West Virginia Department of Environmental Protection

Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Construct

R13-3308

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
Union Carbide Corporation
South Charleston Site
039-00003

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William F. Durham
Director

Issued: DRAFT

Facility Location:	437 MacCorkle Avenue South West South Charleston, Kanawha County, West Virginia
Mailing Address:	P.O. Box 8361 South Charleston, WV 25303
Facility Description:	Chemical Manufacturing Facility
NAICS Codes:	325199
UTM Coordinates:	440.026 km Easting • 4,246.927 km Northing • Zone 17
Permit Type:	Construction
Description of Change:	This action is for the construction of a treatment process unit to process contaminated groundwater.

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.

The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
MIGCS	MIGCS1	Ground Water Containment System	2017	100 gpm	MIGCS CO
MIGCS CO	MIGCS1	Anguil Model OA10 (Electric Catalytic Oxidizer)	2017	600 scfm	None

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.

2.2. 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	**$PM_{2.5}$**	Particulate Matter less than 2.5 µm in diameter
C.F.R. *or* CFR	Code of Federal Regulations		
CO	Carbon Monoxide	**PM_{10}**	Particulate Matter less than 10µm in diameter
C.S.R. *or* CSR	Codes of State Rules		
DAQ	Division of Air Quality	**Ppb**	Pounds per Batch
DEP	Department of Environmental Protection	**Pph**	Pounds per Hour
		Ppm	Parts per Million
dscm	Dry Standard Cubic Meter	**Ppm_V or ppmv**	Parts per Million by Volume
FOIA	Freedom of Information Act		
HAP	Hazardous Air Pollutant	**PSD**	Prevention of Significant Deterioration
HON	Hazardous Organic NESHAP		
HP	Horsepower	**Psi**	Pounds per Square Inch
lbs/hr	Pounds per Hour	**SIC**	Standard Industrial Classification
LDAR	Leak Detection and Repair		
M	Thousand	**SIP**	State Implementation Plan
MACT	Maximum Achievable Control Technology	**SO_2**	Sulfur Dioxide
		TAP	Toxic Air Pollutant
MDHI	Maximum Design Heat Input	**TPY**	Tons per Year
MM	Million	**TRS**	Total Reduced Sulfur
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**TSP**	Total Suspended Particulate
		USEPA	United States Environmental Protection Agency
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour		
		UTM	Universal Transverse Mercator
NA	Not Applicable	**VEE**	Visual Emissions Evaluation
NAAQS	National Ambient Air Quality Standards	**VOC**	Volatile Organic Compounds
		VOL	Volatile Organic Liquids
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*;

2.3.2. 45CSR14 – *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration;*

2.4. Term and Renewal

2.4.1. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3308, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 10.3.]

2.5.2. 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;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

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 administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records 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.

2.7. Duty to Supplement and Correct Information

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.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

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; and

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.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable 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.

2.12.2. 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 Section 2.12.3 are met.

2.12.3. 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. 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 must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

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

2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should 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.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

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

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1.]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

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 defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency 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, suffer, allow or permit 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.
[40CFR§61.145(b) and 45CSR§34]

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. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **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.]

3.2. Monitoring Requirements

[Reserved]

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 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as 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. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information

includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **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§4. *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.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** 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, or mailed first class 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
Charleston, WV 25304-2345

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

3.5.4. Operating Fee

3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, 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. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal

requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. The permittee shall comply with the following requirements for the Middle Island Groundwater Containment System (MIGCS):

a. The average total volatile organic hazardous air pollutant (VOHAP) of the contaminated groundwater entering the system shall not exceed 500 ppmw on a monthly basis. The monthly average total VOHAP concentration shall be determined using no less than four samples collected during each calendar month. Such sampling and analysis shall be conducted in accordance with Condition 4.2.1.
[40 CFR 63.7886(b)(2) &63.7943(b)(1)(ii)]

b. The groundwater flow rate into the MIGCS shall not exceed an average monthly flow rate of 50 gpm with no individual hourly rates greater than 100 gpm.

c. Each piece of equipment of the MIGCS except for the horizontal contact beds shall be equipped with a cover vent that routes all vapors and gases from the piece of equipment to a the MIGCS CO through a closed-vent system. This closed vent system shall route these vapors and gases to the MIGCS without any by-passes or pressure relief devices. This closed-vent system shall be operated and maintained to one of the following standards:

i. A closed-vent system that is designed to operate with no detectable organic emissions using the procedure specified in 40 CFR §63.694(k); or

ii. A closed-vent system that is designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

d. The permittee shall make first efforts at repair of the defect or detected leak no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as allowed under item e. of this condition.

e. Delay of repair (DOR) of the closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process shutdown or if the permittee determines that emissions resulting from the immediate repair would be greater than the fugitive emissions likely to result from the DOR. Repair of such equipment shall be complete by the end of the next process shutdown.

f. The horizontal contact beds of the MIGCS shall be covered by a membrane. The floating membrane cover shall be designed to float on the liquid surface during normal operations, and form a continuous barrier over the entire surface area of the liquid.

i. The cover shall be fabricated from a synthetic membrane material that is either:

1. High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

2. A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in Condition 4.1.c.1.; and chemical and physical properties that maintain the material integrity for the intended service life of the material.

3. The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

4. Except as provided for in Condition 4.1.1.f.i.5., each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

5. The membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

6. The closure devices shall be made of suitable materials that will minimize exposure of the regulated-material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

g. The aerating air for the Cascade Aerator shall be optimized to minimize the amount of VOHAP being stripped out of the groundwater with a flow rate of no greater than 475 standard cubic feet per minute.

h. The concentration of VOHAP in the outlet of the MIGCS shall be no greater than 10 ppmw.

4.1.2. The permittee shall operate and maintain the control device MIGCS CO for the MIGCS unit in accordance with the following emission limitations and operating parameters.

a. Emissions of VOC from MIGCS shall not exceed 0.65 pounds per hour. Annual VOC emissions from the MIGCS CO shall not exceed 1.85 tons per year.

b. Total hazardous air pollutants (HAPs), which include BTEX, from the flare shall not exceed 0.69 pounds per hour. Annual HAP emissions from the MIGCS CO shall not exceed 1.92 tons per year.

c. Emissions of NO_x from MIGCS shall not exceed 0.01 pounds per hour. Annual NO_x emissions from the MIGCS CO shall not exceed 0.04 tons per year.

d. Emissions of CO from MIGCS shall not exceed 0.01 pounds per hour. Annual CO emissions from the MIGCS CO shall not exceed 0.04 tons per year.

e. Particulate matter emissions from the MIGCS CO shall not exceed 0.01 pounds per hour. Compliance with this limit is satisfied by complying with requirements of Condition 4.1.2.f. **[45 CSR §6-4.3.]**

f. The effluent routed to MIGCS CO shall not contain hydrogen sulfide greater than 50 grains per 100 cubic feet of gas. Compliance with this limit shall be sampling of the inlet to the MIGCS for sulfur containing compounds. **[45 CSR §10-5.1.]**

g. The permittee shall operate and maintain MIGCS CO in a manner to achieve at the minimum, 95% destruction efficiency for VOCs and volatile HAPs or an outlet concentration of 20 ppm. Such operation of the control device shall constitute the following:

i. MIGCS CO shall not exhibit any visible emissions, expect for periods not to exceed a total of 5 minutes during two consecutive hours.
[45 CSR §6-4.3.]

ii. The permittee shall operate the MIGCS at all times with the daily average temperature difference across the catalyst bed greater than or equal to the daily average minimum temperature difference established during performance testing. Until the permittee establishes the minimum temperature difference across the catalyst bed, the MIGCS CO shall be operated with a daily average temperature difference of no less than 420^0 F.

iii. The actual flowrate of effluent to MIGCS CO shall not exceed 1,000 standard cubic feet per minute, which is the maximum flowrate rated by the manufacturer.

4.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 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.
[45CSR§13-5.11.]

4.2. Monitoring Requirements

4.2.1. For the purpose of demonstrating compliance with Condition 4.1.1.a., the permittee shall determine the average total VOHAP concentration of a remediation material using direct measurement on a monthly basis. The permittee shall use the following procedures:

a. Sampling. Samples of each material stream must be collected from the container, pipeline, or other device used to deliver each material stream prior to entering the remediation material management unit or treatment process in a manner such that volatilization of organics contained in the sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

i. The monthly averaging period to be used for determining the average total VOHAP concentration for the material stream on a mass-weighted average basis must be designated and recorded.

ii. No less than four samples must be collected to represent the complete range of HAP compositions and HAP quantities that occur in each material stream during the entire averaging period due to normal variations in the material stream(s). Examples of such normal variations are variation of the HAP concentration within a contamination area.

iii. All samples must be collected and handled according to written procedures you prepare and document in a site sampling plan. This plan must describe the procedure by which representative samples of the material stream(s) are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan must be maintained on site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures according to the guidance

found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 or Method 25D in 40 CFR part 60, Appendix A.

b. Analysis. Each collected sample must be prepared and analyzed according to either one of the methods listed in 40 CFR §63.694(b)(2)(ii), or any current EPA Contracts Lab Program method (or future revisions) capable of identifying all the HAP in Table 1 of Subpart GGGGG of Part 63.

c. Calculations. The average total VOHAP concentration ($\bar{C}$) on a mass-weighted basis must be calculated by using the results for all samples analyzed according to item b of this condition and Equation 4.2.1.c. as follows:

$$\bar{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n}(Q_i \times C_i) \quad \text{(Equation 4.2.1.c.)}$$

Where:

$\bar{C}$ = Average VOHAP concentration of the material on a mass-weighted basis, ppmw.

i = Individual sample "i" of the material.

n = Total number of samples of the material collected (at least 4 per stream) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of material stream represented by Ci, kilograms per hour (kg/hr).

Q_T = Total mass quantity of all material during the averaging period, kg/hr.

C_i = Measured VOHAP concentration of sample "i" as determined according to the requirements of paragraph (b)(2) of this section, ppmw.

Records of such sampling and analysis to shall be maintain in accordance with Condition 3.4.1. **[40 CFR §63.7943(b)]**

4.2.2. The permittee shall continuously measure and record the water flow rate into the MIGCS for the purposed of demonstrating compliance with Condition 4.1.1.b. The permittee shall take four reading (once every 15 minutes) in equal time intervals for each hour. Using these readings, the permittee shall develop an hourly flow rate. Every hourly flow rate shall be used to determine the average monthly flow rate to demonstrate compliance with the limit. The permittee shall substitute each missing hour with the maximum design flow rate of the MIGCS in the determining the average monthly flow rate. Records of such every reading, calculations used to determine the hourly rate and average monthly rates to shall be maintain in accordance with Condition 3.4.1.

4.2.3. The permittee shall continuously measure and record the hourly temperatures at the inlet of the catalyst bed and outlet of the catalysis bed for the purpose of determine the daily average temperature difference across the catalyst bed of the MIGCS CO. These hourly temperature readings shall be used to determine the hourly and daily average temperature difference across the catalysis bed. Records of such every reading, calculations used to determine the hourly and daily average temperature differences to shall be maintain in accordance with Condition 3.4.1.

4.2.4. For the purpose of demonstrating proper operation of MIGCS CO, the permittee shall conduct a visible emission observation using Section 11 of Method 22 for one hour once every calendar quarter in which the dehydration unit operates. If during the first 30 minutes of the observation there were no visible emissions observed, the permittee may stop the observation.

If at the end of the observation and visible emission were observed for more than 2.5 minutes, then the permittee shall follow manufacturer's repair instructions, if available or best combustion

engineering practice as outline in the unit inspection and maintenance plan. To return the flare to compliant operation, the permittee shall repeat the visible emission observation. Records of such monitoring and repair activities shall be maintained in accordance with Condition 3.4.1.

4.2.5. For the purposes of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.1.c.i., the permittee shall conduct the following:

a. Conduct an initial inspection for initial compliance of Condition 4.1.1.c.i. within 180 days of start-up of the MIGCS. This inspection shall be conduction using procedure outline in 40 CFR §63.694(k) and Method 21 of 40 CFR Part 60, Appendix A.

b. After the conducting the initial inspection:

i. Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air emissions. The permittee shall monitor a component or connection using the procedures specified in 40 CFR §63.694(k) to demonstrate that it operates with no detectable organic emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

ii. Closed-vent system components or connections other than those specified in Condition 4.2.5.c.i., shall be monitored at least once per year using the procedures specified in 40 CFR §63.694(k) to demonstrate that components or connections operate with no detectable organic emissions.

iii. The permittee shall conduct install, continuously operate and maintain a continuously monitoring system that monitor and record either the instantaneous data value at least once every 15 minutes or an average value for intervals of 15 minutes or less that the close vent system

c. The permittee shall make first efforts at repair of the defect or detected leak no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection.

d. Delay of repair (DOR) of the closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process shutdown or if the permittee determines that emissions resulting from the immediate repair would be greater than the fugitive emissions likely to result from the DOR. Repair of such equipment shall be complete by the end of the next process shutdown.

e. Records of such inspections shall be maintained in accordance with 3.4.1.

4.2.6. For the purposes of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.1.c.ii., the permittee shall conduct the following activities:

a. The owner or operator shall visually inspect the closed-vent system to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping; loose connections; or broken or missing caps or other closure devices.

b. The owner or operator must perform an initial inspection following installation of the closed-vent system. Thereafter, the permittee must perform the inspections at least once every calendar year.

c. In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of Conditions 4.2.5.c. and 4.2.5.d.

d. The permittee shall maintain a record of the inspection in accordance with Condition 3.4.1.

4.2.7. For the purposes of demonstrating compliance with Condition 4.1.1.h., the permittee shall sample and analyze the outlet of the MIGCS within 12 months after startup of the MIGCS and annual thereafter to determine the total VOHAP concentration. Annual shall mean between eleven (11) and thirteen (13) months. Such sampling and analytical analysis shall be conducted in accordance with the appropriate procedures outline in Condition 4.2.1. Records of such sampling and analysis be maintained in accordance with Condition 3.4.1.

4.3. Testing Requirements

4.3.1. For the purposes of demonstrating proper operation of the MIGCS CO (catalytic oxidizer), the permittee shall conduct an initial performance test within 180 days after initial startup of the flare. The permittee shall conduct a Method 22 of Appendix A to Part 60 to determine if the flare is operating within compliance of Condition 4.1.2.f.i. The observation period for this demonstration is 2 hours. During the observation, the MIGCS shall be operated at 90 percent of the unit's design capacity or the maximum anticipated rate. Such demonstration shall be conducted in accordance with the applicable portions of Condition 3.3.1. Records of such demonstration shall be maintained in accordance with Condition 3.4.1.

4.3.2. For the purposes of demonstrating initial compliance with the VOC, total HAP (to included HCl), NOx, and CO emission limits of Condition 4.1.2., demonstrate compliance with the destruction efficiency requirement of the MIGCS CO in Condition 4.1.2.g. and to established the daily average temperature difference across the catalyst bed in Condition 4.1.2.g.ii., the permittee shall conduct an initial performance test within 180 days after initial startup of the MIGCS. The permittee shall conduct a Method 320 of Appendix A to Part 60, which shall include all other reference methods need to complete shall testing to determine if the MIGCS CO is operating within compliance of Condition 4.1.2. During shall testing, the MIGCS shall be operated at 90 percent of the unit's design capacity or the maximum anticipated rate and records of all operating parameters of the MIGCS and MIGCS CO shall be recorded and included in the test report. Such demonstration shall be conducted in accordance with the applicable portions of Condition 3.3.1. Records of such demonstration shall be maintained in accordance with Condition 3.4.1.

4.3.3. The permittee shall repeat the testing in Condition 4.3.2. within 90 days after determining the VOHAP concentration of third consecutive monthly average is at or above a total VOHAP concentration of 400 ppmw.

4.3.4. For purposes of re-establishing the daily average temperature difference across the catalyst bed in Condition 4.1.2.g.ii., the permittee shall repeat the testing as outlined in Condition 4.3.2.

4.4. Recordkeeping Requirements

4.4.1. **Record of Monitoring.** 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.

4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, 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.

4.5. Reporting Requirements

4.5.1. Any exceedance(s) of the allowable visible emission requirement for the MIGCS CO discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

4.5.4. Any exceedance(s) of the design and operation criteria in Condition 4.1.1 of the MIGCS or Condition 4.1.2. of the MIGCS CO shall be reported in writing to the Director as soon as practicable, but within ten (10) calendar days.

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title _____ _____
(please print or type) Name Title

Telephone No. _____ Fax No. _____

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[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.