 CFR 63, Subpart DDDDD (Boiler MACT) that had not been included previously. The permittee is required to keep records of all notifications and reports submitted including any supporting documentation. These requirements and the form and length at which they must be maintained are cited in 40 CFR §63.7555(a)(1) and 40 CFR §63.7560.

4.5 Reporting Requirements

4.5.1. Specific Requirement 4.5.1. is no longer applicable and this language is no longer in 45CSR40. This requirement has been removed.

4.5.4. – 4.5.5. The following Specific Requirements were added to include to applicable reporting requirements from 40 CFR 63, Subpart DDDDD (Boiler MACT) that had not been included previously. Boilers 26 and 27 are natural gas fired boilers.

4.5.4. Since the facility is subject to the 5-year tune-up requirement, §§63.7550(a) and (b)(1) list the due date for the annual report and are included as 4.5.4.

4.5.5. This requirement lists what must be contained in the 5-year report and comes from §§63.7550(c)(5)(i) through (iii), (xiv) and (xvii). This requirement also requires all reports to be submitted to CEDRI and is taken from §63.7550(h)(3).

Section 6.0 Source-Specific Requirements [Energy Systems – Equipment to be Decommissioned, Emission Point ID(s) (25E)]

Section 6.0 of the Title V permit lists all specific requirements for Boiler B25. This boiler has been removed. Section 6.0 is now being used to list all specific requirements for the Middle Island groundwater containment system permitted by R13-3308 and has been titled **[Middle Island Groundwater Containment System]**. This is consistent with permit R13-3308. All Limitations and Standards, Monitoring, Testing, Recordkeeping and Reporting requirements have been inserted into Section 6.0 of the Title V permit and have not been changed. The newly permitted MI Groundwater Containment System emission units have been added to the Remediation Operations section of 1.0 of the renewal Title V permit.

Section 9.0 Source-Specific Requirements [Volatile Organic Compound Sources and Incorporation of 45CSR21 Standards and Consent Order # CO-R21-98-22]

9.1 Limitations and Standards

9.1.2. Maintenance and implementation of an LDAR (Leak Detection and Repair) program are specified in this section for several process units at the facility. The Polyvinyl Acetate GB is referenced for specific

exemptions to required monitoring. Since the GBP is no longer in operation, this exemption has been removed since it is no longer valid.

9.2 Monitoring, Testing, Recordkeeping and Reporting Requirements

9.2.1. Monitoring requirements are specified for Section 10.0 of the Title V permit which has been removed and was previously for the GBP. This section is now being used for 40CFR 63, Subpart GGGGG requirements for the Remediation Operations on site.

10.0 Source-Specific Requirements [Gum Base Plant (Polyvinyl Acetate, PVA)]

Section has now been changed and titled to:

10.0 Source-Specific Requirement [Groundwater/Soil Remediation -- Chlorohydrin/Chlorobenzene (SVEI, Middle Island Source 2 (MI2VE2) and MIGCS (MIGCS1) Under 40 C.F.R. 63, Subpart GGGGG]

10.1 Limitations and Standards

The Gum Base Plant (GBP) is no longer in operation and has been demolished. All requirements of Section 10 have been removed. This section is now being used to include the requirements of 40 CFR 63, Subpart GGGGG National Emission Standards for Hazardous Air Pollutants: Site Remediation. All applicable requirements for this MACT standard for the Groundwater/Soil Remediation operations at the facility are included in this section.

The Middle Island Groundwater Containment System (MIGCS) is a new system that will be associated with the Middle Island Area of the South Charleston Site. This process is permitted under R13-3308. Groundwater from the area will be pulled to the surface through groundwater extraction wells that will impart a reverse gradient inward toward the center of the island to provide groundwater plume containment (Equipment Identification MIGCS). The extracted groundwater will be treated using vertical flow and horizontal flow vegetated contact beds (VCB/HCB)/treatment wetlands to reduce volatile organic compound (VOC) and hazardous air pollutant (HAP) concentrations prior to discharge to the facility's process sewers. No surface water will be exposed to the atmosphere in the wetland environment. Note: All HAPs emitted are VOC HAPs. Air emissions from the treatment train will be collected and routed to an electric catalytic oxidizer. The catalytic oxidizer will be the only point source of air emissions from the MIGCS (Emission Control MIGCSCO/Emission Point MIGCS1). This is a closed system.

The next groundwater system is also on Middle Island. It is located on the southeast portion of Middle Island. This system is permitted by R13-3025B. Contaminants are extracted from the groundwater and soil through soil vapor extraction (SVE) wells using a vacuum blower. VOCs and non-VOCs present in the process vapor stream are discharged from the vacuum blower to an electric catalytic oxidizer (MI2CO). The exhaust (MI2VE2) is vented to a stack and then to the atmosphere. This is a closed system.

The last remediation system applicable to the Site Remediation MACT is for two remediation areas, A42VE (Chlorohydrin Remediation Area) and CLBVE (Chlorobenzene Remediation Area). Contaminants are extracted from the groundwater and soil through soil vapor extraction wells (SVE) and sent to a regenerative thermal oxidizer to destroy VOCs and non-VOCs. The oxidation process results in the formation of carbon dioxide, water vapor and inorganic acids. The oxidizer exhaust vent gas is quenched and then sent to a wet scrubber (A42PBS) for removal of hydrogen chloride prior to venting to the air (SVE1). This is a closed system.

Since all the affected remediation systems on site are closed vent systems, the systems are subject to the applicable General Standards (§§63.7884-63.7888), emission limits and work practice standards for process vents (§§63.7890-63.7893) and closed vent systems with control devices (§§63.7925-63.7928). Requirements for tanks, containers, surface impoundments, separators, transfer systems, and equipment leaks are not applicable to the remediation systems operated at the facility.

The applicable Limitations and Standards are included in the permit. Several federal citations have been combined into one requirement in the Title V permit to limit redundancy and are as follows:

Citation in Title V Permit	Applicable Federal Citation	Standard
10.1.1	40CFR§63.7884	**(a)** For each site remediation with an affected source designated under § 63.7882, you must meet the standards specified in §§ 63.7885 through 63.7955, as applicable to your affected source, unless your site remediation meets the requirements for an exemption under paragraph (b) of this section. **(b)** A site remediation that is completed within 30 consecutive calendar days according to the conditions in paragraphs (b)(1) through (3) of this section is not subject to the standards under paragraph (a) of this section.
10.1.2	40CFR§§63.7885(a), (b) and (b)(1)	**(a)** For the process vents that comprise the affected source designated under § 63.7882, you must select and meet the requirements under one of the options specified in paragraph (b) of this section. **(b)** For each affected process vent, except as exempted under paragraph (c) of this section, you must meet one of the options in paragraphs (b)(1) through (3) of this section. **(1)** You control HAP emissions from the affected process vents according to the standards specified in §§ 63.7890 through 63.7893.
10.1.3	40CFR§§63.7886(a) and (b)(2)	**(a)** For each remediation material management unit that is part of an affected source designated by § 63.7882, you must select and meet the requirements under one of the options specified in paragraph (b) of this section except for those remediation material management units exempted under paragraph (c) or (d) of this section. **(b)** For each affected remediation material management unit, you must meet one of the options in paragraphs (b)(1) through (4) of this section. **(2)** You determine that the average total VOHAP concentration, as defined in § 63.7957, of the remediation material managed in the remediation material management unit material is less than 500 ppmw. You must follow the requirements in § 63.7943 to demonstrate that the VOHAP concentration of the remediation material is less than 500 ppmw. Once the VOHAP concentration for a remediation material has been determined to be less than 500 ppmw, all remediation material management units downstream from the point of determination managing this material meet the requirements of this paragraph unless a remediation process is used that concentrates all, or part of, the remediation material being managed in the unit such that the VOHAP concentration of the material could increase. Any free product returned to the manufacturing process (*e.g.*, recovered oil returned to a storage tank at a refinery) is no longer subject to this subpart.

10.1.4	40CFR§§63.7890(a), (b) and (b)(2)	**(a)** You must control HAP emissions from each new and existing process vent subject to § 63.7885(b)(1) according to emissions limitations and work practice standards in this section that apply to your affected process vents. **(b)** For your affected process vents, you must meet one of the facility-wide emission limit options specified in paragraphs (b)(1) through (4) of this section. If you have multiple affected process vent streams, you may comply with this paragraph using a combination of controlled and uncontrolled process vent streams that achieve the facility-wide emission limit that applies to you. **(2)** Reduce from all affected process vents the emissions of total organic compounds (TOC) (minus methane and ethane) to a level below 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy);
10.1.5	40CFR§63.7890(c)	**(c)** For each closed vent system and control device you use to comply with paragraph (b) of this section, you must meet the operating limit requirements and work practice standards in § 63.7925(c) through (j) that apply to your closed vent system and control device.
10.1.6	40CFR§§63.7891(a), (b), (b)(2), (c) and (d)	**(a)** You must demonstrate initial compliance with the emissions limitations and work practice standards in § 63.7890(b) applicable to your affected process vents by meeting the requirements in paragraphs (b) through (d) of this section. **(b)** You have measured or determined using the procedures for performance tests and design evaluations in § 63.7941 that emission levels from all of your affected process vents meet the facility-wide emission limits in § 63.7890(b) that apply to you, as follows in paragraphs (b)(1) through (4) of this section. **(2)** If you elect to meet § 63.7890(b)(2), you demonstrate that emissions of TOC (minus methane and ethane) from all affected process vents at your facility are less than 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy). **(c)** For each closed vent system and control device you use to comply with § 63.7890(b), you have met each requirement for demonstrating initial compliance with the emission limitations and work practice standards for a closed vent system and control device in § 63.7926. **(d)** You have submitted a notification of compliance status according to the requirements in § 63.7950.
10.1.7	40CFR§§63.7893(a), (b), (b)(2), (c) and (d)	**(a)** You must demonstrate continuous compliance with the emissions limitations and work practice standards in § 63.7890 applicable to your affected process vents by meeting the requirements in paragraphs (b) through (d) of this section. **(b)** You must maintain emission levels from all of your affected process vents to meet the facility wide emission limits in § 63.7890(b) that apply to you, as specified in paragraphs (b)(1) through (4) of this section.

		(2) If you elect to meet § 63.7890(b)(2), you maintain emissions of TOC (minus methane and ethane) from all affected process vents at your facility are less than 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy). **(c)** For each closed vent system and control device you use to comply with § 63.7890(b), you have met each requirement for demonstrating continuous compliance with the emission limitations and work practice standards for a closed vent system and control device in § 63.7928. **(d)** Keeping records to document continuous compliance with the requirements of this subpart according to the requirements in § 63.7952.
10.1.8	40CFR§§63.7925(a), (b), (b)(1-2), (c), (d)(1-2), (g)(4-5) and (g)(5)(i) and §63.693(c)(1)(ii)	**a)** For each closed-vent system and control device you use to comply with requirements in §§ 63.7890 through 63.7922, as applicable to your affected sources, you must meet the emissions limitations and work practice standards in this section. **(b)** Whenever gases or vapors containing HAP are vented through the closed-vent system to the control device, the control device must be operating except at those times listed in either paragraph (b)(1) or (2) of this section. **(1)** The control device may be bypassed for the purpose of performing planned routine maintenance of the closed-vent system or control device in situations when the routine maintenance cannot be performed during periods that the emission point vented to the control device is shutdown. On an annual basis, the total time that the closed-vent system or control device is bypassed to perform routine maintenance must not exceed 240 hours per each calendar year. **(2)** The control device may be bypassed for the purpose of correcting a malfunction of the closed-vent system or control device. You must perform the adjustments or repairs necessary to correct the malfunction as soon as practicable after the malfunction is detected. **(c)** For each closed vent system, you must meet the work practice standards in § 63.693(c). **g)** For each control device other than a flare, you must meet each operating limit in paragraphs (g)(1) through (6) of this section that applies to your control device. **4)** If you use a thermal incinerator, you must maintain the daily average firebox temperature greater than or equal to the temperature established in the design evaluation or during the performance test. **(5)** If you use a catalytic incinerator, you must maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the performance test or design evaluation.

10.1.9	40CFR§63.7926(a)	**(a)** You must demonstrate initial compliance with the emissions limitations and work practice standards in this subpart applicable to your closed vent system and control device by meeting the requirements in paragraphs (b) through (h) of this section that apply to your closed vent system and control device.
10.1.10	40CFR§§63.7928(a) and (b)(2-4, 6, 7)	**(a)** You must demonstrate continuous compliance with the emissions limitations and work practice standards in this subpart applicable to your closed vent system and control device by meeting the requirements in paragraphs (b) through (j) of this section as applicable to your closed vent system and control device. **(b)** You must demonstrate continuous compliance with the closed vent system work practice standards in § 63.7925(c) by meeting the requirements in paragraphs (b)(1) through (7) of this section. **2)** For a closed vent system designed to operate below atmospheric pressure, visually inspecting the closed vent system at least annually according to the requirements in § 63.695(c)(2)(ii). **(3)** Repairing defects according to the requirements in § 63.695(c)(3). **(4)** Keeping records of each inspection that include the information in paragraphs (b)(4)(i) through (iii) of this section: **(i)** A closed vent system identification number (or other unique identification description you select). **(ii)** Date of each inspection. **(iii)** If a defect is detected during an inspection, the location of the defect, a description of the defect, the date of detection, the corrective action taken to repair the defect, and if repair is delayed, the reason for any delay and the date completion of the repair is expected. **(5)** If you elect to monitor the closed vent system according to the requirements in § 63.172(f) through (j), recording the information in § 63.181.
10.1.11	40CFR§63.7928(c)	**(c)** You must demonstrate continuous compliance of each control device subject to the emissions limits in § 63.7925(d) with the applicable emissions limit in § 63.7925(d) by meeting the requirements in paragraph (c)(1) or (2) of this section. **(1)** For the emission limit in § 63.7925(d)(1), maintaining the reduction in emissions of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from the control device at 95 percent by weight or greater. **(2)** For the emission limit in § 63.7925(d)(2), maintaining the concentration of total HAP listed in Table 1 of this subpart or TOC (minus methane and ethane) from the control device at 20 ppmv or less.
10.1.12	40CFR§63.7928(d)	**d)** You must demonstrate continuous compliance of each control device subject to operating limits in § 63.7925(g) with the

		applicable limits by meeting the requirements in paragraphs (d)(1) through (4) of this section. **(1)** Maintaining each operating limit according to the requirements in § 63.7925(g) as applicable to the control device. **(2)** Monitoring and inspecting each control device according to the requirements in § 63.7927(b) through (i) as applicable to the control device. **(3)** Operating and maintaining each continuous monitoring system according to the requirements in § 63.7945, and collecting and reducing data according to the requirements in§ 63.7946. **(4)** Keeping records to document compliance with the requirements of this subpart according to the requirements in § 63.7952.
10.1.13	40CFR§63.7928(h)	**(h)** You must demonstrate continuous compliance with the catalyst replacement work practice standards for catalytic incinerators in § 63.7925(i) by meeting the requirements in paragraphs (h)(1) and (2) of this section. **(1)** Replacing the existing catalyst bed as required in § 63.7925(i). **(2)** Keeping records to document compliance with the requirements of the work practice standards.
10.1.14	40 CFR§63.7892	For each closed vent system and control device you use to comply with § 63.7890(b), you must monitor and inspect the closed vent system and control device according to the requirements in § 63.7927 that apply to you.
10.1.15	40 CFR§63.7935(a)	**(a)** You must be in compliance with the emissions limitations (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.
10.1.16	40 CFR§63.7935(b)	**(b)** You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).
10.1.17	40CFR§63.7935(c)	**(c)** You must develop a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).
10.1.18	40CFR§63.7935(e)	**(e)** You must report each instance in which you did not meet each emissions limitation and each operating limit that applies to you. This includes periods of startup, shutdown, and malfunction. You must also report each instance in which you did not meet the requirements for work practice standards that apply to you.

		These instances are deviations from the emissions limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in § 63.7951.
10.1.19	40CFR§63.7935(f)	**(f)** Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with § 63.6(e)(1). We will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).
10.1.20	40CFR§§63.7935(g)(1-3)	**g)** For each monitoring system required in this section, you must develop and make available for inspection by the permitting authority, upon request, a site-specific monitoring plan that addresses the following: **(1)** Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device). **(2)** Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system. **(3)** Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).
10.1.21	40CFR§§63.7935(h)(1-3)	**(h)** In your site-specific monitoring plan, you must also address the following: **(1)** Ongoing operation and maintenance procedures according to the general requirements of § 63.8(c)(1), (3), (4)(ii), (7), and (8). **(2)** Ongoing data quality assurance procedures according to the general requirements of § 63.8(d). **(3)** Ongoing recordkeeping and reporting procedures according to the general requirements of§ 63.10(c), (e)(1), and (e)(2)(i).
10.1.22	40CFR§§63.7935(i)	**(i)** You must operate and maintain the continuous monitoring system according to the site-specific monitoring plan.
10.1.23	40CFR§63.7935(j)	**(j)** You must conduct a performance evaluation of each continuous monitoring according to your site-specific monitoring plan.

10.2 Monitoring Requirements

The monitoring requirements are the applicable sections of §63.7927 which are the monitoring requirements for closed vent systems and control devices. The specific requirements listed in 10.2.1 through 10.2.3. are for a closed vent system utilizing a thermal incinerator (§63.7927(e)) and a catalytic incinerator (§63.7927(f)). The requirements for each CPMS is specified in requirement 10.2.4, 10.2.5. and 10.2.6. which is taken directly from §§63.7945(a)(1-4), 63.7945(b) and 63.7945(c). Requirements on how

to monitor and collect data to demonstrate continuous compliance at specified in 10.2.7, 10.2.8. and 10.2.9. These requirements are taken directly from §§63.7946(a-c).

10.3 Testing Requirements

The remediation systems on site include two existing systems and a new system that has not yet been constructed. For that reason, testing requirements for both new and existing sources have been included in the Title V permit and come from sections §§63.7940 (a)-(c) (10.3.1. – 10.3.3.) and §§63.7941(a)-(d) (10.3.4. – 10.3.7.) of the Site Remediation MACT. Section §63.7941(m) has been included (10.3.8) because it specifies requirements for an initial compliance demonstration which will be required for the Middle Island Remediation System which was permitted by R13-3308 and is a system that has not yet been constructed.

10.4 Recordkeeping Requirements

The Recordkeeping Requirements listed in the Title V permit come directly from of the Site Remediation MACT, Notification, Reports, and Records which includes §§63.7952-§§63.7953. Title V Specific Requirements 10.4.1.- 10.4.4. come directly from §§63.7952(a) – (d). Permit requirements 10.4.5 and10.4.6. are cited directly from §§63.7953(a) – (d) which specify the time frame for which the facility must keep records on site and the form in which those records must be kept.

10.5. Reporting Requirements

The Reporting Requirements listed in the Title V permit are taken from Notification, Reports and Records sections of the Site Remediation MACT. The notifications that the facility is required to submit are specified in section §§63.7950 (a) – (e) and have been included in the Title V permit under Specific Requirements 10.5.1. – 10.5.5.

A Semi-Annual compliance report is required to be submitted by §63.7951(a). The compliance report submittal requirements and the contents of the report are listed in Specific Requirements 10.5.6. - 10.5.9.

12.0 Source-Specific Requirements [Chemical Mixing]

12.1 Limitations and Standards

12.1.1. This requirement references the MON MACT and the emission, work practice and compliance requirements for those sources applicable in the Chemical Mixing unit. Storage vessel Tank T9000 is out of service and therefore the requirement to operate the tank as a Group 2 vessel is no longer valid. This requirement has been removed under 12.1.1.

13.0 Source-Specific Requirements [Emergency Engines under 40 C.F.R. 63, Subpart ZZZZ (RICE); Compressors and Fire Water Pumps, Emission Points: (DP01E, DP02, DP03E)]

13.1 Limitation and Standards

13.1.1. This requirement has been removed. The compliance date has passed and it is no longer applicable. It has been "Reserved".

Each requirement in Section 13.0 states that "this condition is subject to the compliance date specified in condition 13.1.1". The compliance date specified is May 3, 2013. This date has passed so this statement has been removed from the end of each specific requirement in Section 13.0 where applicable.

13.1.7. This specific requirement has been updated to reflect the most current language in 40 CFR §§63.6640(f)(1-3).

13.1.8. This requirement has been removed. The requirements for operation of emergency stationary RICE located at a major source of HAP emissions are the same regardless of installation date and therefore this requirement is no longer applicable. Current applicable requirements are listed in 13.1.7.

14.0 Source-Specific 40 C.F.R. 64 (CAM) Requirements for [Groundwater/Soil Remediation Process]

14.1 Limitation and Standards

14.1.1. Reference to "their" thermal oxidizer has been changed to "the" thermal oxidizer in this requirement.

Attachments B and C

Equipment that has been shut down has been removed from the tables.

Non-Applicability Determinations

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

45CSR7	Sulfuric acid mist/vapours and Phosphoric Acid vapours Tanks used to store sulfuric acid or phosphoric acid from concentration limits. Per Section 10.6 of Regulation 7, sources with potential to emit less than 0.1 lbs/hr, 100 lbs/yr are exempt from the concentration limits of Section 4.2. The following tanks have been found to meet this criteria: Tank 9750 is used to store sulphuric acid at the Oxide Adducts Plant. Tank 8372 is used to store sulfuric acid at the Specialty Surfactants Plant. Tank 8433 is used to store phosphoric acid at the Specialty Surfactants Plant. Tank T01 is used to store sulfuric acid at the Water Treatment Plant.
45CSR7	The carpentry shops (B463) and welding shops (B307) are used for fabrication of materials to support site operations. These activities are incidental (support) operations to the South Charleston Facility and are not manufacturing processes. Carpentry and welding shop activities are not covered by 45CSR7.
45CSR10A 45CSR10	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10 are not applicable to Boilers 26 and 27 since they only combust natural gas. 45CSR§10-10.3 Boilers 26 and 27 are also exempt from the 2000 ppm SO_2 requirements of 45CSR§10-4 due to 45CSR§10-4.1.e having a potential of less than 500 lbs/yr SO_2 from any manufacturing processes venting to these boilers. Additionally, 45CSR§10-5 for combustion of refinery or process gases containing hydrogen sulfide in excess of 50 grains/100 ft^3 due to process gas streams having no known potential for sulfur contamination.

40CFR60, Subpart Kb	The following tanks associated with the Oxide Adducts Plant are greater than or equal to 19,813 gallons but less than 39,890 gallons and were constructed or modified after July 23, 1984 and have a maximum true vapor pressure less than 2.2 psia: 9513. The following tanks associated with the Oxide Adducts Plant are greater than or equal to 39,890 gallons and were constructed or modified after July 23, 1984 and have a maximum true vapor pressure less than 0.51 psia: 9510, 9511, and 9512. All tanks over 19,813 gallons capacity located at the Specialty Surfactants Plant store materials with < 2.2 psia vapor pressure at storage conditions.
40CFR63, Subpart Y	NESHAP for Marine Vessel Loading Operations. The North Charleston Distribution Terminal is exempt from Subpart Y requirements because they no longer load barges at this location or any other location covered by this permit
40CFR63, Subpart JJ	Wood Furniture Surface Coating. The South Charleston Facility is an incidental manufacturer and exempt from Subpart JJ. Less than 100 gallons per month surface coating and adhesive is used for wood furniture.
40CFR63, Subpart EEEE	The North Charleston Distribution Terminal (NCDT) and the Chemical Mixing Unit are exempt from the OLD MACT for one or more of the following reasons: Storage vessels located at NCDT are part of processing units covered by other MACTs, or streams (materials transferred) have annual average true vapor pressure of Subpart EEEE Table 1 OHAPs at 77°F less than 0.1 psia, or streams contain less than 5% by weight of Subpart EEEE Table 1 OHAPS and are not organic liquids subject to the OLD MACT. The EO distribution header system does not meet the definition of an OLD MACT affected source as defined in 40 C.F.R.§63.2338(b) and is therefore not covered by 40 C.F.R. 63, Subpart EEEE. The Specialty Surfactants Plant is not subject to the OLD MACT. The Specialty Surfactants Plant is covered by the Polyether Polyol and Miscellaneous Organic Chemical Manufacturing MACT. Annual average vapor pressure of Table 1 OHAP at 77°F used as heat transfer liquid is less than 0.1 psia, or no streams containing greater than or equal to 5% by weight Table 1 OHAPS.
40CFR63, Subpart MMMM	Coating of Metal Parts. The South Charleston Facility is an incidental manufacturer and exempt from Subpart MMMM due to 40CFR§63.3881(b). This provision establishes a lower cut-off at less than 250 gallons per month of paints/solvents used.
40CFR63, Subpart FFFF	The Triton unit has one reactor, which is subject to 40CFR63, Subpart PPP for polyethylene polyols production. As a result, reactor 8400 (Alkox Reactor) is exempt from the requirements of Subpart FFFF in accordance with §63.2435(b)(3).

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: November 22, 2017
Ending Date: December 22, 2017

Point of Contact

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

Rebecca H. Johnson
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1206 • Fax: 304/926-0478
Rebecca.H.Johnson@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)

The Draft/Proposed Permit was issued under permit number R30-03900003-2017. Since the permit was not issued in 2017, the permit number has been changed to coincide with the year of issuance. The final issued permit was issued as R30-03900003-2018.

The following comments were submitted by Union Carbide Corporation, South Charleston Facility on December 14, 2017.

Comment 1

This comment is in regard to CAM applicability, particularly for VOC, in section 14 of the draft permit. CAM was originally established because pre-control VOC and HCl emissions for pollutant-specific emission unit ("PSEU") known as the Chlorohydrin/Chlorobenzene vapor extractive system are greater than major source thresholds. Two other criteria exist for applicability which are: 1) being subject to an emission limit for the regulated air pollutant; and, 2) the unit uses a control device to achieve compliance with the emission limit. With these pollutants being limited by and controlled in permit R13-2840B, this PSEU met all three criteria. There are, however, exemptions to applicability listed in the CAM rule. One exemption, listed in §64.2(b)(1)(i), applies to emission limits or standards that come from section 112 (MACT standards) of the Clean Air Act and proposed (by the Administrator) after November 15, 1990. In light of the most recent determination from the WVDEP DAQ (during review of R13-3308) which concluded that the site remediation activities at the South Charleston Facility are subject to the Site Remediation MACT ("GGGGG"), the applicable MACT conditions have been added to the draft Title V permit (Section 10) and the CAM rule exemption in §64.2(b)(1)(i) applies.

Now, this exemption applies only to CAM for those PSEU in regards to emissions of VOC within section 14 of the Title V permit, because HCl emissions are not regulated by GGGGG. There is a slight difference, in that the Site Remediation MACT regulates total organic compounds ("TOC") (minus methane and

ethane), whereas, VOC was the pollutant (from R13-2840B) for which CAM applied. As excluded from the definition of TOC in GGGGG, the definition of VOC in §51.100(s) also excludes methane and ethane. Also, from Table 1 of an EPA document numbered EPA/600/R-96/033 (March 1996), Total Organics (TOC) is described as being an all-encompassing definition including volatile organics (VOC), semi-volatile organics, and non-volatile organics. With this, one could deduce that the TOC limit from the MACT rule includes VOC. The Site Remediation MACT also establishes limits which are equivalent to the limits in R13-2840B, in terms of averaging period (lb/hr and tpy), and, are more stringent as site-wide TOC limits are numerically less than the VOC limits allowed by the permit for this sole emission unit. Since TOC (including VOC) is regulated by GGGGG and was proposed after November 15, 1990 pursuant to section 112 of the CAA, the CAM exemption applies. As such, UCC proposes that all references to "VOC" and the thermal oxidizer (A42INC) be removed from Section 14 of the current draft Title V permit renewal.

Response 1

Compliance assurance monitoring (CAM) is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act (CAA) for large emission units that rely on pollution control device equipment to achieve compliance. Monitoring is conducted to determine that control measures, once installed or otherwise employed, are properly operated and maintained so that they continue to achieve a level of control that complies with applicable requirements. The CAM approach establishes monitoring for the purpose of: (1) documenting continued operation of the control measures within ranges of specified indicators of performance (such as emissions, control device parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements; (2) indicating any excursions from these ranges; and (3) responding to the data so that the cause or causes of the excursions are corrected.

For a unit to be subject to Part 64, the unit must: be located at a major source for which a Part 70 or 71 permit is required; be subject to an emission limitation or standard; use a control device to achieve compliance; have potential pre-control emissions of at least 100 percent of the major source amount; and must not otherwise be exempt from CAM. If the unit does not meet all of these requirements, the unit is not subject to CAM. Section 64.2(b) lists several specific exemptions to the CAM rule. The exemption that is applicable to UCC in respect to the Chlorohydrin/Chlorobenzene vapor extraction system is that certain emission limitations or standards are exempted, including: new source performance standards (NSPS) or national emission standards for hazardous air pollutants (NESHAP) proposed after November 15, 1990. The Site Remediation MACT (40 CFR 63, Subpart GGGGG) is applicable to this unit for VOC emissions, therefore the CAM rule exemption §64.2(b)(1)(i) applies and CAM is no longer applicable to the thermal oxidizer and VOC emissions from the Chlorohydrin/Chlorobenzene vapor extraction system.

Section 14.0 of the Title V permit covers the CAM requirements for the thermal oxidizer (A42VE) and packed bed scrubber (A42PBS) which are the control devices utilized to reduce emissions for the Chlorohydrin/Chlorobenzene vapor extraction system. Emissions from the vapor extraction system are routed to the thermal oxidizer to control VOC emissions via a closed vent system and from the thermal oxidizer to a packed bed scrubber which controls HCl emissions. CAM for the thermal oxidizer was to ensure that the operation of the unit would maintain emissions below limitations specified in permit R13-2840B (Section 11.0) which are 3.46 lb/hr and 15.07 tpy of VOC. CAM required that the thermal oxidizer be operated in a manner to maintain a daily average combustion temperature of at least 1,400 degrees F and to continuously monitor the combustion zone temperature by using a thermocouple. This requirement is also in Section 11.0 as specific requirement 11.1.5.1. Therefore, even if the CAM requirements for the thermal oxidizer are removed under Section 14, the permittee will still be required to monitor the daily average combustion temperature under 11.1.5.1. Specific requirement 11.2.1 requires that VOC testing of the packed bed scrubber emission point is conducted at a minimum of once every 12 months to determine the VOC emissions rate. Stack testing conducted on July 13, 2017 at the outlet of the scrubber stack showed that emissions of VOC were 0.025 lb/hr while the thermal oxidizer firebox temperature was operating at 1570 °F. This is well below the emission limit specified in R13-2840B.

The Site Remediation MACT requires that site-wide TOC emissions be below 3.0 lb/hr and 3.1 tpy (Condition 10.1.4) which is more stringent than permit R13-2840B. Additionally, 40CFR§63.7925(g)(4) which is cited in requirement 10.1.8.5 requires that the daily average firebox temperature must be maintained at a temperature greater than or equal to the temperature established in the design evaluation or

during the performance test. The most recent performance test was conducted in 2017 and a firebox temperature of 1570 °F was established. This higher temperature would ensure a better destruction efficiency than if operated at 1400 °F which is currently what is specified in the CAM plan for the thermal oxidizer.

Additionally, CAM requires that the permittee indicate excursions from the operating ranges and that the excursions be corrected. Deviations from the thermal oxidizer operating temperature established in 11.1.5.1 will be included in the Title V Semi-Annual Monitoring reports as required. Specific Requirement 11.3.3 also requires that the permittee shall maintain records of the occurrence and duration of any malfunction and steps taken to minimize emissions and steps taken to correct the malfunction. Specific Requirement 11.3.4 which is specific to the thermal oxidizer, requires that the following records be maintained: records of the daily average firebox temperature, completed maintenance and calibrations, copy of the testing results of the VOC emissions, and monitoring equipment downtime and corrective actions taken. Therefore, removal of the CAM requirements will not result in the loss of monitoring, recordkeeping, or reporting for the thermal oxidizer as this will still be required under Section 11.0.

In conclusion, the Chlorohydrin/Chlorobenzene vapor extraction system is subject to the Site Remediation MACT and therefore is exempt from CAM for VOC emissions. Emission testing, monitoring, and recordkeeping requirements listed in both Section 10.0 (Site Remediation MACT requirements) and 11.0 (Permit R13-2840B requirements) of the Title V permit require the same or more stringent requirements than those requirements that are currently part of the CAM plan listed in Section 14.0 of the Title V permit. For that reason, the following changes to the permit will be completed based on Comment 1 submitted by UCC South Charleston.

14.1.1. References to VOC, the thermal oxidizer, and permit condition 11.1.3. have been removed.

14.2.1.a. This requirement has been removed and the specific operating requirements for the packed bed scrubber have been moved from 14.2.1.b. to 14.2.1.a.

14.2.3. Reference to the thermal oxidizer has been removed.

14.2.5.b. Reference to the thermal oxidizer and requirements for the thermal oxidizer have been removed.

14.2.5.c. Reference to the thermal oxidizer and requirements for the thermal oxidizer have been removed.

14.4.1.a. Recordkeeping requirements for the thermal oxidizer combustion temperature have been removed. Condition 11.3.4 requires similar records to be kept.

Comment 2

The testing requirement of (14.3.1 and) 14.3.2. is obsolete and should be deleted. The previous renewal permit had this same language which was intended to be the initial CAM testing requirement to establish adequacy of the monitoring parameter. This testing was completed on November 27, 2012.

Response 2

Initial CAM testing requirements were completed as required, therefore specific requirements 14.3.1. and 14.3.2. have been removed.

Comment 3

Similar to Comment 2, condition 14.4.2. is obsolete and should be deleted. Test protocols were submitted on February 29, 2012 (VOC testing) and October 19, 2012 (HCl testing)

Response 3

The protocols for the initial testing were submitted and therefore these requirements are no longer necessary and have been removed from the Title V permit.

In addition, the following miscellaneous changes were requested by UCC and have been incorporated into the Title V Permit:

The emission point ID for Tank 8738 in the Emission Units Table was changed from "T3738" to "T8738."

Corrected condition 4.2.4 to match condition 4.2.5 of R13-2033D. In the first sentence, the word "condensate" was added. It was unintentionally omitted from the Draft Title V permit.

For clarification, added "covered by 40 C.F.R. 63, Subpart PPP" to conditions 5.5.9 and 7.5.6.

In condition 6.1.2, corrected the numbering for "Periods of planned routine maintenance of the CATOX…" from "v" to "j." Also added the citation for condition 6.1.2.j, which was inadvertently omitted from the Draft Title V permit.

In conditions 6.1.3, 6.4.1, and 6.4.2, added "MIGCS CO" after Section 1.0 for clarification that these conditions only cover the control equipment listed in permit R13-3308.

In condition 6.2.1, added the 40 C.F.R. 63, Subpart GGGGG citation which was inadvertently omitted from the Draft Title V permit.

In condition 6.3.2, corrected the citation from "63.7(3)" to "63.7(a)(3)."

In the second paragraph of condition 6.5.3, changed the phrase "the facility's Title V operating permit, whichever date comes first after the first compliance report is due" to "permit condition 3.5.6" which specifies the report submittal timing.

References to "Attachment C" in Section 9.0 were corrected to "Attachment B." In condition 9.1.3, a reference to "Attachment D" was corrected to "Attachment C."

Condition 10.1.2, the reference to "63.7882" was revised as "63.7882(a)(1)" to specify that it applies to process vents.

Condition 10.1.3 was revised to match the cited 40 C.F.R. 63, Subpart GGGGG requirement.

The citation of "40 CFR §63.7925(b)(1-2)" for Condition 10.1.8 was deleted as it was redundant and unnecessary because "40 CFR §63.7925(b)" was already cited.

Conditions 10.1.10.5 and 10.1.10.6 were deleted because they refer to a system with a bypass and UCC does not have a bypass on the system. In addition, the citation was revised to remove these non-applicable conditions.

Revised Condition 10.2.1 to remove the requirements of §63.7927(a)(1)(ii) and add the requirements of §63.7927(a)(1)(i) which is the option that UCC has chosen to comply with.

Condition 10.4.5 was revised throughout to replace "shall" with "must."

Corrected the reference in condition 10.5.2 from "§63.9(b)(2)" to "§63.9 (b)(3)."

Condition 10.5.6.5, the requirement to submit reports in accordance with Title V, was added.

In Condition 10.5.9, deleted references to Part 71 as this regulation is not applicable.

Condition 13.1.7.4 was deleted because it refers to emergency RICE at area sources and UCC South Charleston is a major source.