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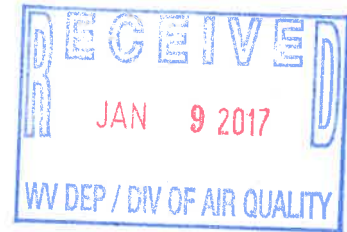
Union Carbide Corporation
A Subsidiary of The Dow Chemical Company
PO Box 8361
437 MacCorkle Avenue SW
South Charleston, WV 25303
USA

January 6, 2017

Mr. William F. Durham, Director
WV Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Dear Director Durham,

Attention: Ms. Carrie McCumbers
Title V Program Manager



RE: Union Carbide Corporation (UCC)
South Charleston Facility - Facility ID# 039-00003
45CSR30 Permit Renewal Application
Title V Permit Number R30-03900003-2012

In accordance with Condition 2.3.2 of permit R30-03900003-2012, enclosed is an application to renew the Title V operating permit for UCC's South Charleston Facility. Two copies of the complete application are provided on CD and paper copies of plot plans and process flow diagrams are provided in accordance with Agency application guidance instructions.

Table of Contents describes application layout and construction.

Some of the information is considered BUSINESS CONFIDENTIAL and is provided in accordance with Rule 31 requirements. Printed information claimed business confidential is provided on blue paper. Electronic media information claimed business confidential is provided by computer diskette labeled "Business Confidential". UCC requests that information claimed confidential be protected from disclosure.

If there are any questions regarding the attached permit application, please call me at (304) 747-1354.

Sincerely yours,

Jay Fedczak
WVO EH&S Environmental Specialist

Attachments



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

DIVISION OF AIR QUALITY

601 57th Street SE

Charleston, WV 25304

Phone: (304) 926-0475

www.wvdep.org/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Facility Wide

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): Union Carbide Corporation	2. Facility Name or Location: South Charleston Facility
3. DAQ Plant ID No.: 039 - 00003	4. Federal Employer ID No. (FEIN): 1 3 1 4 2 1 7 3 0
5. Permit Application Type: <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Initial Permit <input checked="" type="checkbox"/> Permit Renewal <input type="checkbox"/> Update to Initial/Renewal Permit Application </div> <div> When did operations commence? Prior to 1960 What is the expiration date of the existing permit? 7/9/2017 </div> </div>	
6. Type of Business Entity: <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership </div> <div> <input type="checkbox"/> Governmental Agency <input type="checkbox"/> Limited Partnership </div> </div>	7. Is the Applicant the: <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Both </div> <p style="margin-top: 10px;">If the Applicant is not both the owner and operator, please provide the name and address of the other party.</p> <p>_____</p>
8. Number of onsite employees: Approximately 250	
9. Governmental Code: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Privately owned and operated; 0 <input type="checkbox"/> Federally owned and operated; 1 <input type="checkbox"/> State government owned and operated; 2 </div> <div> <input type="checkbox"/> County government owned and operated; 3 <input type="checkbox"/> Municipality government owned and operated; 4 <input type="checkbox"/> District government owned and operated; 5 </div> </div>	

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☒ Yes ☐ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY" guidance.

11. Mailing Address

Street or P.O. Box: P.O. Box 8361

City: South Charleston

State: WV

Zip: 25303-

Telephone Number: (304) 747-2611

Fax Number: (304) 747-7158

12. Facility Location

Street: 437 MacCorkle Avenue SE

City: South Charleston

County: Kanawha

UTM Easting: 440.026 km

UTM Northing: 4,246.927 km

Zone: ☒ 17 or ☐ 18

Directions: From Charleston, travel I-64 west and take the Montrose exit. Turn right towards the river and proceed straight through the traffic light across MacCorkle Avenue directly to the South Charleston Facility.

Portable Source? ☐ Yes ☒ No

Is facility located within a nonattainment area? ☐ Yes ☒ No

If yes, for what air pollutants?

Is facility located within 50 miles of another state? ☒ Yes ☐ No

If yes, name the affected state(s).

Ohio

Kentucky

Is facility located within 100 km of a Class I Area¹? ☐ Yes ☒ No

If yes, name the area(s).

If no, do emissions impact a Class I Area¹? ☐ Yes ☒ No

¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.

13. Contact Information		
Responsible Official: Jon Putnam		Title: WVO Responsible Care Leader
Street or P.O. Box: P. O. Box 8361		
City: South Charleston	State: WV	Zip: 25303-
Telephone Number: (304) 747-1165	Fax Number: (304) 747-7158	
E-mail address: JPutnam@dow.com		
Environmental Contact: Jay Fedczak		Title: EH&S Environmental Specialist
Street or P.O. Box: P. O. Box 8361		
City: South Charleston	State: WV	Zip: 25303-
Telephone Number: (304) 747-1354	Fax Number: (304) 747-7158	
E-mail address: JPFedczak@dow.com		
Application Preparer: same as above		Title:
Company:		
Street or P.O. Box:		
City:	State:	Zip: -
Telephone Number: () -	Fax Number: () -	
E-mail address:		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Chemical Mixing Plant	Miscellaneous organic chemicals (e.g. mixing and blending of organic chemical raw materials with other substances)	325199	2869
Energy Systems	Site Utilities – e.g. steam, water, plant air/nitrogen, etc.	Not Applicable	Not Applicable
Pipelines/Environmental Operations	Operations include plant water treatment plant and ethylene oxide distribution system.	Not Applicable	Not Applicable
Infrastructure Operations	Maintenance Operations and Bulk Shipping/Receiving of raw materials and products	Not Applicable	Not Applicable
Oxide Adducts Plant	Chemical intermediates for use in brake fluids, surfactants, hydraulic and metal working fluids	325199	2869
Remediation Operations	None - Soil/Groundwater Correction Action	Not Applicable	Not Applicable
TRITON® Plant	Miscellaneous surfactants	325199	2869

Provide a general description of operations.

The Union Carbide Corporation (UCC) South Charleston Facility is a manufacturing facility that produces different specialty chemicals and plastics and serves as a re-distribution facility for chemicals manufactured at other locations. Chemicals and plastics are produced from the derivatives of natural gas and petroleum. Most of these are intermediates are used in other processes or sold to customers who convert them into finished products.

Chemical Mixing Plant (Area Id. 050).

The Chemical Mixing Plant uses a variety of raw materials which can be categorized into large volume bulk fluids and small volume additives. The bulk fluids are received by tank car, tank truck, and pipeline. Pipelines originate from Oxide Adducts & North Charleston. Additives are received in containers. The bulk fluids are transferred to blending tanks or raw material storage tanks. Four vessels can be used for the addition of additives to the bulk fluids to produce mixtures. The mixtures are then sampled and shipped to customers by tank car, tank trucks, or containers.

The Chemical Mixing Plant operations are limited to blending and filtering.

Energy Systems and Pipelines

Energy Systems provides and maintains utilities for site operations (Area Id. 021). Pipelines includes the ethylene oxide distribution system (Area Id. 731).

Infrastructure

Maintenance - The South Charleston Facility operates a Maintenance Department with associated facilities including a Maintenance Shop and a Maintenance Garage. (Area Id. 012). Activities include welding, parts cleaning, metal working, and painting (of small parts).

Typical activities in the shops and in the field include, but are not limited to, general repair, machine work, painting, welding, abrasive blasting, carpentry, mechanical, electrical, instrument repair and testing, insulation (including removal of asbestos containing materials), etc.

Logistics Group - operates the North Charleston Distribution Terminal (NCDT) (Area Id. 031). The terminal is designed to receive and distribute products and raw materials. This facility does not produce any products through chemical reactions. From time to time materials may be blended through an in-line blender while loading.

The distribution facility has the capabilities to receive and to ship or transfer products via tank-truck, railcar, barge, and pipeline. At this time, all equipment owned by UCC and located at NCDT is out of service.

Plant Laboratory - provides chemical analysis and analytical support to plant operations. (Area Id. 355).

Environmental Operations

Environmental Operations operates water plant (Area Id. 020) and the wastewater flume/sump system (Area Id. 022).

Oxide Adducts Plant

Oxide Adducts Plant produces a diverse mix of chemical intermediates for use in brake fluids, surfactants, hydraulic and metal working fluids. (Area Id. 700).

Union Carbide Corporation South Charleston Facility: Facility Wide Information

The Oxide Adducts Plant is made up of several distinct batch activities. Polyether polyols are produced on a batch basis by reacting ethylene oxide and/or propylene oxide with alcohols. Various materials are used as catalysts and starter solutions which are made by separate process systems. Reactor products may be treated in a neutralization step. Process solvent is recovered and products sent to storage. Products are shipped in various types of containers.

Remediation Operations is responsible for soil/groundwater corrective actions at the site.

For the chlorobenzene/chlorohydrin area contaminants are extracted from the groundwater and soil through soil vapor extraction (SVE) wells using a vacuum blower. Volatile organic compounds (VOCs) and non-VOCs (i.e., methane) present in the process vapor stream are vented to a regenerative thermal oxidizer or RTO. Thermal oxidation destroys VOCs/non-VOCs through direct combustion at temperatures where organic compounds in the process vapor stream are thermodynamically unstable. The oxidation process results in the formation of carbon dioxide, water vapor, and inorganic acids. Oxidizer exhaust vent gas are quenched and routed to a wet scrubber for removal of hydrogen chloride prior to venting to the air. A dilute caustic (sodium hydroxide) solution is being used as the scrubber liquor to enhance hydrogen chloride removal effectiveness.

For the middle island source 2 a similar process is used to destroy contaminants, except an electric catalytic oxidizer is used and there is no scrubbing of the exhaust.

Specialty Surfactants Plant

Specialty Surfactants Plant (also known as TRITON® Plant) produces various chemical intermediates that are used in metal cleaners, emulsion polymerization, paints and coatings, rinse aids, textile processing, degreasers, industrial laundry applications, car wash applications and personal care applications. (Area Id. 1000)

TRITON® Products are manufactured in batch/semi-batch and continuous reaction systems. Ethoxylated and propoxylated intermediates and finished products are produced in a semi-batch reaction system. These materials may be further processed in other reaction systems to produce surfactant products. Tanks are used to store raw materials, intermediates, wastes and finished products. Other major equipment in the Plant includes surfactant recovery system and filtration equipment. Products are shipped via containers, tank trucks and rail cars.

Revisions to current permit

With exception to Subpart GGGGG language in the following sentence, all proposed revisions for this renewal are in Attachment I in the form of a marked up permit. Site Remediation MACT (40 C.F.R. 63 Subpart GGGGG) is now considered applicable and those specific requirements are addressed in Attachment J.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.
16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."
17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input checked="" type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input checked="" type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input checked="" type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input checked="" type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO _x Annual Trading Program (45CSR39)	<input checked="" type="checkbox"/> CAIR NO _x Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO ₂ Trading Program (45CSR41)	

19. Non Applicability Determinations

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

From Title V Permit Currently in Effect:

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 sulfuric acid at the Oxide Adducts Plant.

Tank 8372 is used to store sulfuric acid at the Specialty Surfactants (TRITON®) Plant.

Tank 8433 is used to store phosphoric acid at the Specialty Surfactants (TRITON®) 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.

19. Non Applicability Determinations (*Continued*) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

45CSR10 and 45CSR10A - 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 SO₂ requirements of 45CSR§10-4 due to 45CSR§10-4.1.e having a potential of less than 500 lbs/yr SO₂ 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 ft³ due to process gas streams having no know 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 gallon capacity located at the Specialty Surfactants (TRITON®) 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.

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

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 (TRITON®) 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® Plant 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).

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10. This stationary source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. **Ozone Season Continuous Emission Monitoring, Recordkeeping and Reporting Requirements (Boiler B26 and Boiler B27).** The permittee shall operate continuous emission monitoring systems in accordance with 40 CFR part 75 and the NO_x mass emissions provisions set forth in Subpart H of 40 CFR part 75, to attribute ozone season NO_x mass emissions to each boiler. The permittee shall comply with the general monitoring, recordkeeping and reporting requirements set forth in 40 CFR part 75.

[45CSR40]

- 3.1.10. (The following are the applicable requirements from the most recent version of 45CSR40. UCC's understanding is that the DAQ will develop the actual permit language.)

- a. Ozone season NO_x limitation. -- Beginning May 1, 2016, the owner or operator of a unit that meets the applicability requirements set forth in 45CSR§40-4.1 shall limit emissions of NO_x during an ozone season pursuant to a NO_x emission rate for each unit contained in a permit issued under 45CSR13, 45CSR14, 45CSR19 or via consent order issued by the Secretary in accordance with W.Va. Code §22-5-4(a)(5). Such ozone season NO_x limitation may also include a limitation on operating time for a unit during the ozone season.

- b.

The owner or operator of an applicable unit under 45CSR§40-4.1 shall operate certified continuous emission monitor systems necessary to attribute ozone season NO_x mass emissions to each unit, in accordance with 40 CFR Part 75, Subpart H. NO_x mass emissions measurements recorded and reported in accordance with 40 CFR Part 75, Subpart H shall be used to determine a unit's compliance with the ozone season NO_x emission limitation set forth in 3.1.10.a.

3.3. Testing Requirements

- 3.3.1. Stack testing. As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:
- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
 - b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
 - c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
 - d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and
- f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A., 45CSR13, Permit Number R13-2033, Condition 4.2.1; R13-2840, Condition 4.3.1; R13-2414, Condition 4.4.1]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[45CSR§§30-4.4. and 5.1.c.3.D.]

- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

[45CSR§30-5.1.c.3.E.]

- 3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance (3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

- 3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.

[45CSR§30-8.]

- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.

[45CSR§30-5.1.c.3.A.]

- 3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. Deviations.

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
 1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.
[45CSR§30-5.1.c.3.C.]
- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

- 3.5.9. New applicable requirements. If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

3.1.1 and 3.1.2. – Open burning, except for training of employees and safety personnel, is not conducted.

3.1.3. – Asbestos – Applicable records for renovation and demolition activities involving asbestos containing material will be maintained. Reports and notifications will be filed.

3.1.4. – Odor - For the purposes of 45CSR4, a record of all odor complaints received shall be maintained. Such record shall contain an assessment of the validity of the complaints as well as any corrective actions taken.

3.1.5. – Standby plan for reducing emissions – A plan will be prepared if requested by the Director.

3.1.6. – Emission Inventory – Emissions inventory information is provided in accordance with Regulation 29 or as otherwise requested by the Director.

3.1.7. – Ozone depleting substances – Records will be maintained in accordance with 40 CFR 82, Subpart F.

3.1.8. – Risk Management Plan – information updated and on file in accordance with applicable requirements. The following Plants and Operations are covered by RMP: TRITON®, Oxide Adducts, Chemical Mixing, and EO Distribution.

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R13-1517D (TRITON® Plant)	05/18/2015	
R13-2033D (Boiler 26)	04/03/2013	
R13-2141C (Boiler 27)	04/19/2004	
R13-2414C (Portable Air Compressors)	08/08/2011	
R13-2840B (Groundwater/Soil Remediation Process)	05/20/2016	
R13-3025B (Middle Island Remediation)	05/26/2015	
CO-R21-98-22, as amended (VOCs)	06/01/1998	
CO-R27-97-17-A(94-21) (TAPs)	04/25/1997	
CO-R40-C-2006-29 (CAIR)	10/03/2006	
	/ /	

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]

Criteria Pollutants	Potential Emissions (2010 Actual)
Carbon Monoxide (CO)	224 (48)
Nitrogen Oxides (NO _x)	1,510 (280)
Lead (Pb)	0.2 (<0.1)
Particulate Matter (PM _{2.5}) ¹	108 (included with TSP)
Particulate Matter (PM ₁₀) ¹	108 (included with TSP)
Total Particulate Matter (TSP)	108 (25)
Sulfur Dioxide (SO ₂)	2,152 (330)
Volatile Organic Compounds (VOC)	240 (78)
Hazardous Air Pollutants ²	Potential Emissions
Hydrogen Fluoride	9 (2)
Hydrogen Chloride	369 (13)
Glycol Ethers	8 (2)
Propylene Oxide	7 (2)
Vinyl Acetate	16 (2)
All Other HAPs (< 1 tpy individual emissions)	41 (15)
Regulated Pollutants other than Criteria and HAP	Potential Emissions
¹ PM _{2.5} and PM ₁₀ are components of TSP.	
² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input checked="" type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input checked="" type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

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24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input checked="" type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input checked="" type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant

Union Carbide Corporation South Charleston Facility: Facility Wide Information

24. Insignificant Activities (Check all that apply)	
	owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input checked="" type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input checked="" type="checkbox"/>	51. Steam cleaning operations.
<input checked="" type="checkbox"/>	52. Steam leaks.
<input checked="" type="checkbox"/>	53. Steam sterilizers.
<input checked="" type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the Compliance Assurance Monitoring (CAM) Form(s) for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as ATTACHMENT H .

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Jon Putnam

Title: WVO Responsible Care Leader

Responsible official's signature:

Signature:



Signature Date:

01/06/2017

(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:

☒ ATTACHMENT A: Area Map

☒ ATTACHMENT B: Plot Plan(s)

☒ ATTACHMENT C: Process Flow Diagram(s)

☒ ATTACHMENT D: Equipment Table

☒ ATTACHMENT E: Emission Unit Form(s)

☐ ATTACHMENT F: Schedule of Compliance Form(s)

☒ ATTACHMENT G: Air Pollution Control Device Form(s)

☐ ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.wvdep.org/dag, requested by phone (304) 926-0475, and/or obtained through the mail.