

*West Virginia Department of Environmental Protection*  
Earl Ray Tomblin  
Governor

*Division of Air Quality*

Randy C. Huffman  
Cabinet Secretary

# Permit to Modify



**R13- 2771A**

*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:*

**CDX Gas, LLC**  
**Hillman II Compressor Station**  
**091-00025**

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*John A. Benedict*  
*Director*

*Issued: Draft* • *Effective: Draft*

This permit will supersede and replace General Permit Registration R13-2771.

Facility Location: Flemington, Taylor County, West Virginia  
Mailing Address: 110 Wyoming Street, Suite 200, Charleston, WV 25302  
Facility Description: Natural gas compressor station  
SIC Codes: 4922  
UTM Coordinates: 572.46 km Easting • 4349.95 km Northing • Zone 17  
Permit Type: Modification  
Description of Change: Removal of all currently permitted engines and replacing with two new engines and adding four new tanks

*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.*

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*As a result of the granting of this permit, the source is not subject to 45CSR30.*

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*Unless otherwise stated WVDEP DAQ did not determine whether the permittee is subject to an area source air toxics standard requiring Generally Achievable Control Technology (GACT) promulgated after January 1, 2007 pursuant to 40 CFR 63, including the area source air toxics provisions of 40 CFR 63, Subpart HH and 40 CFR 63, Subpart ZZZZ.*

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**1.0. Emission Units**

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Design Capacity</b>	<b>Control Device</b>
CE-1	EP-1	Caterpillar G3508TALE Compressor Engine	2011	670 hp	NA
CE-2	EP-2	Caterpillar G3508TALE Compressor Engine	2011	670 hp	NA
AP-1	APR-1	Amine Plant Reboiler	2008	6.13 mmbtu/hr	NA
RBV-1	RBV-1	Hanover Glycol Dehydration Unit Reboiler	2007	750 scf/hr	NA
RSV-1	RSV-1	Hanover Glycol Dehydration Still Vent	2007	0.75 mmBtu/hr	NA
T-01	T-01	Water Tank	2007	210 barrel	NA
T-02	T-02	Lube Oil Tank	2007	2000 gallon	NA
T-03	T-03	Sulfa Treat Tank	2008	140 barrel	NA
T-04	T-04	Sulfa Treat Tank	2008	140 barrel	NA
T-05	T-05	Methanol Tank	2008	2000 gallon	NA
T-06	T-06	Waste Oil Tank	2008	100 barrel	NA
AP-1	APV-1	Amine Plant Vent	2008	60 gal.min	NA

## 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

<b>CAAA</b>	Clean Air Act Amendments	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>CBI</b>	Confidential Business Information	<b>NSPS</b>	New Source Performance Standards
<b>CEM</b>	Continuous Emission Monitor	<b>PM</b>	Particulate Matter
<b>CES</b>	Certified Emission Statement	<b>PM<sub>2.5</sub></b>	Particulate Matter less than 2.5 μm in diameter
<b>C.F.R. or CFR</b>	Code of Federal Regulations		
<b>CO</b>	Carbon Monoxide	<b>PM<sub>10</sub></b>	Particulate Matter less than 10μm in diameter
<b>C.S.R. or CSR</b>	Codes of State Rules		
<b>DAQ</b>	Division of Air Quality	<b>Ppb</b>	Pounds per Batch
<b>DEP</b>	Department of Environmental Protection	<b>Pph</b>	Pounds per Hour
<b>dscm</b>	Dry Standard Cubic Meter	<b>Ppm</b>	Parts per Million
<b>FOIA</b>	Freedom of Information Act	<b>Ppm<sub>v</sub> or ppmv</b>	Parts per Million by Volume
<b>HAP</b>	Hazardous Air Pollutant	<b>PSD</b>	Prevention of Significant Deterioration
<b>HON</b>	Hazardous Organic NESHAP		
<b>HP</b>	Horsepower	<b>Psi</b>	Pounds per Square Inch
<b>lbs/hr</b>	Pounds per Hour	<b>SIC</b>	Standard Industrial Classification
<b>LDAR</b>	Leak Detection and Repair		
<b>M</b>	Thousand	<b>SIP</b>	State Implementation Plan
<b>MACT</b>	Maximum Achievable Control Technology	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>MDHI</b>	Maximum Design Heat Input	<b>TAP</b>	Toxic Air Pollutant
<b>MM</b>	Million	<b>TPY</b>	Tons per Year
<b>MMBtu/hr or mmbtu/hr</b>	Million British Thermal Units per Hour	<b>TRS</b>	Total Reduced Sulfur
<b>MMCF/hr or mmcf/hr</b>	Million Cubic Feet per Hour	<b>TSP</b>	Total Suspended Particulate
<b>NA</b>	Not Applicable	<b>USEPA</b>	United States Environmental Protection Agency
<b>NAAQS</b>	National Ambient Air Quality Standards	<b>UTM</b>	Universal Transverse Mercator
<b>NESHAPS</b>	National Emissions Standards for Hazardous Air Pollutants	<b>VEE</b>	Visual Emissions Evaluation
		<b>VOC</b>	Volatile Organic Compounds
		<b>VOL</b>	Volatile Organic Liquids

### **2.3. Authority**

This permit is issued in accordance with West Virginia air pollution control law 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;*

### **2.4. Term and Renewal**

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-2771. 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 Applications R13-2771, R13-2771A 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;
- 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§15]

- 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.

[WV Code § 22-5-4(a)(15)]

### 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 57<sup>th</sup> Street  
Charleston, WV 25304-2345

**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. Operating Fee**

- 3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate 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. **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.
- 4.1.2. **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.]**
- 4.1.3. **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.

## 5.0. Source-Specific Requirements (CE-1 & CE-2)

### 5.1. Limitations and Standards

- 5.1.1. The quantity of coal bed methane that shall be consumed in each of the 670 hp natural gas fired reciprocating engines, Caterpillar G3508TALE (CE-1 & CE-2) shall not exceed 5,310 cubic feet per hour or 46.4 mmcf/yr.
- 5.1.2. Maximum emissions from each of the 670 hp coal bed methane fired reciprocating engines, Caterpillar G3508TALE (CE-1 & CE-2) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
CE-1 CE-2	Nitrogen Oxides	2.95	12.92
	Carbon Monoxide	2.72	11.89
	Volatile Organic Compounds	0.44	1.94
	Formaldehyde	0.27	1.16

### 5.2. Recordkeeping Requirements

- 5.2.1. To demonstrate compliance with sections 5.1.1 and 5.1.2, the permittee shall maintain records of the amount and type of fuel consumed in each engine and the hours of operation of each engine. Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

## 6.0. Source-Specific Hazardous Air Pollutant Requirements (Natural Gas Dehydration Units Not Subject to MACT Standards and without Federally Enforceable Controls)

### 6.1. Limitations and Standards

- 6.1.1. Maximum Throughput Limitation. The maximum wet natural gas throughput to the glycol dehydration unit/still column shall not exceed 25 mmscf/day. Compliance with the Maximum Throughput Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.
- 6.1.2. Maximum emissions from the glycol dehydration still vent (RSV-1) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	0.01	0.01

- 6.1.3. For purposes of determining potential HAP emissions at transmission and storage facilities, the methods specified in 40 CFR 63, Subpart HHH shall be used. For purposes of determining potential HAP emissions at production-related facilities, the methods specified in 40 CFR 63, Subpart HH (i.e. excluding compressor engines from HAP PTE) shall be used.

### 6.2. Monitoring Requirements

- 6.2.1. The permittee shall monitor the throughput of wet natural gas fed to the dehydration system on a monthly basis for the glycol dehydration unit.
- 6.2.2. The permittee shall monitor and record bi-monthly the following actual input parameters for GRI GLYCalc V3 or higher: (1) Wet gas or contactor temperature/degrees F; (2) Wet gas or contactor pressure/psig; (3) Lean glycol flow rate/gpm (in lieu of this parameter, 3.0 gal/lb H<sub>2</sub>O may be used); (4) Dry gas water content/ lb H<sub>2</sub>O/mmscf (in lieu of this parameter, 7 lb/MMscf may be used).

### 6.3. Testing Requirements

- 6.3.1. Compliance with Section 6.1.2 shall be determined by using GRI-GlyCalc Version 3.0 or higher, sampled in accordance with the Gas Processor Association GPA Method 2166 and analyzed in accordance with Method 2286. Representative gas sample collection and analysis frequency for dehydration units shall be determined based on the level of HAP emissions from the glycol dehydration unit of the affected facility as set forth in the schedule provided in the table below. The minimum frequency stated in the table does not relieve the affected facility from the requirement to appropriately account for process or feed gas changes that could affect minor source status or prevent the affected facility from conducting more frequent sampling and analysis and producing a representative average composition.

<b>Wet Gas Sampling and Analysis Frequency for Dehydration Units Based on Potential HAP Emission Rates</b>	
<b>Permitted Emission Rate as a Percentage of Major Individual (10 TPY) or Total HAPs (25 TPY) Thresholds in TPY or a Percentage of Benzene Emissions as determined by GRI-GlyCalc v. 3.0 or higher</b>	<b>Minimum Default Frequency</b>
<b>Every dehydration unit (regardless of permitted emission rate)</b>	<b>An initial compliance test within 180 days of permit issuance or within 180 days of start-up of the dehydration unit, whichever is later</b>
<b>Every dehydration unit at or above 95% of HAPs major source levels or 0.95 tons per year of Benzene</b>	<b>The permittee shall sample and perform a wet gas analysis at least once each year for determining compliance with the HAP limits in the issued General Permit Registration per the procedures in Section 9.3. The 0.95 tons per year of Benzene requirement only applies to permittees using Section 13 of this permit without federally enforceable controls.</b>

Note: The DAQ defines a representative wet gas sample to be one that is characteristic of the average gas composition dehydrated throughout a calendar year. If an isolated sample is not indicative of the annual average composition, then a company may opt to produce a weighted average based on throughput between multiple sampling events, which can be used to define a more representative average annual gas composition profile.

- 6.3.2. The permittee must input operating parameters that provide the highest HAP emissions (i.e. maximum design rate of lean glycol recirculation rate) when using GRI-GLYCalc V3 or higher or the permittee must input parameters based on an annual average, and update the GlyCalc analysis annually. This provision does not change the frequency of the wet gas analysis as specified in Section 6.3.1. The permittee shall document how they determined the annual average value or highest single measured value, at a minimum, for the following input parameters: (1) Wet gas temperature/degrees F; (2) Wet gas pressure/psig; (3) Lean glycol flow rate/gpm (in lieu of this parameter, 3.0 gal/lb H<sub>2</sub>O may be used); (4) Dry gas water content/ lb H<sub>2</sub>O/mmscf (in lieu of this parameter, 7 lb/MMscf may be used).

#### **6.4. Recordkeeping Requirements**

- 6.4.1. The permittee shall maintain a record of the monthly wet natural gas throughput through the glycol dehydration unit to demonstrate compliance with section 6.1.1 of this permit. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.4.2. For the purpose of demonstrating compliance with the limits set forth in section 6.1.2, the permittee shall maintain records of the flow rate measurements and wet gas analysis made during the initial compliance determination or subsequent compliance determinations in accordance with Section 6.3. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 6.4.3. The permittee shall maintain records of the GLYCalc analysis as required by section 6.3 of this permit. Said records shall include a printout of the aggregate calculations report, which shall include emissions reports, equipment reports, and stream reports. The permittee shall maintain bi-monthly records of the input parameters required by section 6.2.2. Such records shall be retained for at least 5 years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. A responsible official shall certify any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director.

#### **6.5. Reporting Requirements**

- 6.5.1. The permittee shall submit the wet gas analysis report required by section 6.3.1 of this permit within 60 days of conducting the sampling of the wet gas stream as required. This report shall include a potential to emit (PTE) estimate using GRI-GlyCalc Version 3.0 or higher, incorporating the specific parameters measured as referenced in section 6.2.2, as well as a copy of the laboratory analysis.

## 7.0. Source-Specific Requirements (Amine Plant)

### 7.1. Limitations and Standards

7.1.1. Maximum Throughput Limitation. The maximum coal bed methane throughput to the amine plant vent shall not exceed 16 mmscf/day. Compliance with the Maximum Throughput Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.

7.1.2. Maximum emissions from the amine plant vent (APV-1) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Hydrogen Sulfide	1.09	4.76

7.1.3. The quantity of coal bed methane gas that shall be consumed in the 6.13 mmbtu/hr Amine Plant Reboiler (APR-1) shall not exceed 6,250 cubic feet per hour.

7.1.4. Maximum emissions from each of the 6.13 mmbtu/hr Amine Plant Reboiler (APR-1) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
APR-1	Nitrogen Oxides	0.63	2.74
	Carbon Monoxide	0.53	2.30
	Volatile Organic Compounds	0.04	0.15

### 7.2. Monitoring Requirements

7.2.1. The permittee shall monitor the throughput of coal bed methane fed to the dehydration system on a monthly basis for the amine plant.

### 7.3. Recordkeeping Requirements

7.3.1. The permittee shall maintain a record of the monthly coal bed methane throughput through the amine plant to demonstrate compliance with section 7.1.1 of this permit. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

7.3.2. To demonstrate compliance with sections 7.1.3 and 7.1.4, the permittee shall maintain records of the amount and type of fuel consumed in the 6.13 mmbtu/hr Amine Plant Reboiler (APR-1) and the hours of operation of the 6.13 mmbtu/hr Amine Plant Reboiler (APR-1). Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.

## **8.0. Source-Specific Requirements (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40CFR60 Subpart JJJJ (CE-1, CE-2))**

### **8.1. Limitations and Standards**

- 8.1.1. The provisions of this subpart are applicable to owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified below. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.
- a. Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:
    1. On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);
    2. on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;
    3. on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or
    4. on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).
  - b. Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.  
[40CFR§60.4230(a)]
- 8.1.2. Stationary SI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security. [40CFR§60.4230(e)]

### **8.2. Emission Standards for Owners and Operators**

- 8.2.1. Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified. [40CFR§60.4233(e)]
- 8.2.2. Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section. [40CFR§60.4233(h)]
- 8.2.3. Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine. [40CFR§60.4234]

### 8.3. Other Requirements for Owners and Operators

- 8.3.1. The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location. [40CFR§60.4236(e)]

### 8.4. Compliance Requirements for Owners and Operators

- 8.4.1. If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

- a. If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.
- b. If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.
  1. If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.
  2. If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.
  3. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[40CFR§60.4243(a)]

- 8.4.2. If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.
- a. Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

- b. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.
  1. If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.
  2. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[40CFR§60.4243(b)]

- 8.4.3. If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in §60.4233(f). [40CFR§60.4243(c)]

- 8.4.4. Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233. [40CFR§60.4243(e)]

- 8.4.5. It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [40CFR§60.4243(g)]

- 8.4.6. If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured after July 1, 2007 and before July 1, 2008, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

- a. Purchasing an engine certified according to 40 CFR part 1048. The engine must be installed and configured according to the manufacturer's specifications.
- b. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
- c. Keeping records of engine manufacturer data indicating compliance with the standards.
- d. Keeping records of control device vendor data indicating compliance with the standards.

[40CFR§60.4243(h)]

## 8.5. Testing Requirements for Owners and Operators

- 8.5.1. Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.
- Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart. [40CFR§60.4244(a)]
  - You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine. [40CFR§60.4244(b)]
  - You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour. [40CFR§60.4244(c)]
  - To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 1})$$

Where:

ER = Emission rate of NO<sub>x</sub> in g/HP-hr.

C<sub>d</sub> = Measured NO<sub>x</sub> concentration in parts per million by volume (ppmv).

1.912×10<sup>-3</sup> = Conversion constant for ppm NO<sub>x</sub> to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

[40CFR§60.4244(d)]

- To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 2})$$

Where:

ER = Emission rate of CO in g/HP-hr.

C<sub>d</sub> = Measured CO concentration in ppmv.

1.164×10<sup>-3</sup> = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

[40CFR§60.4244(e)]

- e. For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Eq. 3})$$

Where:

ER = Emission rate of VOC in g/HP-hr.

C<sub>d</sub> = VOC concentration measured as propane in ppmv.

1.833×10<sup>-3</sup> = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

[40CFR§60.4244(f)]

- f. If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \quad (\text{Eq. 4})$$

Where:

RF<sub>i</sub> = Response factor of compound i when measured with EPA Method 25A.

C<sub>Mi</sub> = Measured concentration of compound i in ppmv as carbon.

C<sub>Ai</sub> = True concentration of compound i in ppmv as carbon.

$$C_{i,cor} = RF_i \times C_{i,meas} \quad (\text{Eq. 5})$$

Where:

$C_{i\text{corr}}$  = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{i\text{meas}}$  = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{\text{Peq}} = 0.6098 \times C_{i\text{corr}} \quad (\text{Eq. 6})$$

Where:

$C_{\text{Peq}}$  = Concentration of compound i in mg of propane equivalent per DSCM.

[40CFR§60.4244(g)]

## 8.6. Notification, Reports, and Records for Owners and Operators

8.6.1. Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

a. Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

1. All notifications submitted to comply with this subpart and all documentation supporting any notification.
2. Maintenance conducted on the engine.
3. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048.
4. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

[40CFR§60.4245(a)]

b. For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

[40CFR§60.4245(b)]

c. Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

1. Name and address of the owner or operator;
2. The address of the affected source;

3. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
  4. Emission control equipment; and
  5. Fuel used.  
[40CFR§60.4245(c)]
- d. Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed. [40CFR§60.4245(d)]

## **9.0. Source-Specific Requirements (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40CFR63 Subpart ZZZZ (CE-5, CE-6))**

### **9.1. Limitations and Standards**

- 9.1.1. The catalytic converters shall reduce carbon dioxide (CO) emissions by no less than 93 percent at 15 percent O<sub>2</sub> on dry basis.  
[40 CFR §§63.6600 and 63.6640, 40 CFR 63, Subpart ZZZZ Table 2a]
- 9.1.2. The catalytic converter shall be maintained in such a manner that the pressure drop across the converter does not change by more than two inches of water from the measured value during the initial performance test with the engine operating at 100 percent load plus or minus ten (10) percent.  
[40 CFR §§63.6600 and 63.6640, 40 CFR 63, Subpart ZZZZ Table 2b]
- 9.1.3. The engines shall be operated in such a manner that the temperature of the engine exhaust entering the catalytic converter is greater than 450 °F and is less than 1350 °F. Compliance with this requirement shall be demonstrated in 4-hour rolling averages.  
[40 CFR §§63.6600 and 63.6640, 40 CFR 63, Subpart ZZZZ Table 2b and 6]
- 9.1.4. The permittee shall develop and implement a written startup, shutdown, and malfunction plan as prescribe in 40 CFR §63.6(e)(3). The most current copy of such plan must be maintained on site at all times.  
[40 CFR §63.6665]

### **9.2. Monitoring Requirements**

- 9.2.1. For the purpose of demonstrating compliance with 40 CFR §§63.6625(a) or (b), the permittee shall either install CEMs to monitor CO and either oxygen or CO<sub>2</sub> at both the inlet and outlet of the catalytic converter for each engine or a continuous parameter monitoring system (CPMS) to measure the temperature of the engine exhaust entering the catalytic converter. The permittee shall install, operate, and maintain the selected monitoring system in accordance with the following that is applicable to the monitoring system:
  - a. CEMs for CO and either oxygen or CO<sub>2</sub>.
    - i. Each CEMs must be installed, operated, and maintained according to the applicable performance specification of 40 CFR 60, appendix B;
    - ii. An initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMs shall be conducted according to the requirements in 40 CFR §63.8 and according to the applicable performance specifications of 40 CFR 60, appendix B;

- iii. Daily and periodic data quality checks in accordance with 40 CFR 60, appendix F, procedure 1 shall be conducted;
  - iv. As specified in §63.8(c)(4)(ii), each CEMs must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period, to have a valid hour of data;
  - v. The measured data must be reduced as specified in §63.8(g)(2) and recorded in ppm or parts per billion at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration; and [40 CFR §§63.6625(a)(1) through (4)]
  - vi. The average reduction of CO shall be determined using the equation in condition 4.3.2.b.iii.
- b. CPMS to measure the inlet temperature of the catalytic converter.
- i. Each CPMS shall be installed, operated, and maintained according to the requirements in 40 CFR §63.8; [40 CFR §63.6625(b)]
  - ii. This collected data shall be reduced into 4-hour rolling averages; [40 CFR §63.6640, 40 CFR 63 Subpart ZZZZ Table 6]
- 9.2.2. For the purpose of demonstrating compliance with condition 9.1.2 and 40 CFR §§63.6640, and Table 6 to Subpart ZZZZ of Part 63, the permittee shall measure and record the pressure drop across each catalytic converter once per month if the permittee is not using CEMs as prescribed in condition 4.2.2.a. Such records shall be maintained in accordance with condition 3.4.1.

### 9.3. Testing Requirements

- 9.3.1. For the purposes of demonstrating initial compliance with operational and emission limitation in condition 5.1.2. and 40 CFR §63.6610(a), the permittee shall conduct performance testing of engines identified as CE-5 and CE-6, within 180 days after start-up of the respective engine. Such testing shall be for demonstration with the carbon dioxide (CO<sub>2</sub>) emissions reduction requirement or the formaldehyde concentration limitation. Whichever limitation that the permittee has elected to comply with, the respective testing shall be conducted as outline in the following:
- a. General Testing Requirements:
    - i. This testing shall consist of three test runs. Each test run must last at least one hour;
    - ii. Each test run must be conducted with the engine operating at 100 percent load plus or minus 10 percent;
    - iii. Test shall not be conducted during periods of startup, shutdown, or malfunctions as specified in 40 CFR §63.7(e)(1);
    - iv. During such testing, the permittee shall measure and record the inlet temperature and pressure drop across the catalytic converter; and [40 CFR §63.6630(b)]
    - v. The measured carbon monoxide (CO) or formaldehyde concentrations must be normalized to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If the pollutant concentrations are to be corrected to 15 percent oxygen

and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as describe in 40 CFR §§63.6620(e)(2)(i) through (iii);  
[40 CFR §63.6620(e)(2)]

- vi. Testing shall be conducted in accordance with condition 3.3.1. A Notification of Intent to conduct a performance test shall be submitted to the Director and Administrator at least 60 days prior to such testing. Records of such testing shall be maintained in accordance with condition 3.4.1.  
[40CFR§§63.6645(e), 63.7(b)(1)]

b. Demonstrating initial compliance with the carbon dioxide emission reduction requirement:

- i. The permittee shall measure the CO and O<sub>2</sub> at the inlet and outlet of the catalytic converter using a portable CO and O<sub>2</sub> analyzer. These measurements must be conducted at the same time of each other;
- ii. This testing shall be conducted in accordance with ASTM D6522-00 or U.S. EPA Methods 3A and 10;
- iii. Compliance with the percent reduction requirement shall be determined using the following equation:

$$\frac{C_i - C_o}{C_i} \times 100 = R$$

Where:

C<sub>i</sub> = concentration of CO at the inlet of the catalytic converter,

C<sub>o</sub> = concentration of CO at the outlet of the catalytic converter,

R = percent reduction of CO emissions.

[40 CFR §63.6620(e)(1)]

c. Demonstrating initial compliance with the formaldehyde concentration limitation:

- i. The permittee shall measure O<sub>2</sub> concentration, moisture content, and formaldehyde of exhaust stream of the engine after the catalytic converter using a sampling port location and number of traverse points in accordance with U.S. EPA Method 1 or 1A. These measurements must be conducted at the same time of each other;
- ii. This testing shall be conducted in accordance with U.S. EPA Methods 3 or 3A for O<sub>2</sub> concentration; Method 4 of 40 CFR 60, Appendix A, Method 320 of 40 CFR 63, Appendix A, or ASTM D 6348-03 for moisture content; Method 320 or 323 of 40 CFR 63, Appendix A or ASTM D6348-03.

9.3.2. For the purpose of demonstrating compliance with NO<sub>x</sub> emission limit in condition 5.1.2 of this permit, the permittee shall conduct performance testing of engine identified as CE-5 and CE-6 within 180 days after start-up. This testing shall be conducted as outlined in the following:

- a. The permittee shall measure O<sub>2</sub> concentration, moisture content, and NO<sub>x</sub> of exhaust stream of the engine after the catalytic converter using a sampling port location and number of traverse points in accordance with U.S. EPA Method 1 or 1A. These measurements must be conducted at the same time of each other;

- b. This testing shall be conducted in accordance with U.S. EPA Methods 3 or 3A for O<sub>2</sub> or CO<sub>2</sub> concentration; Method 4 of 40 CFR 60, Appendix A for moisture content, Method 7 or alternative method approved by the Director for NO<sub>x</sub>;
  - c. This testing shall consist of three test runs. Each test run must last at least one hour;
  - d. Each test run must be conducted with the engine operating at 100 percent load plus or minus 10 percent;
  - e. Test shall not be conducted during periods of startup, shutdown, or malfunctions as specified in 40 CFR §63.7(e)(1);
  - f. During such testing, the permittee shall measure and record the inlet temperature and pressure drop across the catalytic convert;
  - g. The measured NO<sub>x</sub> must be normalized to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If the pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as describe in 40 CFR §§63.6620(e)(2)(i) through (iii); and
  - h. Testing shall be conducted in accordance with condition 3.3.1. Records of such testing shall be maintain in accordance with condition 3.4.1.
- 9.3.3. The permittee shall conduct subsequent performance tests semiannually after conducting the initial performance testing as required in condition 9.3.1. Such testing shall be conducted as prescribed in condition 9.3.1. If the permittee has demonstrated compliance with the operational and emission limitation in conditions 5.1.2, 9.1.1, 9.1.2, 9.1.3 and 40 CFR §63.6610(a), the permittee may reduce the frequency of such performance testing to an annual basis. If the results of any subsequent annual performance test indicate the engine is not in compliance with operational and emission limitation in conditions 5.1.2, 9.1.1, 9.1.2, 9.1.3 and 40 CFR §63.6610(a), the permittee must resume conducting semiannual performance tests.  
[40 CFR §§63.6615, 63.6620 and 40 CFR 63, Subpart ZZZZ Table 6]

#### **9.4. Recordkeeping Requirements**

- 9.4.1. When actions taken by the permittee during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation under 40 CFR §63.6600 in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the startup, shutdown, and malfunction plan, the permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a “checklist,” or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the permittee must keep records of these events as specified in paragraph 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in §63.10(d)(5).  
**[40 CFR §63.6655]**

- 9.4.2. The permittee shall maintain a copy of each notification and report that the permittee submitted to comply with 40 CFR 63, Subpart ZZZZ. These copies shall include all documentation supporting any Initial Notification or Notification of Compliance Status Report that the permittee submitted, according to the requirements in 40 CFR §63.10(b)(2)(xiv), and any compliance report required under 40 CFR 63, Subpart ZZZZ.

## 9.5. Reporting Requirements

- 9.5.1. For the purpose of demonstrating compliance with the notification requirement set forth by 40 CFR §63.6645(f), the permittee shall submit to the Administrator and Director a Notification of Compliance Status for each engine, including the results of the initial performance as required in condition 4.3.1., before the close of business on the 60<sup>th</sup> day following the completion of the initial performance test according to §63.10(d)(2).  
**[40 CFR §§63.9(h)(2)(ii) and 63.6646(f)]**
- 9.5.2. For the purpose of demonstrating compliance with the reporting requirements set forth by 40 CFR 63, Subpart ZZZZ, the permittee shall prepare and submit a semi-annual compliance report addressing any deviations from applicable emission and operating limitations as defined in §63.6600(b) during each reporting period. Such reports shall be postmarked or delivered to the U.S. EPA Administrator and Director no later than August 31 or February 28, whichever date is the first date following the end of the semiannual reporting period. Such compliance report(s) shall contain the information in §63.6650.(c)(1) through (6) and the applicable information required in §63.6650(d) through (e)(12).  
**[40 CFR §63.6650]**
- 9.5.3. If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with §63.10(d)(5)(ii) (unless the permittee makes alternative reporting arrangements, in advance, with the U.S. EPA Administrator).  
**[40 CFR §63.6650]**
- 9.5.4. The permittee shall submit the results of testing required in condition 9.3.3. before the close of business on the 60<sup>th</sup> day following the completion of such testing to the Director.

## **10.0. Source-Specific Requirements (Standards of Performance for Onshore Natural Gas Processing: SO<sub>2</sub> Emissions, 40CFR60 Subpart LLL (Amine Plant))**

### **10.1. Applicability and Designation of Affected Facilities**

- 10.1.1. Facilities that have a design capacity of two (2) long tons per day (LT/D) of Hydrogen Sulfide (H<sub>2</sub>S) in the acid gas (expressed as sulfur) are required to comply §60.647c but are not required to comply with §§60.642-60.646.  
[40 CFR §60.640(b)]

### **10.2. Recordkeeping and Reporting Requirements**

- 10.2.1. To certify that a facility is exempt from the control requirements of these standards, each owner or operator of a facility with a design capacity less than 2 LT/D of H<sub>2</sub>S in the acid gas (expressed as sulfur) shall keep, for the life of the facility, an analysis demonstrating that the facility's design capacity is less than 2 LT/D of H<sub>2</sub>S expressed as sulfur.  
[40 CFR §60.647(c)]

### 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<sup>1</sup> \_\_\_\_\_  
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title \_\_\_\_\_  
(please print or type) Name Title

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

- <sup>1</sup> 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.