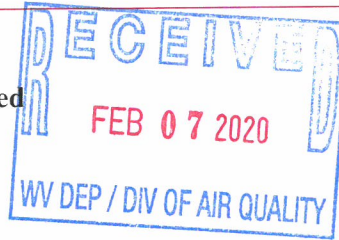




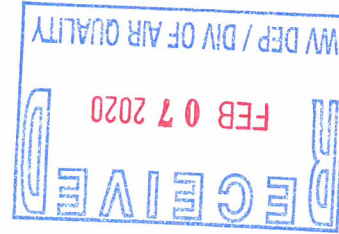
Certified Mail - Return Receipt Requested
#7018 1130 0001 9486 7941



Union Carbide Corporation
PO Box8361
437 MacCorkle Ave SW
South Charleston, WV 25303
USA

February 5, 2020

Ms. Laura M. Crowder, Director
WVDEP Division of Air Quality
601 57th Street SE
Charleston, WV 25304



Attn: Ms. Carrie McCumbers
Title V Program Manager

RE: Union Carbide Corporation (UCC) – Technology Park Operations
Rule 30 Permit Renewal Application
Title V Permit Number - R30-03900004-2015 (Group 2)

Dear Ms. Crowder,

In accordance with Condition 2.3.2, of Permit R30-03900004-2015, enclosed is an application to renew the air operating permit. A copy of the application is provided on two separate CDs with the exception of printed copies of the General Application Form that requires signature.

Table of Contents describes application layout and construction.

If you have any questions regarding the application, please contact me at (304) 747-1354 or via email at JPFedczak@dow.com.

Sincerely yours,

Jay Fedczak, P.E.
Sr. EH&S Environmental Specialist

Attachments

Union Carbide Corporation Technology Park Operations: Non R&D Operations
Rule 30 Permit Renewal Application
February 2020

TABLE OF CONTENTS

Description

Application Certification
Attachment A/B - Area Map/Plot Plan (on CD only)
Attachment C - Process Flow Diagrams (on CD only)
Attachment D - Equipment Table (on CD only)
Attachment E - Emission Unit Forms (on CD only)
Attachment I – Applicable Requirements (on CD only)
CD Copies of Entire Application



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: Ana Marino

Title: WVO Responsible Care Leader

Responsible official's signature:

Signature: Ana Marino Signature Date: 2-4-20
 (Must be signed and dated in blue ink)

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

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input type="checkbox"/>	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.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Group 2 - Non R&D

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): Union Carbide Corporation (A Subsidiary of The Dow Chemical Company)
2. Facility Name or Location: Technology Park Operations
3. DAQ Plant ID No.: 0 9 9 - 0 0 0 0 4
4. Federal Employer ID No. (FEIN): 1 3 1 4 2 1 7 3 0
5. Permit Application Type: [X] Permit Renewal
6. Type of Business Entity: [X] Corporation
7. Is the Applicant the: [X] Both
8. Number of onsite employees: Approximately 145 UCC employees including Contractors
9. Governmental Code: [X] Privately owned and operated; 0
10. Business Confidentiality Claims: Does this application include confidential information (per 45CSR31)? [X] No

11. Mailing Address		
Street or P.O. Box: P. O. Box 8361		
City: South Charleston	State: WV	Zip: 25303-
Telephone Number: (304) 747-2205	Fax Number: (304) 747-3147	

12. Facility Location		
Street: 1840 Union Carbide Drive	City: South Charleston	County: WV
UTM Easting: 439.250 km	UTM Northing: 4,245.237 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: From Charleston, WV take Interstate I-64 west toward Huntington. Take Kanawha Turnpike Exit. Proceed approximately 0.6 mile to West Virginia Regional Technology Park. UCC Technology Park Operations are located at the West Virginia Regional Technology Park.		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Ohio Kentucky	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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: Ana Marino		Title: WVO Responsible Care Leader
Street or P.O. Box: P. O. Box 8361		
City: South Charleston	State: WV	Zip: 25303-
Telephone Number: (304) 747-5084	Fax Number: (304) 747-7158	
E-mail address: AGMarino@dow.com		
Environmental Contact: Jay Fedczak		Title: Sr. 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
Holz Impoundment	None	325199	2869

Provide a general description of operations.

UCC Technology Park Operations (TPO) is located at the West Virginia Regional Technology Park. UCC facilities include research and development laboratories, pilot plant operations and supporting offices. The Bulk Gas Area provides chemical storage for R&D operations. UCC operations also include a surface impoundment (Holz Impoundment) managed and operated by the Union Carbide Corporation South Charleston Facility. Holz Impoundment is used for disposal of grit, sludge, and other waste water solids from the City of South Charleston Waste Treatment Works and sewer cleanouts from the City of South Charleston, and UCC South Charleston and Technology Park.

The UCC Technology Park Operations Title V Permit has been issued in two parts (Groups). Group 1 covers research and development activities. Group 2 covers Holz Impoundment.

Note: See Attachment I for applicable requirements, monitoring and recordkeeping effective under current Title V permit.

Summary of Proposed Revisions for Permit Renewal:

UTM coordinates updated.

New Applicable Requirements for Permit Renewal:

None

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 type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS	<input type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input 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 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 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 type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO _x Annual Trading Program (45CSR39)	<input 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 Current Title V Permit:

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

3.7.2.a. 45CSR27 — *To Prevent and Control the Emissions of Toxic Air Pollutants.*
The emissions of toxic air pollutants at this facility does not exceed the threshold values in 45CSR27 Table A, so the facility is not subject to the Best Available Technology requirements.

3.7.2.b. 40 C.F.R. Part 64 – Compliance Assurance Monitoring: The Union Carbide Corporation’s Technology Park’s Environmental Operations are not subject to the Compliance Assurance Monitoring (CAM) rule because the Group 2 of 2 Permit has no emissions sources with control devices.



Permit Shield

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).

From current Title V Permit:

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 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]**

3.3. 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.]

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 – an updated risk management plan was provided to USEPA in the second quarter of calendar year 2019.

3.3.1. Stack testing – Compliance will be demonstrated by following the requirements of this section should a stack test be required.

3.4.1. Monitoring information – Compliance will be demonstrated by keeping records of all monitoring.

3.4.2. Records – Applicable records will be maintained for review upon request by the Director in accordance with site policies and regulatory requirements.

3.4.3. Odors – Records will be kept with regards to any odor complaint and investigations performed.

3.5. Reporting – Reports will be signed by the site responsible official or authorized representative. Reports and compliance certifications will be made in accordance with the provisions of this permit.

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>
None	MM/DD/YYYY	
	/ /	
	/ /	
22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number
None	/ /	
	/ /	

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions (2018 Actual)
Carbon Monoxide (CO)	38 (3.1)
Nitrogen Oxides (NO _x)	11 (3.6)
Lead (Pb)	N/A
Particulate Matter (PM _{2.5}) ¹	1 (0.20)
Particulate Matter (PM ₁₀) ¹	1 (0.20)
Total Particulate Matter (TSP)	1 (0.20)
Sulfur Dioxide (SO ₂)	0.1 (0.02)
Volatile Organic Compounds (VOC)	128 (22.7)
Hazardous Air Pollutants ²	Potential Emissions
Total HAP	7.2 (0.04)
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 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 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 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 type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input 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 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 type="checkbox"/>	19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO _x , SO ₂ , 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. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: _____ _____ _____ _____ _____ _____ _____ _____

24. Insignificant Activities (Check all that apply)	
<input 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 type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input type="checkbox"/>	26. Fire suppression systems.
<input 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 type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input 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 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.

24. Insignificant Activities (Check all that apply)	
<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 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 type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input 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 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 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 type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input 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 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: Ana Marino

Title: WVO Responsible Care Leader

Responsible official's signature:

Signature: _____ Signature Date: _____
(Must be signed and dated in blue ink)

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

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input type="checkbox"/>	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.dep.wv.gov/dag, requested by phone (304) 926-0475, and/or obtained through the mail.

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: Ana Marino

Title: WVO Responsible Care Leader

Responsible official's signature:

Signature: Ana Marino Signature Date: 2-4-20
 (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.dep.vv.gov/dag, requested by phone (304) 926-0475, and/or obtained through the mail.



Union Carbide Corporation
A Subsidiary of The Dow Chemical Company
U.S.A.

July 23, 2018

RE: DELEGATION OF AUTHORITY

I delegate to the following individual the authority to sign and execute documents on behalf of Union Carbide Corporation (the "Company") in the areas identified below associated with West Virginia Operations.

Name: Ana G. Marino
Position: Responsible Care Leader
Facilities: South Charleston Manufacturing Plant
437 MacCorkle Avenue, SW, South Charleston, WV 25303
South Charleston Technology Park
3200/3300 Kanawha Turnpike, South Charleston, WV 25303
Institute Manufacturing Site
Route 25, Institute, WV 25112

To the fullest extent permitted by law, this delegation includes the authority to sign all reports and permit applications under regulations implementing federal, state, or local environmental, health and safety laws and regulations, and to provide, where appropriate, other relevant information requested by the Administrator of the U.S. EPA or other federal, state or local environmental, health and safety agencies. Any environmental, health and safety documents signed or executed by Ana G. Marino shall have the same force and effect, and shall bind Union Carbide Corporation, as if done by me. Without limiting the generality of the foregoing, I am an authorized signatory for the Company as defined in 40 CFR 98.4, 40 CFR 122.22, 40 CFR 144.32, and 40 CFR 270.11, and a Responsible Official as defined in 40 CFR 70.2.

I explicitly stipulate that the individual named above is restricted to re-delegating any authority granted by this Delegation unless that delegation is executed in writing and the re-delegation is approved by the Law Department as meeting requirements of the environmental regulations referenced in the paragraph above.

This Delegation shall remain in effect until rescinded or modified by me or my successor, in writing. This Delegation supersedes and replaces any prior delegations.

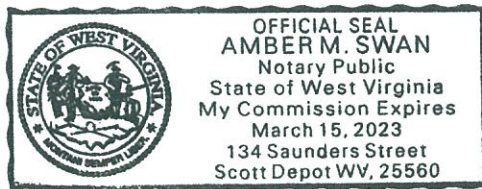
7-23-2018
Date




Timothy B. O'Neal
Vice President

STATE OF WEST VIRGINIA

The foregoing instrument was acknowledged before me this 23rd day of July, 2018 by Timothy B. O'Neal, Vice President of Union Carbide Corporation, a New York corporation, on behalf of the corporation.





Notary Public

My commission expires March 15, 2023



Union Carbide Corporation

A Subsidiary of The Dow Chemical Company
P.O. Box 8361
437 MacCorkle Avenue, SW
Building 300
South Charleston, WV 25303
U.S.A.

AUTHORITY OF CORPORATION

TO: The West Virginia Department of Environmental
Protection, Division of Air Quality

DATE: July 23, 2018

ATTN: Mr. William F. Durham, Director

Corporation's Federal Employer I.D. Number 13-1421730

The undersigned hereby files with the West Virginia Department of Environmental Protection, Division of Air Quality, a permit application and hereby certifies that the said name is a trade name which is used in the conduct of an incorporated business.

Further, the corporation entity certifies as follows:

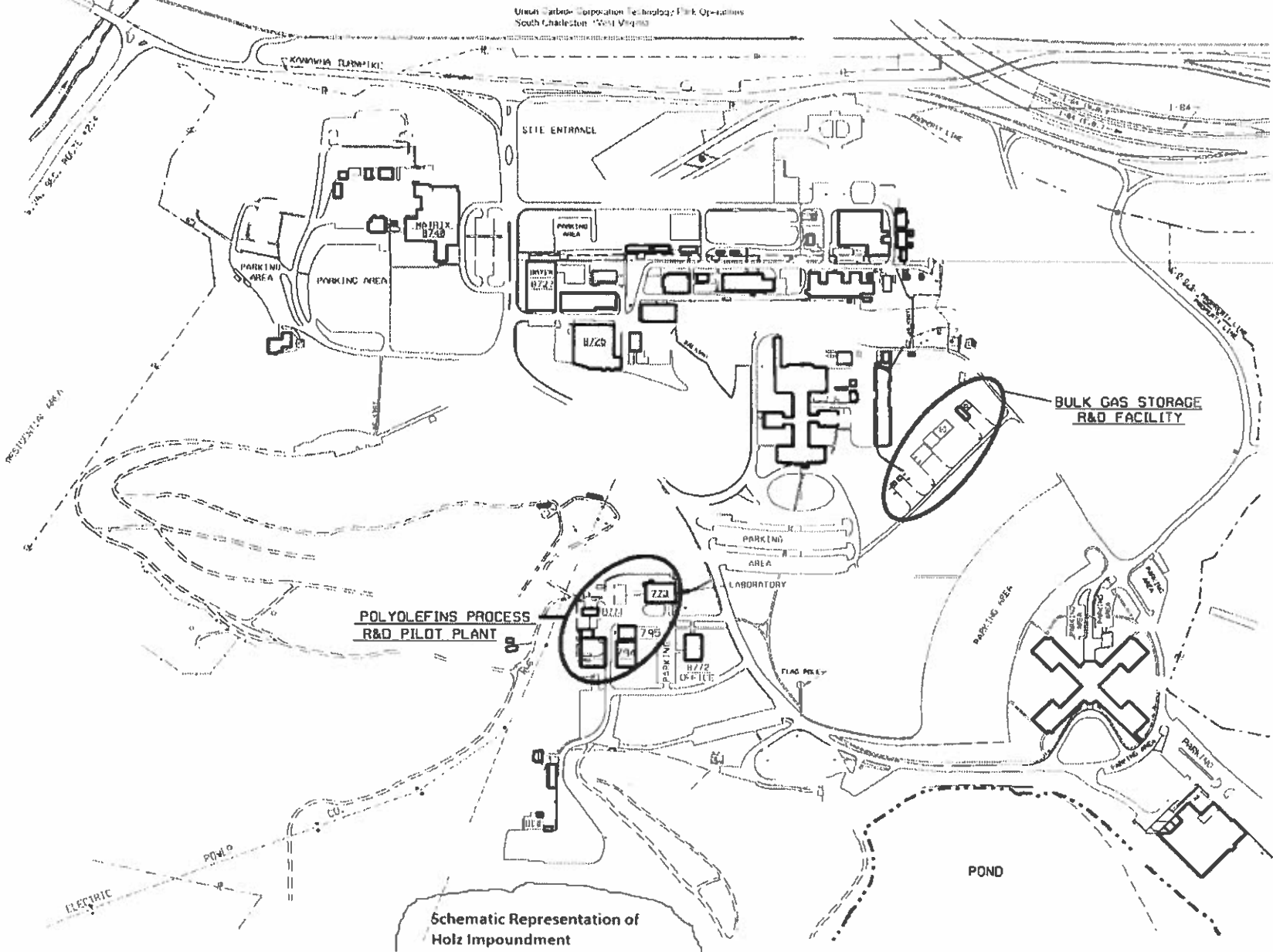
- (1) Ana G. Marino is the authorized representative and in that capacity may represent the interest of the corporation and may obligate and legally bind the corporation.
- (2) The corporation is authorized to do business in the State of West Virginia.
- (3) If the corporation changes its authorized representative, the corporation shall notify the Director of the West Virginia Department of Environmental Protection, Division of Air Quality, immediately upon such change.

Timothy B. O'Neal
Vice President

Union Carbide Corporation
A Subsidiary of The Dow Chemical Company

ATTACHMENT A1B

Union Carbide Corporation Technology Park Operations
South Charleston West Virginia



POLYOLEFINS PROCESS
R&D PILOT PLANT

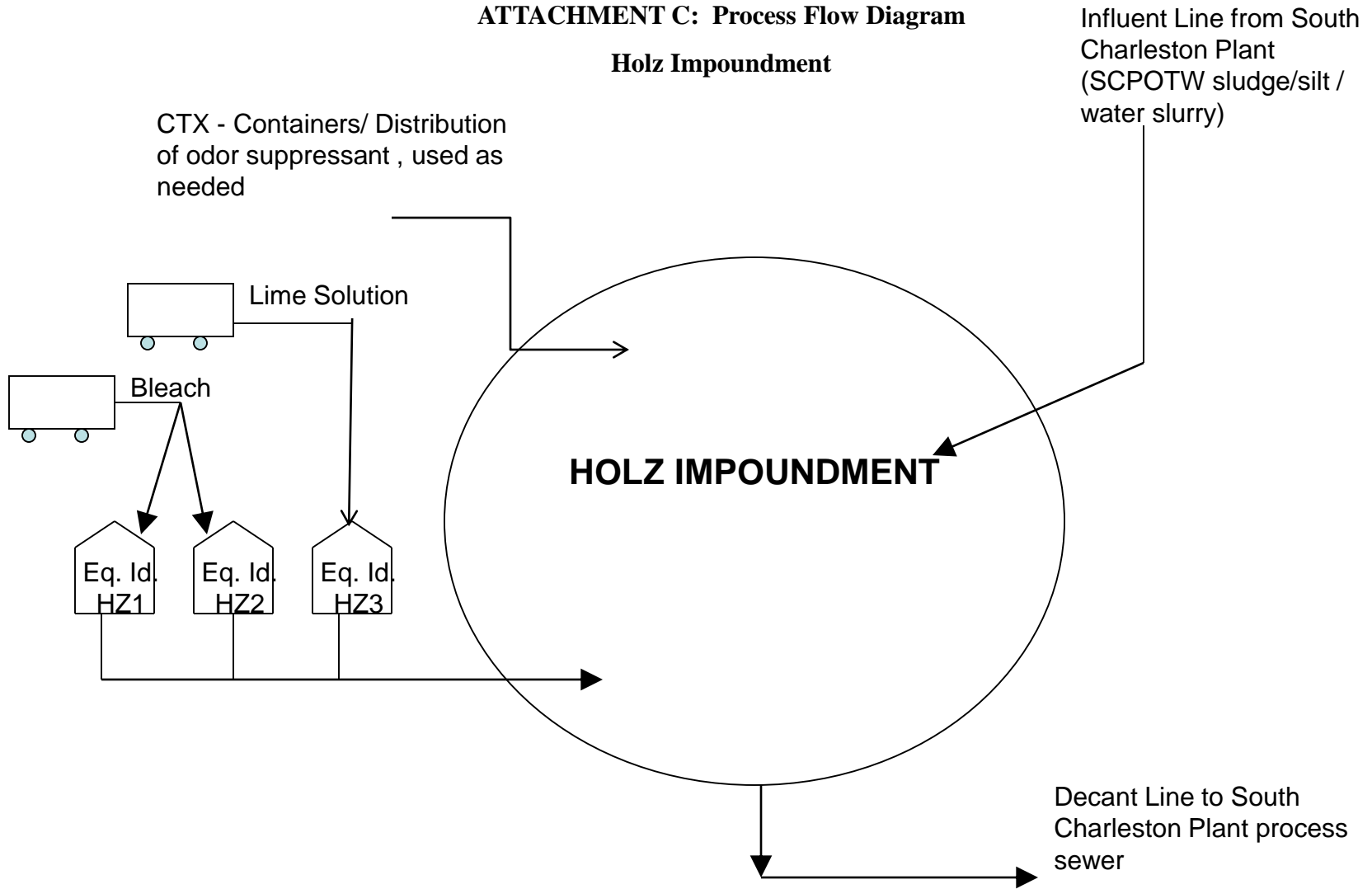
BULK GAS STORAGE
R&D FACILITY

Schematic Representation of
Holz Impoundment



Union Carbide Corporation
Technology Park Operations
R30 Renewal Application
2020
Buildings/Operating Groups

ATTACHMENT C: Process Flow Diagram
Holz Impoundment



ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Holz Impoundment	Emission unit name: Holz Impoundment	List any control devices associated with this emission unit: Not applicable
-----------------------------------------------------	------------------------------------------------	---------------------------------------------------------------------------------------

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Impoundment receives water-solid slurry from South Charleston Publicly Owned Treatment Works and silt from SCP water treating plant. Lime solution, bleach solution and an odorant suppressant are used as processing aids.

Manufacturer:	Model number:	Serial number:
Construction date: 1972	Installation date: 1972	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Not applicable

Maximum Hourly Throughput: Not applicable	Maximum Annual Throughput: Not applicable	Maximum Operating Schedule: Not applicable
-----------------------------------------------------	-----------------------------------------------------	------------------------------------------------------

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___Yes ___X___ No	If yes, is it? ___ Indirect Fired ___ Direct Fired
----------------------------------------------------------------	--------------------------------------------------------------

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--------------------------------------------------------------------	-------------------------------------------

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		13
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Acetonitrile		1
Chloroform		0.5
1,4-dioxane		1.4
Styrene		1.3
Toluene		0.2
Other Miscellaneous HAPs		1
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Engineering estimate. Reference: AP-42--§4.13 Wastewater Collection, Treatment, and Storage.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. 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). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

From Current Rule 30 Operating Permit (R30-03900004-2015 (2 of 2))

Condition 4.1.1. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

[45CSR§7-5.1 (Holz Impoundment)]

Condition 4.1.2. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

[45CSR§7-5.2 (Holz Impoundment)]

Permit Shield

For all 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 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.)

From Current Rule 30 Operating Permit (R30-03900004-2015 (2 of 2))

Condition 4.1.3. Compliance with Condition 4.1.2 shall be demonstrated by maintaining paved or graveled roads to the impoundment area.

[45CSR§30-5.1.c (Holz Impoundment)]

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: HZ1	Emission unit name: Storage Tank	List any control devices associated with this emission unit: Not applicable
----------------------------------------	--------------------------------------------	---------------------------------------------------------------------------------------

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Storage of non-VOC/Hazardous Air Pollutant material. Material (bleach) is received in tank trucks.

Manufacturer:	Model number:	Serial number:
----------------------	----------------------	-----------------------

Construction date: 1999	Installation date: 1999	Modification date(s): MM/DD/YYYY
-----------------------------------	-----------------------------------	--------------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Approximately 14,000 gallons

Maximum Hourly Throughput: Not applicable	Maximum Annual Throughput: Not applicable	Maximum Operating Schedule: Not applicable
-----------------------------------------------------	-----------------------------------------------------	------------------------------------------------------

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
---------------------------------------------------------------------------------------------	--------------------------------------------------------------

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--------------------------------------------------------------------	-------------------------------------------

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. 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). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

None

Permit Shield

For all 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 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.)

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: HZ2	Emission unit name: Storage Tank	List any control devices associated with this emission unit: Not applicable
----------------------------------------	--------------------------------------------	---------------------------------------------------------------------------------------

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Storage of non-VOC/Hazardous Air Pollutant material. Material (bleach) is received in tank trucks.

Manufacturer:	Model number:	Serial number:
----------------------	----------------------	-----------------------

Construction date: 1999	Installation date: 1999	Modification date(s): MM/DD/YYYY
-----------------------------------	-----------------------------------	--------------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Approximately 14,000 gallons

Maximum Hourly Throughput: Not applicable	Maximum Annual Throughput: Not applicable	Maximum Operating Schedule: Not applicable
-----------------------------------------------------	-----------------------------------------------------	------------------------------------------------------

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
---------------------------------------------------------------------------------------------	--------------------------------------------------------------

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--------------------------------------------------------------------	-------------------------------------------

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. 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). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

None

Permit Shield

For all 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 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.)

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: HZ3	Emission unit name: Storage Tank	List any control devices associated with this emission unit: Not applicable
----------------------------------------	--------------------------------------------	---------------------------------------------------------------------------------------

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Storage of non-VOC/Hazardous Air Pollutant material. Material (lime solution) is received in tank trucks.

Manufacturer:	Model number:	Serial number:
Construction date: 2014	Installation date: 2014	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Approximately 10,150 gallons

Maximum Hourly Throughput: Not applicable	Maximum Annual Throughput: Not applicable	Maximum Operating Schedule: Not applicable
-----------------------------------------------------	-----------------------------------------------------	------------------------------------------------------

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
---------------------------------------------------------------------------------------------	--------------------------------------------------------------

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--------------------------------------------------------------------	-------------------------------------------

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. 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). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

None

Permit Shield

For all 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 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.)

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

Attachment I
Applicable Requirements

Union Carbide Corporation
Technology Park Operations
South Charleston, West Virginia

Group 2 of 2
(Environmental Operations, Shared Services/Energy Systems)
2020 Renewal Application

4.0 Source-Specific Requirements [Environmental Operations]

4.1. Limitations and Standards

4.1.1. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

[45CSR§7-5.1 (Holz Impoundment)]

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

[45CSR§7-5.2 (Holz Impoundment)]

4.1.3. Compliance with Condition 4.1.2 shall be demonstrated by maintaining paved or graveled roads to the impoundment area.

[45CSR§30-5.1.c (Holz Impoundment)]

4.2 Monitoring Requirements

4.2.1. N/A

4.3 Testing Requirements

4.3.1. N/A

4.4 Recordkeeping Requirements

4.4.1. N/A

4.5 Reporting Requirements

4.5.1. N/A

4.6 Compliance Plan

4.6.1. N/A