

West Virginia Department of Environmental Protection
Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Union Carbide Corporation
Technology Park Operations, South Charleston
Group 3 of 3
(Market Development Plant)
R30-03900004-2011

John A. Benedict
Director

Issued: Draft/Proposed • Effective: Draft
Expiration: Draft • Renewal Application Due: Draft

Permit Number: **R30-03900004-2011**
Permittee: Union Carbide Corporation
(A Subsidiary of The Dow Chemical Company)
Facility Name: Technology Park Operations, South Charleston
Permittee Mailing Address: **P.O. Box 8361**
Charleston, WV 25303

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	South Charleston, Kanawha County, West Virginia
Mailing Address:	P.O. Box 8361 South Charleston, WV 25303
Telephone Number:	304-747-7000
Type of Business Entity:	Corporation
Facility Description:	The research and development groups provide technology for the development of new products, process technology for manufacturing, and support for existing products and processes. The activity covered under this Permit is the Market Development Plant.
SIC Codes:	2869
UTM Coordinates:	438.7 km Easting • 4,245.5 km Northing • Zone 17

Permit Writer: Mike Egnor

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Market Development Plant - Organo Metallic Compound Production Unit (OMU2)					
E325	AF4	Product Separation and Recovery Condenser – vents to flare	1991	not applicable	L15
E400	AF4 or AT3	Reactor Recovery Condenser – vents to air or to flare	1991	not applicable	L15 or none
J01	Out of Service (OOS)	C13 Autoclave	1959	500 gallons	
J02	OOS	C13 Condenser	not applicable	not applicable	
J03	OOS	C13 Receiver	not applicable	not applicable	
J04	OOS	C13 Cold Trap	not applicable	not applicable	
J06	OOS	C359 Condenser	not applicable	not applicable	
J08	OOS	C131 Autoclave	1968	100 gallons	
J09	OOS	C131 Condenser	not applicable	not applicable	
J15	OOS	C137 Autoclave	1968	30 gallons	
J20	OOS	C13 Dryer	not applicable	not applicable	
J22	OOS	C132 Crusher	not applicable	not applicable	
J36	AR1	Header/Vacuum Pump	2009	not applicable	
J37	OOS	C13 Decanter	not applicable	not applicable	
J38	OOS	C13 Steam Jets	not applicable	not applicable	
J41	AR1	Header/Vacuum Pump Receiver	2009	20 gallons	
K01	OOS	C13W Scrubber	1991	not applicable	
K02	AT7	Dumping Bag Station	1991	not applicable	K07
K04	AF4 or AR1 or AR9	Tank Solvent 1	1991	1,500 gallons	L15 or none
K05	AF4 or AR1 or AR9 or AT3	Reactor (vents to air or to flare via Condenser E-400)	1991	not applicable	L15 or none

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
K06	AF4	Product Separator and Solvent Recovery (vents to flare via Condenser E-325)	2005	not applicable	L15
K08	AF4 or AR1 or AR9	Hold Tank (aka C13W Holding Tank)	1991	2,000 gallons	L15 or none
K11	OOS	C13PD Condenser	2005	not applicable	
K12	OOS	Vessel C13 WCT	2005	not applicable	
K18	AF4	Solvent 3 Tank	2009	250 gallons	L15
K20	AF4	Tank Solvent 1	2010	120 gallons	L15
KXX	ATX	Containers	not applicable	not applicable	
SPA	AXA	T6392-28832 (storage tank)	1980	6,500 gallons	
SP1	AX1	Tank T6395-54 – Solvent 2	1966	2,400 gallons	
SP2	AX2	Tank T6395-53 – Solvent 2	1966	2,400 gallons	
SP3	AXE	T6395-55 (storage tank)	1976	970 gallons	
SP6	AX6	T6395-25894	1983	5,500 gallons	
WEX	AWX	Tank Wagon #X	not applicable	not applicable	
MRRU	not applicable	Glycol Refrigeration System	Prior to 1990	200 tons	
Control Devices					
L15	AF4	Flare	1991	2 million Btus/hr	
K07	AT7	C13W Dump Station Filter or Hardy System Fabric Filter Baghouse Model: BS-3 Control Efficiency: 80%	1991	not applicable	

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2631A	5/8/2009

2.0 General Conditions

2.1 Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2 Acronyms

CAAA	Clean Air Act Amendments	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM₁₀	Particulate Matter less than 10µm in diameter
C.F.R. or CFR	Code of Federal Regulations	pph	Pounds per Hour
CO	Carbon Monoxide	ppm	Parts per Million
C.S.R. or CSR	Codes of State Rules	PSD	Prevention of Significant Deterioration
DAQ	Division of Air Quality	psi	Pounds per Square Inch
DEP	Department of Environmental Protection	SIC	Standard Industrial Classification
FOIA	Freedom of Information Act	SIP	State Implementation Plan
HAP	Hazardous Air Pollutant	SO₂	Sulfur Dioxide
HON	Hazardous Organic NESHAP	TAP	Toxic Air Pollutant
HP	Horsepower	TPY	Tons per Year
lbs/hr or lb/hr	Pounds per Hour	TRS	Total Reduced Sulfur
LDAR	Leak Detection and Repair	TSP	Total Suspended Particulate
m	Thousand	USEPA	United States Environmental Protection Agency
MACT	Maximum Achievable Control Technology	UTM	Universal Transverse Mercator
mm	Million	VEE	Visual Emissions Evaluation
mmBtu/hr	Million British Thermal Units per Hour	VOC	Volatile Organic Compounds
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
 - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the permit shield.
 - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
 - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

- 2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:
- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

- 2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

[45CSR§30-5.1.f.2.]

2.17. Emergency

- 2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

[45CSR§30-5.7.a.]

- 2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.

[45CSR§30-5.7.b.]

- 2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The permitted facility was at the time being properly operated;
- c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

- 2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[45CSR§30-5.7.d.]

- 2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

- 2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

- 2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically

identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.

[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide 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. Part 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. When emissions on an annual basis of one or more of the greenhouse gases listed below are greater than the *de minimis* amounts listed below, all greenhouse gases emitted above the *de minimis* amounts shall be reported to the Secretary under 45CSR§42-4. (see Section 3.5.):

Greenhouse Gas Compound	tons/year
carbon dioxide	10,000
methane	476
nitrous oxide	32.6
hydrofluorocarbons	0.855
perfluorocarbons	1.09
sulfur hexafluoride	0.42

[45CSR§42-3.1., State-Enforceable only.]

3.2. Monitoring Requirements

N/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.

[WV Code § 22-5-4(a)(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, R13-2631 (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 Enforcement and Permits Review
(3AP12)
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.]

3.5.10. **Greenhouse Gas Reporting Requirements.** When applicable, as determined in permit section 3.1., greenhouse gas emissions shall be reported pursuant to 45CSR§42-4. as follows:

- a. In accordance with a reporting cycle provided by the Secretary, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above *de minimis* amounts in the years specified by the Secretary.

[45CSR§42-4.1., State-Enforceable only.]

- b. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and shall not be required to report biogenic emissions of greenhouse gases.

[45CSR§42-4.2., State-Enforceable only.]

- c. Reports of greenhouse gas emissions submitted to the Secretary under 45CSR§42-4. shall be signed by a responsible official and shall include the following certification statement: “I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry.

[45CSR§42-4.5., State-Enforceable only.]

3.6. Compliance Plan

N/A

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this 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.

45CSR27 – To Prevent and Control the Emissions of Toxic Air Pollutants

The emissions of toxic air pollutants at the facility are lower than the threshold values in 45CSR27 Table A, so the facility is not subject to Best Available Technology requirements.

40 C.F.R. Part 64 - The Union Carbide Corporation’s Technology Park Market Development Processes are not subject to the Compliance Assurance Monitoring (CAM) rule because they are subject to 40 C.F.R. Part 63 Subpart FFFF that was proposed after November 11, 1990.

4.0 Source-Specific Requirements [Organo Metallic Compound Production Unit (OMU2) Process - Market Development Plant]

OMU2 Process		
Emission Unit ID	Emission Point ID	Emission Unit Description
E-325	AF4	Recovery Device
E-400	AF4	Recovery Device
J36	AR9	Header/Vacuum Pump
J41	AR1	Header/Vacuum Pump Receiver
K02	AT7	Bag Dumping Station
K04	AF4 or AR1 or AR9	Tank – Solvent 1
K05	AF4 or AT3 or AR1 or AR9	Reactor
K06	AF4	Product Separation and Solvent Recovery
K08	AF4 or AR1 or AR9	Hold Tank
K18	AF4	Tank – Solvent 3
KXX	ATX	Containers
L15	AF4	Flare
SP1	AX1	Tank – Solvent 2
SP2	AX2	Tank – Solvent 2

4.1. Limitations and Standards

4.1.1. The emissions from the flare, designated as L15, venting through emission point AF4 shall not exceed the limits shown in the following table:

4.1.1. EMISSIONS FROM FLARE L15		
Pollutant	Hourly	Annual*
	lb/hr	TPY
PM ₁₀	0.02	0.07
PM	0.02	0.07
SO ₂	0.01	0.01
NO _x	0.14	0.60
CO	0.74	3.24
VOCs	0.08	0.19
Toluene	0.08	0.19

*Annual emissions are based on operating 8760 hours per year.

[45CSR13, Permit No. R13-2631 - (Condition 4.1.1.) Compliance with this streamlined PM limit assures compliance with 45CSR§6-4.1 (L15)]

4.1.2. The flare, designated as L15, shall be operated continuously when the organo-metallic production unit #2 (OMU2) is operating and VOCs and HAPs are present in the process header that is routed to the flare.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.2.) (L15)]

- 4.1.3. The permittee shall maintain minimum net heating value of 200 Btu/scf (7.45 MJ/scm) or greater for gas stream in the flare gas header routed to the flare, designated as L15.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.3.) (L15)]
- 4.1.4. The permittee shall operate the flare, designated as L15, with a flare gas exit velocity of less than 60 feet per second (18.3 m/sec).
[45CSR13, Permit No. R13-2631 - (Condition 4.1.4.) (L15)]
- 4.1.5. The permittee shall install, operate, maintain and calibrate a monitoring device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting that at least one pilot flame or the flare flame is present for the flare L15.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.5.) (L15)]
- 4.1.6. The flare L15 shall not emit visible particular matter from emission point AF4 greater than or equal to 20% opacity except for visible particular matter emission less than 40% for a period or periods aggregating no more than 8 minutes per start-up.
[45CSR§6-4.3, 45CSR§6-4.4, 45CSR13, Permit No. R13-2631 - (Condition 4.1.6.) (L15)]
- 4.1.7. The permittee shall operate and maintain the bag dumping station, designated as (K02), in such a way that fugitive particular matter is contained and routed to the fabric filter baghouse, designated as (K07).
[45CSR13, Permit No. R13-2631 - (Condition 4.1.7.) (K02, K07)]
- 4.1.8. The fabric filter baghouse, designated as K07, shall not emit visible particulate matter from emission point AT7 greater than 20% opacity except for visible particular matter emission less than 40% for a period or periods aggregating no more than 5 minutes in any 60 minute period.
[45CSR§7-3.1, 45CSR§7-3.2, 45CSR13, Permit No. R13-2631 - (Condition 4.1.8.) (K07)]
- 4.1.9. The particulate matter and PM₁₀ emission emitted from emission point AT7 shall not exceed 0.17 pounds per hour and 0.74 tons per year.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.9.) (K07)]
- 4.1.10. The condenser (E-325) shall be operated at all times when hazardous air pollutants emissions are vented to the device except when the TRE index is greater than 5.0 and operation of E-325 is not required to meet the MON requirements (ie during process standby).
[45CSR34, 40 C.F.R. § 63.993 (a) (2), 45CSR13, R13-2631, 4.1.10. (E-325)]
- 4.1.11. The VOCs and toluene emissions being emitted from emission point AR9 shall not exceed 0.47 pounds per hour and 34 pounds per year.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.11.) (K04, K05, K08)]
- 4.1.12. The VOC and toluene (HAP) emissions from reactor K05 through emission point AT3 shall not exceed 0.44 pounds per hour and 932 pounds per year.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.12.) (K05)]
- 4.1.13. The VOC emissions (combined) from tank SP1 through emission point AX1 and tank SP2 through emission point AX2 shall not exceed 24 pounds per year.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.13.) (SP1, SP2)]

- 4.1.14. The VOC and total HAP emissions from containers, designated as KXX through emission point ATX shall not exceed 0.29 pounds per hour and 387 pounds per year.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.14.) (KXX)]
- 4.1.15. Compliance with all annual emission limits stated in this permit shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of the emissions by pollutant for the previous twelve (12) consecutive calendar months.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.15.)]
- 4.1.16. To minimize fugitive VOC emissions from process equipment leaks, the permittee shall install and maintain a double seal with a barrier fluid greater than the process fluid, or equivalent design (e.g. diaphragm pumps) on all pumps and agitators in light liquid VOC and/or HAP service associated with the organo-metallic production unit #2.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.16.)]
- 4.1.17. To minimize fugitive emissions from process equipments leaks, the permittee shall conduct pressure testing of the process equipment in accordance with 40 C.F.R. § 63.2480
[45CSR13, Permit No. R13-2631 - (Condition 4.1.17.)]
- 4.1.18. The permittee shall calibrate all monitoring or measuring devices required by this permit, except the monitoring device to detect the presence/absence of the flare pilot flame or flare flame, as required in this permit once every 12 months in accordance with the manufacture's specifications. The device used to monitor the presence of the flare pilot light or flare flame shall be checked annually to confirm proper operation. Records of such calibrations, and checking of the flame sensing device shall be maintained in accordance with Section 3.4.2.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.18.)]
- 4.1.19. Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment (K07 – Filter, L15 - Flare) and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, Permit No. R13-2631 - (Condition 4.1.19.) (K07, L15)]
- 4.1.20. The permittee shall comply with applicable operating limits and standards of 40 C.F.R. Part 63 Subpart FFFF. Limits and standards are listed in Attachment 1.
[45CSR13, R13-2631, Section 4.1.20.]

4.2. Monitoring Requirements

- 4.2.1. For the purpose of demonstrating compliance with 4.1.3, the permittee shall monitor and record, at least once per day when VOCs are present in the flare header vent gas, the natural gas flow rate to the flare. The natural gas flow rate shall be a minimum of 2.5 scfm when VOCs are present in the flare header vent gas. Records of such monitoring shall be maintained in accordance with Condition 3.4.2.
[45CSR13, Permit No. R13-2631 - (Condition 4.2.1.) (L15)]

- 4.2.2. For the purpose of demonstrating compliance with Condition 4.1.4, the process control system shall be equipped with an alarm to signal flare gas header volumetric flow rate that would equate to a velocity of 60 feet per second or higher at the flare tip. The flare gas volumetric flow alarm shall be checked once per year to assure proper operation.
[45CSR13, Permit No. R13-2631 - (Condition 4.2.2.) (L15)]
- 4.2.3. For the purposes of demonstrating compliance with Conditions 4.1.1 and 4.1.2, the permittee shall continuously monitor the presence of either a pilot light or flare flame while VOCs and HAPs are present in the process header that is routed to the flare.
[45CSR13, Permit No. R13-2631 - (Condition 4.2.3.) (L15)]
- 4.2.4. For purposes of demonstrating compliance with 45CSR§6-4.3 and Condition 4.1.6 the permittee shall conduct visible emission checks of each emission point subject to an opacity limit once per month during periods of normal unit operation using 40 C.F.R. 60 Appendix A, Method 22. If during these checks, or at any other time, visible emissions are observed at any emission point and are not immediately corrected, compliance shall be determined by conducting tests in accordance with 40 C.F.R. 60 Appendix A, Method 9 within 48 hours. If the Method 9 test results show the opacity to be greater than the limit, then an evaluation to determine the cause of the exceedance shall be conducted within three (3) days, unless the cause of the exceedance is corrected within 24 hours. If no visible emissions are observed after four consecutive months, visible emission checks shall be conducted each calendar quarter. If any visible emissions are observed during the quarterly emission checks, visible emission checks shall return to being performed each calendar month. Records shall be maintained in accordance with Condition 3.4.2 and shall include all data required by 40 C.F.R. 60 Appendix A, Method 22 or Method 9 test, whichever is appropriate. These records shall include, at a minimum, the date and time of each visible emission check, the visible emissions survey results and, if appropriate, all corrective actions taken.
[45CSR13, Permit No. R13-2631 - (Condition 4.2.4.) (L15)]
- 4.2.5. For the purpose of demonstrating compliance with Conditions 4.1.11 and 4.1.12, the permittee shall monitor and record of the number of batches of product produced, whether each batch was a standard or non-standard batch and other data necessary to determine the amount of VOCs and HAPs emitted.
[45CSR13, Permit No. R13-2631 - (Condition 4.2.5.) (K05)]
- 4.2.6. For the purpose of demonstrating compliance with condition 4.1.13, the permittee shall maintain a record of the quantity of material received and transferred to Tanks SP1 and SP2.
[45CSR13, Permit No. R13-2631, 4.2.6., (SP1, SP2)]
- 4.2.7. For the purpose of demonstrating compliance with condition 4.1.14, the permittee shall maintain records of Solvent 1 and Solvent 3 transfers that result in container emissions directly to the air.
[45CSR13, Permit No. R13-2631, 4.2.7., (KXX)]
- 4.2.8. The permittee shall comply with applicable monitoring requirements of 40 C.F.R. Part 63 Subpart FFFF. Monitoring requirements are listed in Attachment 1.
[45CSR13, R13-2631, Section 4.2.8.]

4.3. Testing Requirements

- 4.3.1. For the purpose of demonstrating compliance with Condition 4.1.17, the permittee shall conduct pressure testing per the provisions of 40 C.F.R. § 63.2480.
[45CSR13, Permit No. R13-2631 - (Condition 4.3.1.)]

- 4.3.2. The permittee shall comply with applicable testing requirements of 40 C.F.R. Part 63 Subpart FFFF. Testing requirements are listed in Attachment 1.
[45CSR13, R13-2631, Section 4.3.2.]

4.4. Recordkeeping Requirements

- 4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all air pollution control equipment identified in Condition 4.1.19 (K07 – Filter, L15 - Flare) and the control measures applied to the pumps and agitators in VOC and/or HAP service associated with the organo-metallic production unit #2, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-2631 – (Condition 4.4.2) (K07, L15)]
- 4.4.2. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment identified in Condition 4.1.19 (K07 – Filter, L15 - Flare) and the control measures applied to the pumps and agitators in VOC and/or HAP service associated with the organo-metallic production unit #2, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
- a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
 - f. Steps taken to correct the malfunction.
 - g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13, Permit R13-2631 – (Condition 4.4.3) (K07, L15)]
- 4.4.3. The permittee shall keep any and all records and reports of testing and monitoring as required in Sections 4.2 and 4.3 in accordance with Section 3.4.2.
[45CSR13, Permit No. R13-2631 - (Condition 4.4.4.)]
- 4.4.4. For the purposes of demonstrating compliance with all of the annual emissions limits stated in Section 4.1, the permittee shall record all necessary data or information to determine the annual emissions from the respective emission point on a per pollutant basis. These records shall be kept in such manner that demonstrates compliance with the annual emission limit that is stated in this permit on a 12 month rolling total basis. All records shall be maintained in accordance with Section 3.4.2.
[45CSR13, Permit No. R13-2631 - (Condition 4.4.5.)]
- 4.4.5. For the purposes of determined compliance with all of the annual emission limits stated within Section 4.1, the permittee shall calculate or determine the 12 month rolling total as defined in 4.1.15 or each emission point by pollutant for each calendar month. The permittee shall submit a compliance report on a semiannual basis. The

periods for these determinations shall run from January 1 to June 30 for the first half and July 1 to December 31 for the second half. These determinations shall be made no later than 60 days after end the respective semi-annual period or as otherwise provided in the 45CSR30 air permit. All records and calculations shall be maintained in accordance with Section 3.4.1.

[45CSR13, Permit No. R13-2631 - (Condition 4.4.6.)]

- 4.4.6. The permittee shall comply with the applicable recordkeeping requirements of 40 C.F.R. 63 Subpart FFFF. Recordkeeping requirements are listed in Attachment 1.
[45CSR13, R13-2631]

4.5. Reporting Requirements

- 4.5.1. The permittee shall comply with the applicable reporting requirements of 40 C.F.R. 63 Subpart FFFF. Reporting requirements are listed in Attachment 1.
[45CSR13, R13-2631, Condition 4.5.1.]

4.6. Compliance Plan

N/A

ATTACHMENT 1

**UNION CARBIDE CORPORATION – TECHNOLOGY PARK
MARKET DEVELOPMENT PLANT - OMU2 PROCESS**

**Monitoring, Testing, Recordkeeping, and Reporting Requirements per
40 C.F.R. Part 63 Subpart FFFF**

Operating Limits and Standards			
Parameter and/or Affected Equipment	Subparts SS, FFFF Citations	Requirements	Compliance Demonstration and/or Comments
Continuous Process Vents (K06/E-325 - Product Separation and Solvent Recovery Process) Group Status Determination	40 C.F.R. § 63.2455 (b)	Designate as Group 1 or determine total resource effectiveness (TRE) index.	Based on engineering calculations TRE Index is 4.82. K06/E-325 is a Group 2 Continuous Process Vent.
Continuous Process Vent - Group 2 (K06/E-325-Product Separation and Solvent Recovery – Recovery Device)	40 C.F.R. § 63.2455 (c) 40 C.F.R. § 63.982 (e) 40 C.F.R. § 63.993 (a) (2)	Except as provided below, recovery device E-325 shall be operated at all times when hazardous air pollutant emissions are vented to the device. Exceptions: - during system breakdowns, repairs, maintenance periods, instrument adjustments or calibration checks. - when operating scenario MDP-OMU2-05 for standby operations is utilized. <i>Comment: During Process Standby Operating Scenario # MDP-OMU2-05, the TRE Index is greater than 5.0 and operation of E-325 is not required to meet MON requirements.</i>	Continuously monitor and record condenser vent gas exit (product side) temperature except during Process Standby Operating Scenario # MDP-OMU2-05. Group 2 continuous vent TRE Index greater than 1.9 but less than 5.0.
Batch Process Vents Group Status – Operating Scenario #MDP-OMU2-01 (Production Steps)	40 C.F.R. §§ 63.2460 (a) and (b)	Determine uncontrolled HAP emissions from each batch vent using procedures in 40 C.F.R. §§ 63.1257 (d) (2) (i) and (ii)	Uncontrolled emissions were documented per requirements. See Attachment N of the R13-2631A and Title V SM02 application. Group 2 - Uncontrolled emissions are greater than 200 lbs/yr but less than 10,000 lbs/yr when combined with other batch process vents in common header

Operating Limits and Standards			
Parameter and/or Affected Equipment	Subparts H, FFFF Citations	Requirements	Compliance Demonstration and/or Comments
Batch Process Vents Group Status – Operating Scenario #MDP-OMU2-02 (Equipment Washes)	40 C.F.R. §§ 63.2460 (a) and (b)	Determine uncontrolled HAP emissions from each batch vent using procedures in 40 C.F.R. §§ 63.1257 (d) (2) (i) and (ii)	Uncontrolled emissions were documented per requirements. See Attachment D of the R13-2631A application. Group 2 - Uncontrolled emissions are greater than 200 lbs/yr but less than 10,000 lbs/yr when combined with other batch process vents in common header
Batch Process Vent – Group 2 – Equipment Washes (K05/E400 Reactor/Condenser)	40 C.F.R. §§ 63.2460 (c) (1), (c) (2) (v); 63.1257 (d) (2) (i) (C) (4) (ii), 63.1257 (d) (3) (iii) (B)	Conduct one-time demonstration that Condenser E400 is working properly (during boiling operations) – i.e. exhaust gas temperature is less than boiling or bubbling point.	To be completed within 180 days of commencement of operation.
Batch Process Vents - Operating scenarios	40 C.F.R. §§ 63.2525 (b) and (c)	Maintain a schedule or log of operating scenarios, updated each time a new operating scenario is put into operation	See recordkeeping section.
Equipment Leaks, General	40 C.F.R. § 63.2480 (a) – Table 6 of Subpart FFFF 40 C.F.R. §§ 63.2480 (b) (1) and (2) 40 C.F.R. §§ 63.178 (a) and (b)	Conduct a pressure test of each process train at least annually. <ul style="list-style-type: none"> Pressure testing for leaks is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment. 	The facility will comply with the requirements for equipment leaks by following Subpart H, Pressure Testing Alternative.
Equipment Leaks, Pressure Relief Devices in Gas/Vapor Service	40 C.F.R. §§ 63.178 (b) (1) and (2) 40 C.F.R. § 63.165	Pressure relief devices shall be operated with an instrument reading of 500 ppm or less above background.	UCC interprets this requirement as being applicable to pressure relief devices that are not part of process equipment train that is checked for leaks using pressure testing. If a pressure relief device opens to prevent an un-safe operating condition, the process equipment train will be pressure tested within 5 days of the release or return to operation,
Equipment Leaks, Sampling Connection Systems	40 C.F.R. §§ 63.178 (b) (1) and (2) 40 C.F.R. § 63.166	Each sampling system shall be equipped with a closed-purge, closed-loop, and system.	Sample purges will be collected for disposal by an approve facility.

Operating Limits and Standards			
Parameter and/or Affected Equipment	Subparts F, SS, FFFF Citations	Requirements	Compliance Demonstration and/or Comments
Equipment Leaks, Open-ended Lines or Valves	40 C.F.R. §§ 63.178 (b) (1) and (2) 40 C.F.R. § 63.167	Each open-ended line or valve shall be equipped with a cap, blind, flange, purge, or a second valve unless otherwise allowed by 40 C.F.R. §§ 63.167 (c) through (e)	Implement work practice standard.
Maintenance Wastewater	40 C.F.R. § 63.105; 40 C.F.R. § 63.2525 (a)	Develop and maintain a plan for minimizing HAP emissions during maintenance activities including startup, shutdown and malfunctions.	See recordkeeping section.
Continuous Parameter Monitoring System (CPMS) for Continuous Process Vent - Group 2 (K06/E-325-Product Separation and Solvent Recovery – Recovery Device)	40 C.F.R. §§ 63.996 (c) (1), (c) (4) and (5)	Except as provided below, the CPMS for Condenser (E-325) vent gas exit (product side) temperature shall be in continuous operation when hazardous air pollutant emissions are being routed to the recovery device. Measurements must be representative of the monitoring activity. Exceptions: - during system breakdowns, repairs, maintenance periods, instrument adjustments or calibration checks. - when operating scenario MDP-OMU2-05 for standby operations is utilized.	Maintain continuous monitoring records. Good engineering practices will be used for installation of the condenser vent gas temperature monitoring device.
Continuous Parameter Monitoring System (CPMS) for Continuous Process Vent - Group 2 (K06/E-325-Product Separation and Solvent Recovery – Recovery Device)	40 C.F.R. § 63.6 (e) (3) 40 C.F.R. § 63.2525 (j)	Maintain a plan for minimizing emissions of hazardous air pollutants during Product Separation and Solvent Recovery System (K06/E-325) startup, shutdown and malfunction events.	Startup, shutdown, and malfunction plan (SSMP) to be maintained in Plant files.

Monitoring			
Parameter and/or Affected Equipment	Subparts SS, FFFF Citations	Requirements	Compliance Demonstration and/or Comments
Continuous Process Vent - Group 2 (K06/E-325-Product Separation and Solvent Recovery – Recovery Device)	40 C.F.R. § 63.2455 (c) 40 C.F.R. § 63.993 (c) (2) 40 C.F.R. §§ 63.996 (c) (1) – (6)	Continuously monitor Condenser E-325 vent gas exit (product side) temperature. Condenser (E-325) vent gas temperature CPMS must be installed, calibrated, operated and maintained per manufacturer’s specification. Establish a range for proper operation and submit information (range, justification and operating cycles) with Notification of Compliance status.	Condenser vent gas exit temperature will be monitored using a thermocouple. Information regarding CPMS installation, calibration, operation and maintenance will be maintained in the Plant files. See NOCS for range of proper operation. A data acquisition and handling system will be used to record product side temperature in accordance with 40 C.F.R. § 63.998 (b).

Recordkeeping			
Parameter and/or Affected Equipment	Subparts A, G, SS, FFFF Citations	Requirements	Compliance Demonstration and/or Comments
	General Provisions 40 C.F.R. § 63.10 (b) (1)	Maintain required records for five years except as otherwise provided by this permit.	Documentation to be maintained in Plant files.
	40 C.F.R. § 63.2520 (d)	Maintain a copy of all compliance reports and any subsequent addendums or revisions.	Documentation to be maintained in Plant files.
Initial Applicability Determination	40 C.F.R. § 63.2435 (a)-(b) 40 C.F.R. § 63.2455 (b), 40 C.F.R. § 63.115 (d) 40 C.F.R. § 63.2515 (b)	Maintain records and supporting documentation to determine MON applicability to process equipment and operations.	Documentation to be maintained in Plant files.
Batch Process Vents - Operating scenarios	40 C.F.R. §§ 63.2525 (b) and (c)	Keep record of each operating scenario and a schedule or log of operating scenarios, updated each time a new operating scenario is put into operation	Documentation to be maintained in Plant files.
Group 2 Batch Process Vents (K04 Solvent Tank) (K05 Reactor) (K08 Hold Tank) (K18 Solvent Tank) (Group 2 Batch Process Vents are uncontrolled emissions greater than 200 lbs/yr but less than 10,000 lbs/yr)	40 C.F.R. § 63.2525 (e)	Record the following information for Group 2 batch process vents: <ul style="list-style-type: none"> • Day batch was completed • If batch was standard or non-standard • The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch. • Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly. 	Documentation to be maintained in Plant files.
Safety Relief Device	40 C.F.R. § 63.2525 (f), 40 C.F.R. § 63.2450 (p)	Record each time a safety relief device opens to the air to avoid unsafe condition	Documentation to be maintained in Plant files.

Recordkeeping			
Parameter and/or Affected Equipment	Subpart SS, FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Continuous Monitoring Parameter System (CPMS) Vent Gas (Product Side) Exit Temperature Measurement for Recovery Device (E-325)	40 C.F.R. § 63.2450 (k) 40 C.F.R. §§63.998 (b) (1) - (3)	<ul style="list-style-type: none"> • Except as otherwise provided by this permit, record Condenser E-325 vent gas exit operating temperature at least once every 15 minutes or as otherwise specified below <ul style="list-style-type: none"> i) A record of values measured at least once every 15 minutes or each measured value for systems which measure more frequently than once every 15 minutes; or ii) A record of block average values for 15-minute or shorter periods calculated from all measured data values during each period or from at least one measured data value per minute if measured more frequently than once per minute. iii) Where data is collected from an automated continuous parameter monitoring system, the owner or operator may calculate and retain block hourly average values from each 15-minute block average period or from at least one measured value per minute if measured more frequently than once per minute, and discard all but the most recent three valid hours of continuous (15-minute or shorter) records, if the hourly averages do not exclude periods of CPMS breakdown or malfunction. An automated CPMS records the measured data and calculates the hourly averages through the use of a computerized data acquisition system. • Record the daily average product side operating temperature. 	A data acquisition and handling system will be used to record condenser vent exit gas temperature in accordance with 40 C.F.R. § 63.998 (b)

Recordkeeping			
Parameter and/or Affected Equipment	Subparts SS, FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Continuous Monitoring Parameter System (CPMS) Product Side Exit Temperature Measurement for Recovery Device (E-325)	40 C.F.R. § 63.2525 (g) 40 C.F.R. § 63.2450 (k) (1) 40 C.F.R. § 63.998 (a) (3) 40 C.F.R. § 63.998 (b) (1), (2), and (3) 40 C.F.R. § 63.998 (c) (1) 40 C.F.R. § 63.998 (c) (3) (i) 40 C.F.R. § 63.998 (c) (3) (ii)	Record the following information for Condenser E-325 exit vent gas temperature monitoring device <ul style="list-style-type: none"> • The procedure used for calibrating. • The date and time of completion of calibration and preventive maintenance. • The “as found” and “as left” CPMS readings, whenever an adjustment is made that affects the CPMS reading and a “no adjustment” statement otherwise • The start time and duration (or start and stop times) of any periods when the CPMS is inoperative • The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur. • Documentation of whether procedures specified in the startup, shutdown, and malfunction plan were followed for each startup, shutdown, and • malfunction during which excess emissions occurred. • Documentation of each startup, shutdown, and malfunction event. • Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable. • The total duration of operating time during the reporting period. • Record the daily average for periods when the condenser exist vent gas temperature limit is exceeded. 	Documentation to be maintained in Plant files.

Recordkeeping			
Parameter and/or Affected Equipment	Subparts H, FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Equipment Leaks, General	40 C.F.R. § 63.2525 (a) 40 C.F.R. §§ 63.181 (e) (1)-(e) (6);	Maintain records of the following information: <ul style="list-style-type: none"> ● The identification of each product or product code produced. ● Process equipment subject to the MON identified on a plant site plan, in log entries, or by other appropriate methods. ● The dates of each pressure test, the test pressure, and the pressure drop observed during the test. ● Records of any visible, audible, or olfactory evidence of fluid loss for equipment in hazardous air pollutant service. ● When a process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years: <ul style="list-style-type: none"> - The date of each pressure test and the date of each leak repair attempt. - Repair methods applied in each attempt to repair the leak. - The reason for the delay of repair. - The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment. - The date of successful repair. 	Documentation to be maintained in Plant files.

Reporting			
Parameter and/or Affected Equipment	Subpart FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Notification of Compliance Status (NOCS)	40 C.F.R. § 63.2520 (d) 40 C.F.R. § 63.2520 (e)	Maintain a copy of the initial NOCS report and supporting documentation and any subsequent revisions.	Revised NOCS provided in Section T of permit application.
Schedule of Reports	40 C.F.R. § 63.2520 (b) and Table 8 of Subpart FFFF	Semi-annual compliance reporting periods . First reporting period begins on the compliance date and extends to June 30 or December 31; whichever is later (thus the first reporting period is longer than 6 months).	Submit reports within 60 days of each calendar half or as otherwise allowed by Regulation 30 operating permit.
Semi-annual Compliance Report Required Information General	40 C.F.R. § 63.2520 (e)	The report shall include company name, compliance certification and reporting period covered.	To be provided in semi-annual compliance report.
Semi-annual Compliance Report Required Information Continued, SSM Events	40 C.F.R. § 63.2520 (e) (4)	For each SSM event that caused excess emissions of hazardous air pollutants, report whether the actions were consistent with the SSMP procedures and a brief discussion of each malfunction.	To be provided in semi-annual compliance report.

Reporting			
Parameter and/or Affected Equipment	Subpart FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Semi-annual Compliance Report Required Information Continued, Deviations	40 C.F.R. § 63.2520 (e) (5)	<p>Report any deviation from emission limits, operating limit, or work place standard of applicable Subpart FFF provisions.</p> <p>For the CPMS used to monitor and record Condenser E-325 vent gas exit temperature, report the following information if a deviation of an emission limit or operating limit occurs:</p> <ul style="list-style-type: none"> - date and time that CPMS inoperative. - date and time that each deviation started and stopped and whether each deviation occurred during a period of SSM. - a summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the process. - a breakdown of the total duration of the deviations of the process that are due to startup, shutdown, process problems, other known causes, and other unknown causes. - a summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the operating time. - identify the HAPs in the emission stream. - the operating day average value of the condenser vent exit gas temperature for each day when the deviation occurred. 	To be provided in semi-annual compliance report.

Reporting			
Parameter and/or Affected Equipment	Subpart FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Semi-annual Compliance Report Continued, Operating scenarios	40 C.F.R. § 63.2520 (e) (7)	Submit each new operating scenario implemented during the reporting period	To be provided in semi-annual compliance report.
Semi-annual Compliance Report Continued, Process Unit groups	40 C.F.R. § 63.2520 (e) (8)	Submit records of any new or re-determination of process unit group	To be provided in semi-annual compliance report.
Semi-annual Compliance Report Equipment Leaks	40 C.F.R. § 63.2520 (e) (9)	Report the following : (1) Batch product process equipment train identification; (2) The number of pressure tests conducted; (3) The number of pressure tests where the equipment train failed the pressure test; (4) The facts that explain any delay of repairs.	To be provided in semi-annual compliance report.

Reporting			
Parameter and/or Affected Equipment	Subpart FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Semi-annual Compliance Report Process Changes	40 C.F.R. § 63.2520 (e) (10)	Report the following information: <ul style="list-style-type: none"> • A process change, or change any of the information submitted in the NOCS report or a previous compliance report, that is not within the scope of an existing operating scenario. A process change does not include moving within a range of conditions identified in the standard batch, and a nonstandard batch • Other process change or changes (except for Group 2 vent becoming a Group 1 vent) in any of the information submitted in the NOCS report or a previous report changes, that is not within the scope of an existing operating scenario. The report must include the following information : <ul style="list-style-type: none"> - A description of the process change. - Revisions to any of the information reported in the original notification of compliance status report. - Information required by the notification of compliance status report for changes involving the addition of processes or equipment at the affected source. 	To be provided in semi-annual compliance report.

Reporting			
Parameter and/or Affected Equipment	Subpart FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Semi-annual Compliance Report Other Process Changes	40 C.F.R. § 63.2520 (e) (10), continued	Submit a report 60 days before the scheduled implementation date any change from Group 2 to Group 1. The report must include the following information : - A description of the process change. - Revisions to any of the information reported in the original notification of compliance status report. - Information required by the notification of compliance status report for changes involving the addition of processes or equipment at the affected source.	Management of Change Procedure. Submit report within time frame of regulatory provision.
Semi-annual Compliance Report CPMS Exit (Product Side Temperature for Recovery Device (E-325)	40 C.F.R. § 63.999 (c) (1) Periodic reports	CPMS report for shall include dates, total source operating time and information identified in specified subpart when parameter outside range.	To be provided in semi-annual compliance report.
Semi-annual Compliance Report CPMS Vent Gas Exit (Product Side) Temperature for Recovery Device (E-325)	40 C.F.R. § 63.2520 (d) (2)	Submit the result of Condenser E-325 TRE Index evaluation as an addendum to Notification of Compliance Status Report with the semi-annual compliance report or within 60 days following completion of vent measurements, whichever is later.	
Batch Process Vent – Group 2 – Equipment Washes (K05/E400 Reactor/Condenser)	40 C.F.R. §§ 63.2460 (c) (1), (c) (2) (v); 40 C.F.R. § 63.1257 (d) (2) (i) (C) (4) (ii), 40 C.F.R. § 63.1257 (d) (3) (iii) (B)	Include the one-time initial demonstration that Condenser E-400 is properly operated in the Notification of Compliance Status Report	To be submitted in semi-annual compliance report.

Testing			
Parameter and/or Affected Equipment	Subpart FFFF Citation	Requirements	Compliance Demonstration and/or Comments
Continuous Process Vent - Group 2 (K06/E-325-Product Separation and Solvent Recovery – Recovery Device	40 C.F.R. § 63.2455 (b) 40 C.F.R. § 63.115 (d) (ii)	Perform the following measurements for the representative operating condition expected to yield the lowest TRE index value for Condenser E-325 exit vent gas: <ul style="list-style-type: none">• vent stream flow rate• net vent stream heating value• total organic carbon emission rate• total organic HAP emission rate	Report submitted by cover letter dated 6/21/2010. No further action required.