

# Fact Sheet



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

Permit Number: **R30-03900004-2020 (Group 1 of 2)**  
Application Received: **January 16, 2020**  
Plant Identification Number: **03-054-039-00004**  
Permittee: **Union Carbide Corporation**  
Facility Name: **Technology Park Operations**  
Mailing Address: **P.O. Box 8361, South Charleston, West Virginia 25303**

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Physical Location: 1840 South Charleston, Kanawha County, West Virginia  
UTM Coordinates: 438.619 km Easting • 4,245.178 km Northing • Zone 17  
Directions: From Charleston take I-64 west toward Huntington. Take Kanawha Turnpike exit. Proceed west approximately 0.6 mile to West Virginia Regional Technology Park. UCC Technology Park Operations –PPRD is located at the top of the hill on the right (approx. 0.4 mile from entrance to Park).

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### Facility Description

This renewal permit (Group 1 of 2) provides requirements for the research and development activities conducted at the facility. Another permit (Group 2 of 2) provides requirements pertaining to facility support activities, operations related to Environmental Operations, and Shared Services/Energy Systems. The research and development groups provide experimental, analytical, and engineering support for the development of new products, process technology for manufacturing, and support for existing products and processes. The primary SIC and NAICS codes for this facility are 2869 and 325199, respectively.

## Emissions Summary

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions (Technology Park including Univation)</b>	<b>2019 Actual Emissions (Technology Park including Univation)</b>
Carbon Monoxide (CO)	38.00	3.36
Nitrogen Oxides (NO <sub>x</sub> )	11.00	3.59
Particulate Matter (PM <sub>2.5</sub> )	1.00	0.14
Particulate Matter (PM <sub>10</sub> )	1.00	0.14
Total Particulate Matter (TSP)	1.00	0.34
Sulfur Dioxide (SO <sub>2</sub> )	0.10	0.03
Volatile Organic Compounds (VOC)	128.00	22.77

*PM<sub>10</sub> is a component of TSP.*

<b>Hazardous Air Pollutants</b>	<b>Potential Emissions (Technology Park including Univation)</b>	<b>2019 Actual Emissions (Technology Park including Univation)</b>
Chloroform	0.5	<0.01
p-Cresol	< 20 pounds	<0.01
Hexane	0.5	<0.01
Methylene Chloride	< 1 pound	<0.01
Phenol	< 20 pounds	<0.01
Styrene	1.3	<0.01
Toluene	0.5	1.47
Total HAPs	7.20	1.50

*Some of the above HAPs may be counted as PM or VOCs.*

### Title V Program Applicability Basis

This facility has the potential to emit over 100 TPY of VOC's. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Union Carbide Corporation's Technology Park Operations is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

The Union Carbide Corporation Technology Park Operations (03900004) and Univation Technologies, LLC South Charleston Catalyst Plant (03900618) are considered a single source for Clean Air Act permitting purposes.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate matter and opacity limits for indirect heat exchangers.
	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction, Modification, Relocation, etc.
	45CSR16	Standards of Performance for New Stationary Sources
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for HAPs pursuant to 40 C.F.R. Parts 61 and 63.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
	40 C.F.R. 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR21, Section 40	Control of VOCs

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

## Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit ( <i>if any</i> )
R13-1858	09/28/1995	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

## Determinations and Justifications

The following changes have been made to the most recent version of this Permit:

### General Changes:

- The UTM Coordinates for this facility have been corrected from “438.7 km Easting and 4,245.5 km Northing” to “438.619 km Easting and 4,245.178 km Northing”.
- The contact information for DAQ and US EPA has been updated in Conditions 3.5.3, 3.5.5, and 3.5.6.
- Due to the entire Section 4.0 being Reserved, Sections 4.1 through 4.6 have been removed.
- Section 6.1.1.b.(i) and (ii) have been included and are written out requirements of 40 C.F.R. §63.6605.
- Sections 6.1.2.(2)(ii) and (iii) have been removed based on guidance from EPA about these vacated requirements.
- Section 6.1.2(3)(i) has been removed because the prior to date of May 3, 2014 to which the section refers has passed.
- Sections 6.4.1.(1) through (8) have been included and are written out requirements of 40 C.F.R. §63.6655.
- Section 7.1.2.(2)(ii) and (iii) have been removed because the underlying rules have been vacated. May 1, 2015, the U.S. Court of Appeals for the District of Columbia Circuit issued a decision vacating paragraphs 40 CFR 60.4243(d)(2)(ii)-(iii).

## Non-Applicability Determinations

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

1. **40 C.F.R. Part 63 Subparts F, G, and H – National Emission Standards for Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry.** The permittee's facility is a research and development facility. As such, the facility is exempt from the requirements of Subparts F, G, and H, in accordance with the exemption provided at 40 C.F.R. §63.100(j)(1).
2. **40 C.F.R. Part 64 – Compliance Assurance Monitoring (CAM)**  
In accordance with 40 C.F.R. §64.2(b)(1)(vi), CAM does not apply to any emission unit emitting VOC to the Polyolefins R&D flare 73F due to the fact that a continuous compliance determination method is already specified by current Title V permit R30-03900004-2015, condition 5.2.1. This condition requires continuous monitoring and recording of flare temperature in order to demonstrate compliance with the VOC limits (4.16 pph and 18.2 tpy) of condition 5.1.4.

3. **45CSR10 – To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.** The emission units in the following table are not subject to 45CSR10:

<b>Emission Unit ID</b>	<b>Description of Emission Unit</b>	<b>Rationale for Non-applicability of 45CSR10</b>
EG6	Portable Building 773 Gasoline-fired Emergency Generator, approximately 10-hp	Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director’s verbal guidance.
EG9	Building 773 Natural gas-fired Emergency Generator, 45-kW (equiv. to 60-hp)	Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director’s verbal guidance.
EG11	Portable Natural Gas or Propane-fired Emergency Generator, 13 kW (equiv. to 17.4-hp)	Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director’s verbal guidance.
EG13	West Bulk Gas Propane-fired Emergency Generator, 13 kW (30 hp @ 3,600 rpm)	Internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 as per Director’s verbal guidance.

The Natural Gas Boilers (SB1, SB2, and SB3) are each less than 10 MMBTU/hr. 45CSR§10-10.1 exempts them from Sections 3 and 6 through 8 of 45CSR10. Therefore, there are no applicable requirements from this rule.

4. **40 C.F.R. Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.** This MACT applies to stationary RICE, which according to §63.6675 is not mobile. According to the application, the generators identified by Emission Unit IDs EG6 and EG11 are moveable by hand and do not stay in one location for more than 12 months; therefore, this regulation does not apply to these generators.
5. **40 C.F.R. Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.** This regulation applies to compression ignition internal combustion engines constructed after July 11, 2005 (cf. 40 C.F.R. §60.4200(a)(2)) and is not applicable to Technology Park Operations as there are no stationary compression ignition internal combustion engines under UCC ownership/operational control at the Technology Park Operations.
6. **40 C.F.R. Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.** This regulation applies to stationary spark ignition internal combustion engines manufactured or constructed on or after the various dates specified in 40 C.F.R. §§60.4230(a)(1) through (5). Emergency generators EG6 and EG11 are portable emergency generators manufactured before July 1, 2008 and therefore are not subject to this rule. Emergency Generator EG9 is a stationary generator manufactured prior to July 1, 2008 and has not been modified or reconstructed, therefore EG9 is not subject to 40CFR60 Subpart JJJJ. Emergency Generator EG13 was installed after July 1, 2008 and is subject to 40CFR60 Subpart JJJJ.
7. **40 C.F.R. Part 63 Subpart JJJJJJ – NESHAP for Hazardous Air Pollutants from Industrial, Commercial and Institutional Boilers Area Sources.** This regulation does not apply because the boiler fuel is natural gas (§63.11195(e)).
8. **40 C.F.R. Part 60 Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.** The regulation does not apply to the natural gas fired boilers (SB1, SB2, and SB3) because the maximum design heat input is less than 10 MM BTU/hr.

9. **40 C.F.R. Part 63 Subpart VVVVVV – NESHAP from Chemical Manufacturing Area Sources.** The regulation does not apply as 40CFR§63.11494(c)(3) specifically exempts research and development facilities as defined by the Clean Air Act Section 112(c)(7). By letter dated December 6, 2012 from Mr. John A. Benedict, Director of WVDAQ, it was determined that the PRD Pilot Plant retained its “research or laboratory facility” classification as denoted by Section 112(c)(7) of the 1990 Clean Air Act Amendments and shall remain exempt from Part 63 National Emission Standards for Hazardous Air Pollutants for the selling of scrap resin.
  
10. **45CSR27 — To Prevent and Control the Emissions of Toxic Air Pollutants.** The emissions of Toxic Air Pollutants at this facility are lower than the threshold values in 45CSR27 Table A, so the facility is not subject to the Best Available Technology requirements.

### **Request for Variances or Alternatives**

None

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: October 9, 2020  
Ending Date: November 9, 2020

### **Point of Contact**

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

Jonathan Carney  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
304/926-0499 ext. 41247  
Jonathan.W.Carney@wv.gov

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Response to Comments (Statement of Basis)**

No comments were received.