

Fact Sheet



For Draft/Proposed Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-03900005-2011**
Application Received: **January 31, 2011**
Plant Identification Number: **03900005**
Permittee: **Union Carbide Corporation**
Facility Name: **Institute Plant**
Business Unit: **EO Catalyst/Glycol Recovery (Group 1 of 5)**
Mailing Address: **P. O. Box 8361, South Charleston, WV 25303**

Physical Location: Institute, Kanawha County, West Virginia
UTM Coordinates: 432.00 km Easting • 4,284.31 km Northing • Zone 17
Directions: From I-64, take the Institute exit, turn right onto State Route 25. Plant is located about ½ mile west on Route 25.

Facility Description

Group 1 of 5 includes the EO Catalyst and Glycol Recovery Plants.

The EO Catalyst Plant manufactures silver impregnated catalyst for use in the production of ethylene oxide and ethylene glycol. Raw materials are delivered to the plant in containers and tank trucks; and then stored in tanks. These process materials are combined and then sent to a reactor. The processing materials are recovered and the product is sent to storage. The product is shipped in containers. Heat for the process operations is provided by a natural gas heater (F-306).

The Glycol Recovery Plant processes byproduct ethylene glycol and propylene glycol to remove water and other light boilers and then refines the ethylene glycol and propylene glycol into a final product. Water and other light boilers, including methanol, are separated for reprocessing or sent to the wastewater treatment unit. The final ethylene glycol and propylene glycol product is stored in unit tanks prior to shipment.

Emissions Summary

EO Catalyst/Glycol Recovery (Group 1 of 5) Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2010 Actual Emissions
Carbon Monoxide (CO)	1.7	0.3
Nitrogen Oxides (NO _x)	38	3
Particulate Matter (PM _{2.5})	6.3	0.3
Particulate Matter (PM ₁₀)	6.3	0.3
Total Particulate Matter (TSP)	6.3	0.3
Sulfur Dioxide (SO ₂)	1.2	< 0.1
Volatile Organic Compounds (VOC)	59	13

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2010 Actual Emissions
Acetaldehyde	0.1	0.07
Diantimony Trioxide	0.01	< 0.01
Diethyl Ether	0.01	< 0.01
Ethylene Glycol	32	8
Ethylene Oxide	0.6	0.2
Methanol	3.0	0.6

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

Note: In the Fact Sheet for the initial Title V Permit for Group 1 of 5, Union Carbide Corporation listed 0.10 tons per year of potential hydrogen chloride emissions in the hazardous air pollutant section of the table. The 2004 actual emissions for hydrogen chloride were listed as 0 tons per year. For the Title V Permit renewal, hydrogen chloride emissions were not included in the table above. Hydrogen chloride is no longer used by either the EO Catalyst or Glycol Recovery Plants and there is no longer a potential to emit for this HAP.

Title V Program Applicability Basis

Due to the facility-wide potential to emit 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Union Carbide Corporation's Institute Plant is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

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

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

Federal and State:	45CSR2	Control of particulate matter from indirect heat exchangers.
	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for minor sources.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR16	Emission Standards for New Stationary Sources pursuant to 40 C.F.R. 60.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants.
	40 C.F.R. 60, Subpart NNN	Standards of Performance for VOC Emissions from SOCM Distillation Operations.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 63, Subparts F, G, H	Hazardous Organic NESHAP (HON)
	40 C.F.R. 63, Subpart DDDDD	Boilers and Process Heaters MACT
	40 C.F.R. 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR§§21-37 and 40	Control of VOC Emissions
	45CSR27	Best Available Technology (BAT) for HAPs

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

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

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-1127	June 26, 1989	NA
R13-1215	April 24, 1990	NA
R13-1991B	May 23, 2003	PD04-066 (September 13, 2004)
CO-R21-97-41	October 20, 1997	June 14, 2006 letter from J. L. Blatt
CO-R27-99-14-A(92)	March 31, 1999	NA

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

Determinations and Justifications

This renewal fact sheet addresses the following changes made to the most recently issued Title V permit for this group.

- 1) **Added 40 C.F.R. 63, Subpart DDDDD (Boiler MACT) Requirements for Fired Heater F-306.** On February 21, 2011, EPA signed the final rule for the Boiler MACT. This rule was published in the Federal Register on March 21, 2011 which established the existing source compliance date as March 21, 2014. The Fired Heater F-306 is natural gas-fired with a heat input of less than 10 MMBtu/hr. The 40 C.F.R. 63, Subpart DDDDD placeholder language was included as Condition 3.1.9.

On May 18, 2011 EPA published a Federal Register final rule (76 FR 28662-28664) staying 40 CFR 63, Subpart DDDDD in its entirety along with an indefinite delay of its effective date. This EPA action reads in part:

“II. Issuance of a Stay and Delay of Effective Date

Pursuant to section 705 of the APA, the EPA hereby postpones the effectiveness of the Major Source Boiler MACT and the CISWI Rule until the proceedings for judicial review of these rules are complete or the EPA completes its reconsideration of the rules, whichever is earlier. By this action, we are delaying the effective date of both rules, published in the **Federal Register** on March 21, 2011 (76 FR 15608 and 76 FR 15704). The delay of the effective date of the CISWI Rule applies only to those provisions issued on March 21, 2011, and not to any provisions of 40 CFR part 60, subparts CCCC and DDDD, in place prior to that date. This delay of effectiveness will remain in place until the proceedings for judicial review are completed or the EPA completes its reconsideration of the rules, whichever is earlier, and the Agency publishes a notice in the **Federal Register** announcing that the rules are in effect.”

- 2) **Added Clarification to Condition 3.1.8.** Since the Risk Management Plan requirements of 40 C.F.R. 68 only apply to the EO Catalyst Plant and do not apply to the Glycol Recovery Plant, Union Carbide requested that the following clarification be added to Condition 3.1.8: *“(This condition only applies to the EO Catalyst Plant.)”*

- 3) **Removed 40 C.F.R. 63, Subpart FFFF (MON) Placeholder Language.** MON MACT placeholder language was included as condition 4.1.10 in the initial Title V permit and stated that if it is determined that the EO Catalyst Plant is subject to the MON, then they must comply with all applicable requirements no later than May 10, 2008. In a letter from J. L. Blatt to John Benedict, dated September 29, 2008, Union Carbide stated that the EO Catalyst Plant is not subject to the MON MACT, therefore the placeholder language has been removed.
- 4) **Section 1.1 Emission Units Table Changes.** The following changes were made to the Emission Units Table in Section 1.1:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
<i>EO Catalyst Plant</i>					
<u>A070</u> <u>S-476</u>	070A	<u>#3 Baghouse</u> <u>Packaging</u>	1977	Confidential	None <u>A070</u> <u>#3 Baghouse</u>
<u>B070</u> <u>S-420</u> <u>S-422</u>	070B	<u>#2 Baghouse</u> <u>Blending and Conveying – non-</u> <u>HAP particulate matter</u>	1977	Confidential	None <u>B070</u> <u>#2 Baghouse</u>
<u>C070</u> <u>D-407</u>	070C	<u>#1 Baghouse</u> <u>Storage Bins and Conveying – non-</u> <u>HAP particulate matter</u>	1977	Confidential	None <u>C070</u> <u>#1 Baghouse</u>
<u>D070</u> <u>None</u>	070D	<u>#5 Baghouse</u> <u>House-keeping vacuum system</u> <u>(vents outside building)</u>	1977	NA	None <u>D070</u> <u>#5 Baghouse</u>
<u>E070</u> <u>V-202</u>	070E	<u>#4 Baghouse</u> <u>Vessel V202 and Conveying</u>	1977	Confidential	None <u>E070</u> <u>#4 Baghouse</u>
<u>G070</u> <u>V-160</u>	070G	<u>#6 Baghouse</u> <u>Storage and Conveying</u>	1977	Confidential	None <u>G070</u> <u>#6 Baghouse</u>
<u>Z070</u> <u>None</u>	070Z	<u>#7 Baghouse</u> <u>House-keeping vacuum system</u> <u>(vents inside building)</u>	1998	NA	None <u>Z070</u> <u># 7 Baghouse</u>
<u>S&H A,</u> <u>B, C, D,</u> <u>E, G, and</u> <u>Z</u>	<u>070A,</u> <u>070B,</u> <u>070C,</u> <u>070D,</u> <u>070E,</u> <u>070G,</u> <u>and 070Z</u>	<u>Bins and Handling</u>	1977	NA	<u>A070, B070, C070, D070,</u> <u>E070, G070, and Z070</u>
<u>K103</u> <u>None</u>	103K	<u>Lab Baghouse</u> <u>House-keeping vacuum system</u> <u>(vents to laboratory hood)</u>	1997	NA	None <u>K103</u> <u>Lab Baghouse</u>
<u>T-1796</u> <u>T-253</u>	No Vent	<u>Tank 1796-253</u>	Prior to 1977	Confidential	None
<u>S075</u>	075S	<u>T-1796 T-253 Scrubber</u>	2003	NA	None
<u>T-326</u>	075B	<u>Tank 326</u>	1977	Confidential	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-527	075A	Tank 527	1977	Confidential	None
Y-320	070H	Process Equipment	1977/2004	Confidential	H070 <u>Emission Reduction System</u>
Y-320A	070H	Cleaning Section	1977/2004	NA	H070 <u>Emission Reduction System</u>
H070	070H	Emission Reduction System	1977	NA	None
V-202	None	Vessel V202	1977	Confidential	None
V26805	080A	Vessel V-26805 – Fore Column 26805 and Jets	June 1994	Confidential	None
V26802	080A	Vessel V26802 – Refining Column 26802 and Jets	March 1992	Confidential	None
V2206	080B	Vessel 2206 – Evaporator 2206 and Jets	May 1960	Confidential	None
ADS1	085FF	Vessel ADS1 – Adsorber #1	Oct. 1993	Confidential	None
ADS2	085GG	Vessel ADS2 – Adsorber #2	Oct. 1993	Confidential	None

In the initial Title V permit’s Emission Units Table, Baghouse #1 (C070), Baghouse #2 (B070), Baghouse #3 (A070), Baghouse #4 (E070), Baghouse #5 (D070), Baghouse #6 (G070), and Baghouse #7 (Z070) were listed as both emission units and control devices. In the Title V renewal permit, changes were made to the Emission Units Table so that this equipment is now only listed as a control device. Please note, however, that while listed in the Emission Units Table as a control device, Baghouse #1 (C070), Baghouse #2 (B070), Baghouse #3 (A070), Baghouse #4 (E070), Baghouse #5 (D070), and Baghouse #6 (G070) serve the dual role of product recovery and particulate matter emissions control. Baghouse #7 (Z070) is used to minimize indoor particulate matter emissions and vents inside the building.

Lab Baghouse (103K) was listed in the initial Title V permit’s Emission Units Table as an emission unit. This baghouse is used to minimize indoor particulate matter emissions. In the Title V renewal permit, the Lab Baghouse (103K) is now listed as a control device rather than an emission unit.

Tank 1796 was renumbered from T-1796 to T-253.

Tank 326 (T-326) and Tank 527 (T-527) are used to store water and emit no regulated air pollutant, therefore they were deleted from the Emission Units Table.

The Emission Reduction System (H070) was listed in the initial Title V permit’s Emission Units Table as an emission unit. In the Title V permit renewal, it has been listed as a control device for Y-320 and Y-320A.

The entry for Vessel V202 (emission point none) was removed and replaced with Vessel V202 and Conveying (emission point 070E) with control device E070.

Additional emission unit descriptions were provided for V26805, V26802, V2206, ADS1, and ADS2. The emission unit ID for Vessel ADS1 was corrected.

- 5) **Added Condition 4.5.3.** Condition 4.5.3 was added upon the request of Union Carbide in order to allow 90 days to submit the results of stack testing required under Condition 4.3.2 instead of the 60 days allowed under Condition 3.3.1.d. The provisions under 3.3.1.d were added to the Title V boilerplate language after Union Carbide’s initial Title V permit for Group 1 of 5 was issued, so this condition was not part of the initial Title V permit. Previously, the results of the testing specified under Condition 4.3.2 were only required to be maintained on site.
- 6) **Addition/Deletion of Requirements and Changes to the Numbering of the Title V Permit.** The following conditions have been added, deleted or renumbered as part of this Title V permit renewal:

Condition Number in R30-03900005-2006 (1 of 5)(AA01)	Condition Number in R30-03900005-2011 (1 of 5)	Explanation, if needed.
---	3.1.9	Addition of 40 C.F.R. 63, Subpart DDDDD requirements for Fired Heater (F-306)
3.7.2.a	---	Deleted because Fired Heater (F-306) is now subject to requirements under 40 C.F.R. 63, Subpart DDDDD
3.7.2.b	3.7.2.a	Renumbered
4.1.10	---	Deleted because the EO Catalyst Plant is not subject to 40 C.F.R. 63, Subpart FFFF (MON) per letter from J. L. Blatt to John Benedict, dated September 29, 2008.
4.1.11	4.1.10	Renumbered
4.1.12	4.1.11	Renumbered
4.1.13	4.1.12	Renumbered
---	4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 4.2.8, 4.4.7, 4.4.8, 4.4.9, 4.5.2	Addition of CAM requirements for the Emission Reduction System (H070)
---	4.5.3	Added reporting requirements for stack testing specified under Condition 4.3.2.
5.5.3	---	“Reserved” was deleted and conditions were renumbered.
5.5.4	5.5.3	Renumbered
5.5.5	5.5.4	Renumbered
5.5.6	5.5.5	Renumbered
5.5.7	5.5.6	Renumbered
5.5.8	5.5.7	Renumbered
5.5.9	5.5.8	Renumbered

40 C.F.R. 64 - Compliance Assurance Monitoring (CAM)

According to 40 C.F.R. §64.2(a), CAM applies to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria: 1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under 40 C.F.R. §64.2(b)(1); 2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and 3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. 40 C.F.R. §64.2(b)(1)(i) exempts emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act; and 40 C.F.R. §64.2(b)(1)(vi) exempts emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method.

As specified in the table below, Union Carbide Corporation’s Group 1 of 5 has several baghouses used to control particulate matter emissions from various pieces of process equipment. Since the emission units these baghouses control particulate matter emissions from do not have potential pre-control device emissions of particulate matter greater than 100 tons per year, these units are not subject to CAM. The following table links the baghouse with its emission unit(s), emission point, and pre-control device potential.

Baghouse	Emission Unit	Emission Point	Pre-Control Device PM Emissions TPY
#3 Baghouse (A070)	S-476	070A	43
#2 Baghouse (B070)	S-420, S-422	070B	17
#1 Baghouse (C070)	D-407	070C	26
#5 Baghouse (D070)	House-keeping vacuum system	070D	10
#4 Baghouse (E070)	V-202	070E	34
#6 Baghouse (G070)	V-160	070G	16

The #7 Baghouse (Z070) vents inside the building and the Lab Baghouse (K103) vent is part of a laboratory hood ventilation system. Since these control devices are not used to achieve compliance with a particulate matter emission limit or standard, CAM would not apply. It should also be noted, that even if they were subject to a particulate emission limit or standard, the potential particulate matter pre-control device emissions for each of these sources are less than 1 ton per year.

Scrubber (S075) controls ammonia which is not a regulated pollutant and has no emission limits in this Title V permit; therefore CAM does not apply.

Compliance with the VOC and NO_x emission limits from Process Equipment (Y-320) and Cleaning Section (Y-320A) is achieved by routing emissions to the Emission Reduction System (H070). The Emission Reduction System (H070) has a VOC control efficiency of 98% and a NO_x control efficiency of 85-95%. Because the potential pre-control device emissions of VOC and NO_x are greater than 100 tons per year, the Emission Reduction System (H070) is subject to CAM. Union Carbide Corporation has proposed monitoring the catalytic oxidation bed outlet gas temperature to demonstrate compliance with the VOC emission limits and monitoring the NO_x concentration to demonstrate compliance with the NO_x emission limits.

The normal operating temperature of the catalyst oxidation bed is 500 to 700 °C. The manufacturer’s information states that a VOC destruction efficiency of at least 98 % will be achieved at a minimum operating temperature of 450 °C. At the maximum design rate VOC loading to the oxidation bed, a 98% VOC control efficiency will demonstrate compliance with the VOC emission limits specified in Condition 4.1.1 for the Emission Reduction System (Emission Point 070H). In order to assure compliance with the VOC emission limits, Union Carbide has proposed a minimum temperature of 500 °C for the catalytic oxidation bed outlet gas temperature.

R13-1991B already requires quarterly testing (Condition 4.3.2) of the Emission Reduction System (Emission Point 070H) in order to demonstrate compliance with the NO_x emission limits. The tests are to be conducted following the procedures outlined in 40 C.F.R. 60, Appendix A, Method 7E – “Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)” and NO_x emissions calculated using the equation provided in Condition 4.3.2. Since NO_x emissions after controls are less than 100 tons per year, CAM requires data collection at least once per 24 hour period. To comply with this requirement under CAM, Union Carbide proposed instrument monitoring of the NO_x concentration in the Emission Reduction System’s exhaust gas (Emission Point 070H) once per 24 hour period with an excursion defined as a NO_x concentration of greater than 280 ppm_v. Using the equation specified in Condition 4.3.2, a NO_x concentration of 280 ppm_v results in a calculated NO_x emission rate of 19.92 lb/hr. Union Carbide considers the maximum design stack gas flow rate of 44,881 pph used in the Condition 4.3.2 equation to be conservative and a recent assessment provided an actual rate closer to 35,000 pph. Using a stack gas flow rate of 35,000 pph in the Condition 4.3.2 equation with the 280 ppm_v NO_x concentration, results in a NO_x emission rate of 15.53 lb/hr. Since an excursion could potentially exceed the 20 lb/hr NO_x emission limit specified in Condition 4.1.1, Union Carbide will calculate the hourly NO_x emissions using the measured NO_x concentration and the stack gas flow rate (calculated using engineering methods and actual operating data during the time of the NO_x concentration measurement) if there is an excursion.

Monitoring per the CAM plan for VOC and NO_x emissions from the Emission Reduction System (H070) will be as follows:

Emission Reduction System (H070)		Indicator ¹ for VOC	Indicator ¹ for NO _x
I.	Indicator Monitoring Approach	Catalytic oxidation bed outlet gas temperature A device to measure temperature. (4.2.2)	NO _x Concentration Instrument monitoring of the NO _x concentration in the control device exhaust gas vent. (4.2.3)
II.	Indicator Range	An excursion is defined as a daily average catalytic oxidation bed outlet gas temperature downstream of the first oxidation bed of less than 500 °C, except during periods of startup. Excursions trigger a system inspection and corrective action. (4.2.2)	An excursion is defined as an upper operating limit of NO _x concentration in the control device exhaust gas of greater than 280 ppm _v . Excursions trigger a system inspection and corrective action; and the calculation of the NO _x emissions using the measured NO _x concentration and the stack gas flow rate (calculated using engineering methods and actual operating data during the time of the NO _x concentration measurement). (4.2.3)
III.	Performance Criteria		
	A. Data Representativeness	Exhaust gas temperature measured using a temperature monitoring device with an accuracy/precision of ± 2% installed downstream of the first oxidation bed. (4.2.2)	Samples will be taken from the exhaust stack, downstream of the Emission Reduction System (H070) and fired heater (F-306) vent using a nitrogen oxides analyzer with a minimum acceptable accuracy of ± 2%. A probe will be inserted into the exhaust gas stream through a sample port. The sample port will be sealed to prevent the ingress of air. (4.2.3)
	B. Verification of Operational Status	Failure of temperature monitoring device results in transmitter readings to default to full scale value and initiates hardware failure alarm. (4.2.2)	Nitrogen oxides analyzer will be calibrated in accordance with manufacturer’s specifications and recommendations. (4.2.3)
	C. QA/QC Practices and Criteria	Diagnostic testing of temperature monitoring device and signal transmitter will be performed annually. (4.2.2)	Analyzer calibration will be performed using certified gases. Analyzer span will be set to obtain measurements that are accurate and representative of monitored parameter. The instrument will be calibrated at least every six months. (4.2.3)
	D. Monitoring Frequency	Once per hour, when catalyst is being fed through Y-320. (4.2.2)	Once per 24 hour period, when Y-320 and/or Y-320A are operating. (4.2.3)

Emission Reduction System (H070)	Indicator ¹ for VOC	Indicator ¹ for NO _x
Data Collection Procedures	<p>Records of the hourly catalytic oxidation bed outlet gas temperature measurements and the daily average catalytic oxidation bed outlet gas temperature shall be maintained. The temperature monitoring data shall be recorded using either the process distributed control system, operating log, or other equivalent method approved by the Director.</p> <p>For each occurrence that the daily average catalytic oxidation bed outlet gas temperature downstream of the first oxidation bed is less than 500 °C, a record shall be maintained indicating the date of the occurrence and all corrective action taken.</p> <p>Date(s) and time(s) of startup of Y-320 along with the date(s) and time(s) of commencement of steady-state operation of Y-320.</p> <p>Records of all diagnostic testing of the temperature monitoring device and signal transmitter shall be maintained.</p> <p>Records shall be maintained of all instances where a temperature monitoring device fails and there is a hardware failure alarm.</p> <p>Records of the corrective action taken when both redundant temperature monitoring devices fail.</p> <p><i>(4.4.7)</i></p>	<p>Daily records of the NO_x concentration in the Emission Reduction System (H070) exhaust gas vent shall be recorded and maintained either by electronic or field operating log. Records shall include the date, time, and person's name performing sampling and the results of the sampling.</p> <p>For each occurrence that the NO_x concentration exceeds 280 ppm., a record shall be maintained indicating the following: 1) the date of the occurrence and all corrective action taken; and 2) the NO_x emissions calculated using the measured NO_x concentration and the stack gas flow rate (calculated using engineering methods and actual operating data during the time of the NO_x concentration measurement). Records of the NO_x emissions shall include all process data used to calculate the stack gas flow rate and shall show all NO_x emissions and stack gas flow rate calculations.</p> <p>Records of all periodic testing/checks, calibration, and maintenance per manufacturer's specifications and recommendations shall be maintained.</p> <p><i>(4.4.8)</i></p>
Averaging Period	Hourly temperature data will be averaged for each 24 hour period. <i>(4.2.2)</i>	NA

¹Note: The corresponding permit conditions are italicized in parentheses.

Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. Since the Union Carbide Corporation's Institute Plant has not made any changes that trigger a PSD modification, the requirements of the Greenhouse Gas Tailoring Rule do not apply.

Non-Applicability Determinations

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

- a. 40 C.F.R. 63, Subpart EEEE – “National Emission Standards for Hazardous Air Pollutants: Organic Liquid Distribution (Non-Gasoline).” Tank T-1004 is used to store an organic liquid containing HAPs, but is exempt from the control requirements because the liquid vapor pressure is less than 0.1 psia.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Comment Period

Beginning Date: July 15, 2011
 Ending Date: August 15, 2011

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

Carrie McCumbers
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

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

Point of Contact

Carrie McCumbers
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1226 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

Not applicable.