

West Virginia Department of Environmental Protection
Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Construct



R13- 3099

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:

CONE Gathering, LLC
Normantown Compressor Station
021-00022

John A. Benedict
Director

Issued: DRAFT • Effective: DRAFT

Facility Location: Normantown, Gilmer County, West Virginia
Mailing Address: P.O. Box 1248, Jane Lew, WV 26378
Facility Description: Natural Gas Compressor Station
NAICS Codes: 211112, 486210
UTM Coordinates: 502.8442 km Easting • 4,300.3474 km Northing • Zone 17
Permit Type: Construction
Description of Change: Construct and operate a new natural gas compressor station with three (3) compressor engines, one (1) generator engine, one (1) dehydration unit, one (1) vapor recovery unit, and multiple storage 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.

The source is not subject to 45CSR30.

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
FL-1	FL-1E	Emergency Flare	2013	0.265 MMBtu/hr	NA
VRU-1	VRU-1E	Vapor Recovery Unit	2013	220,000 cf/day	NA
VRUE-1	VRUE-1E	Natural Gas-Fueled Vapor Recovery Unit Engine	2013	120 bhp	None
DEHY-1	DEHY-1E	Glycol Dehydrator System	2013	50 MMscf/day	FL-2
RBLR-1	RBLR-1E	Reboiler for Dehydrator System	2013	1.5 MMBtu/hr	None
FL-2	FL-2E	Flare for Dehydrator	2013	2.0 MMBtu/hr	NA
E-1	E-1E	Natural Gas-Fueled Compressor RICE#1	2013	1,340 bhp	None
E-2	E-2E	Natural Gas-Fueled Compressor RICE#2	2013	1,380 bhp	NSCR
E-3	E-3E	Natural Gas-Fueled Compressor RICE#3	2013	1,380 bhp	NSCR
G-1	G-1E	Diesel-Fueled Generator Engine	2013	342 bhp	None
LOAD-1	None	Product Loadout Rack	2013	75,000 gal/day	VRU-1
T-1	None	Produced Water (Brine) Tank	2013	16,920 gal	VRU-1
T-2	None	Pipeline Liquids/Condensate Tank	2013	16,920 gal	VRU-1
T-3	None	Mixed Liquids (water, compressor oil and condensate) Tank	2013	21,150 gal	VRU-1
T-4	NA	Dehydrator Glycol Tank	2013	1,000 gal	None

1.1. Control Devices

Control Device Unit	Pollutant	Emission Unit	Control Device Unit Efficiency
EMIT Technologies Model No. ELX-4200X- 1616F-31CE0-36P NSCR	Carbon Monoxide (CO)	Compressor Engines E-2 & E-3	93%
	Volatile Organic Compounds (VOC)		50%
	Formaldehyde		76%
Jordan Technologies Model No. JV- SCG10G2.50-350C VRU-1	Volatile Organic Compounds (VOC)	Storage Tanks	100% capture/control
	Hazardous Air Pollutants (HAP)	T-1, T-2, T-3	
Jordan Technologies Model No. JV- SCG10G2.50-350C VRU-1	Volatile Organic Compounds (VOC)	Loading Rack (LOAD-1)	70% capture/95% control
	Hazardous Air Pollutants (HAP)		
Enviro-Therm Model No. TVO036 FL-2	Volatile Organic Compounds (VOC)	Glycol Dehydration Unit (DEHY-1)	98%
	Hazardous Air Pollutants (HAP)		
Zeeco Model No. MJ-8 FL-1	Volatile Organic Compounds (VOC)	Emergency Flare (Evacuated Natural Gas from Normantown Station Equipment and Pipelines)	98.5%

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the “West Virginia Air Pollution Control Act” or the “Air Pollution Control Act” mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The “Clean Air Act” means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary’s designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM_{2.5}	Particulate Matter less than 2.5 µm in diameter
C.F.R. or CFR	Code of Federal Regulations	PM₁₀	Particulate Matter less than 10µm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. or CSR	Codes of State Rules	Pph	Pounds per Hour
DAQ	Division of Air Quality	Ppm	Parts per Million
DEP	Department of Environmental Protection	Ppm_v or ppmv	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	Psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP	SIP	State Implementation Plan
HP	Horsepower	SO₂	Sulfur Dioxide
lbs/hr	Pounds per Hour	TAP	Toxic Air Pollutant
LDAR	Leak Detection and Repair	TPY	Tons per Year
M	Thousand	TRS	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	TSP	Total Suspended Particulate
MDHI	Maximum Design Heat Input	USEPA	United States Environmental Protection Agency
MM	Million	UTM	Universal Transverse Mercator
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOC	Volatile Organic Compounds
NA	Not Applicable	VOL	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

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

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

2.4. Term and Renewal

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-3099. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3099, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

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

2.7. Duty to Supplement and Correct Information

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

2.8. Administrative Update

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

2.9. Permit Modification

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

2.10 Major Permit Modification

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

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

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

2.12. Emergency

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

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

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

2.14. Suspension of Activities

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

2.15. Property Rights

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

2.16. Severability

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

2.17. Transferability

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

2.18. Notification Requirements

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

2.19. Credible Evidence

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

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3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] *[State Enforceable Only]*
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary

exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded

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

- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. State Enforceable Only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

If to the US EPA:

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

3.5.4. Operating Fee

- 3.5.4.1. In accordance with 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.

- 3.5.4.2. In accordance with 45CSR22 – Air Quality Management Fee Program, enclosed with this permit is an Application for a Certificate to Operate (CTO). The CTO will cover the time period beginning with the date of initial startup through the following June 30. Said application and the appropriate fee shall be submitted to this office prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with Section 4.5 of 45CSR22. A copy of this schedule may be found on the reverse side of the CTO application.
- 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.

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4.0. Source-Specific Requirements

4.1. Limitations and Standards

- 4.1.1. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the facility shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure the facility is a minor HAP source.
- 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 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.
- 4.1.4. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.1.5. **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 (Natural Gas Fired Compressor Engine E-1, E-2, E-3)

5.1. Limitations and Standards

5.1.1. The quantity of natural gas that shall be consumed in the 1,340 bhp natural gas reciprocating engine, Caterpillar G3516TALE (E-1) shall not exceed 9,877 cubic feet per hour (cf/hr) or 86.5 million cubic feet per year (MMcf/yr).

5.1.2. Maximum emissions from the 1,340 bhp natural gas fired reciprocating engine, Caterpillar G3516TALE (E-1) shall not exceed the following limits:

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	5.91	25.88
Carbon Monoxide (CO)	5.49	24.07
Volatile Organic Compounds (VOC)	0.77	3.36
Particulate Matter (PM10)	0.10	0.44
Sulfur Dioxide (SO2)	0.01	0.03
Formaldehyde	0.53	2.34

5.1.3. The quantity of natural gas that shall be consumed by each 1,380 bhp natural gas fired reciprocating engines equipped with NSCR, Caterpillar G3516BLE (E-2 & E-3) shall not exceed 10,570 cubic feet per hour (cf/hr) and 92.6 million cubic feet per year (MMcf/yr).

5.1.4. Maximum emissions from each of the 1,380 bhp natural gas fired reciprocating engines, Caterpillar G3516BLE (E-2 & E-3) shall not exceed the following limits:

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	1.52	6.66
Carbon Monoxide (CO)	0.64	2.81
Volatile Organic Compounds (VOC)	1.73	7.56
Particulate Matter (PM10)	0.11	0.49
Sulfur Dioxide (SO2)	0.01	0.03
Formaldehyde	0.28	1.22

5.1.5. Requirements for Use of Catalytic Reduction Devices.

- a. Lean-burn natural gas compressor engines equipped with selective catalytic reduction (SCR) air pollution control devices shall be fitted with a closed-loop automatic feedback controller to ensure emissions of regulated pollutants do not exceed the potential to emit for any engine/SCR combination under varying load. The closed-loop automatic feedback controller shall provide proper and efficient operation of the engine, ammonia injection and SCR device,

monitor emission levels downstream of the catalyst element and limit ammonia slip to less than 10 ppmv;

- b. The automatic air/fuel ratio controller or closed-loop automatic feedback controller shall provide a warning or indication to the operator and/or be interlocked with the engine ignition system to cease engine operation in case of a masking, poisoning or overrich air/fuel ratio situation which results in performance degradation or failure of the catalyst element; and
- c. No person shall knowingly:
 1. Remove or render inoperative any air pollution or auxiliary air pollution control device installed;
 2. Install any part or component when the principal effect of the part or component is to bypass, defeat or render inoperative any air pollution control device or auxiliary air pollution control device installed subject to the requirements;
or
 3. Cause or allow engine exhaust gases to bypass any catalytic reduction device.

5.2. Monitoring Requirements

5.2.1. Catalytic Oxidizer Control Devices

- a. The registrant shall regularly inspect, properly maintain and/or replace catalytic reduction devices and auxiliary air pollution control devices to ensure functional and effective operation of the engine's physical and operational design. The registrant shall ensure proper operation, maintenance and performance of catalytic reduction devices and auxiliary air pollution control devices by:
 1. Maintaining proper operation of the automatic air/fuel ratio controller or automatic feedback controller.
 2. Following operating and maintenance recommendations of the catalyst element manufacturer.

5.2.2. See Facility-Wide Monitoring Requirements in Section 7.5.

5.3. Testing Requirements

5.3.1. See Facility-Wide Testing Requirements in Section 3.3 and Testing Requirements in Sections 7.5.

5.4. Recordkeeping Requirements

- 5.4.1. To demonstrate compliance with sections 5.1.1 through 5.1.4, 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.
- 5.4.2. To demonstrate compliance with section 5.1.5, the permittee shall maintain records of all catalytic reduction device maintenance. 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.

- 5.4.3. See Facility-Wide Recordkeeping Requirements 3.4 and Recordkeeping Requirements 7.6 and 8.4.

5.5. Reporting Requirements

- 5.5.1. See Facility-Wide Reporting Requirements Section 3.5 and Reporting Requirements in 7.6 and 8.4.

6.0. Source-Specific Requirements (Natural Gas-Fueled Vapor Recovery Unit Engine, VRUE-1)

6.1. Limitations and Standards

- 6.1.1. The natural gas that shall be consumed in the 120 bhp natural gas fired reciprocating engine, Bucks Engines DBKSB05.7WHG (VRUE-1) shall not exceed 955 cubic feet per hour (cf/hr) or 8.4 million cubic feet per year (MMcf/yr).
- 6.1.2. The natural gas that shall be consumed in the 120 bhp natural gas fired reciprocating engine, Bucks Engines DBKSB05.7WHG (VRUE-1E) shall not exceed the following limits.

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	0.07	0.32
Carbon Monoxide (CO)	0.11	0.50
Volatile Organic Compounds (VOC)	0.01	0.03
Particulate Matter (PM10)	0.01	0.04
Sulfur Dioxide (SO ₂)	0.01	0.01
Formaldehyde	0.01	0.02

6.2. Monitoring Requirements

- 6.2.1. See Facility-Wide Monitoring Requirements in Section 3.2 and Monitoring Requirements in Section 7.5.

6.3. Testing Requirements

- 6.3.1. See Facility-Wide Testing Requirements in Section 3.3 and Testing Requirements in Section 7.5.

6.4. Recordkeeping Requirements

- 6.4.1. To demonstrate compliance with sections 6.1.1 through 6.1.2, the permittee shall maintain records of the amount and type of fuel consumed in each engine and the hours of operation of the 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.
- 6.4.2. See Facility-Wide Recordkeeping Requirements 3.4 and Recordkeeping Requirements 7.6 and 8.4.

6.5. Reporting Requirements

- 6.5.1. See Facility-Wide Requirements Section 3.5 and Reporting Requirements in Section 7.6 and 8.4.

7.0. Source-Specific Requirements (40CFR60 Subpart JJJJ Requirements for E-1, E-2, E-3 & VRUE-1)

7.1. General Limitations and Standards

- 7.1.1. The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of this section. 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 are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.
 - (c) The provisions of § 60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.
 - (d) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.
 - (e) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
 - (f) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.
 - (g) 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.

- (h) Owners and operators of facilities with internal combustion engines that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[40CFR§60.4230] (E-1, E-2, E-3, VRUE-1)

7.2. Emission Standards for Owners and Operators

- 7.2.1. 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. **[\$60.4233(e)] (E-1, E-2, E-3, VRUE-1)**
- 7.2.2. 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] (E-1, E-2, E-3, VRUE-1)**

7.3. Other General Requirements for Owners and Operators

- 7.3.1. After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in § 60.4233. **[40CFR§60.4236(a)]**
- 7.3.2. After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in § 60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in § 60.4233 may not be installed after January 1, 2010. **[40CFR§60.4236(b)]**
- 7.3.3. For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in § 60.4233 after January 1, 2011. **[40CFR§60.4236(c)]**
- 7.3.4. In addition to the requirements specified in §§ 60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section. **[40CFR§60.4236(d)]**
- 7.3.5. 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)]**

7.4. Compliance Requirements for Owners and Operators

- 7.4.1. 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. [40CFR§60.4243(b)] (E-1, E-2, E-3, VRUE-1)
- (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. [40CFR§60.4243(b)(1)] (VRUE-1)
 - (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. [40CFR§60.4243(b)(2)] (E-1, E-2, E-3)
 - (1) 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)(2)(ii)] (E-1, E-2, E-3)
- 7.4.3. 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)] (E-1, E-2, E-3, VRUE-1)
- 7.4.4. 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)] (E-2, E-3)

7.5. Monitoring and Testing Requirements

- 7.5.1. Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.
- (a) 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.
 - (b) 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.
 - (c) 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.

- (d) To determine compliance with the NOX mass per unit output emission limitation, convert the concentration of NOX 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 NOX in g/HP-hr.

Cd = Measured NOX concentration in parts per million by volume (ppmv).

1.912×10⁻³ = Conversion constant for ppm NOX 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).

- (e) 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.

Cd = Measured CO concentration in ppmv.

1.164×10⁻³ = 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.

- (f) 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.

Cd = VOC concentration measured as propane in ppmv.

1.833×10⁻³ = 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.

- (g) 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.

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

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

CM_i = Measured concentration of compound i in ppmv as carbon.

CA_i = True concentration of compound i in ppmv as carbon.

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

Where:

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

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

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

Where:

C_{Proq} = Concentration of compound i in mg of propane equivalent per DSCM.

[40CFR§60.4244(a), (b), (c), (d), (e), (f), (g)] (E-1, E-2, E-3)

7.6. Notification, Reports, Recordkeeping Requirements

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

- (a) All notifications submitted to comply with this subpart and all documentation supporting any notification.
- (b) Maintenance conducted on the engine.
- (c) 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, 1048, 1054, and 1060, as applicable.
- (d) 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)] (E-1, E-2, E-3, VRUE-1)

7.6.2. 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.

- (a) Name and address of the owner or operator;
- (b) The address of the affected source;
- (c) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- (d) Emission control equipment; and
- (e) Fuel used.

[40CFR§60.4245(c)] (E-1, E-2, E-3)

- 7.6.3. 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)] (E-1, E-2, E-3)**

8.0. Source-Specific Requirements (40CFR60 Subpart OOOO Requirements, Reciprocating Compressor Engines (E-1, E-2, E-3, VRUE-1))

8.1. Limitations and Standards

- 8.1.1. You must comply with the standards in paragraphs (a) through (d) of this section for each reciprocating compressor affected facility.

- (a) You must replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2) of this section.
- (1) Before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of your reciprocating compressor affected facility, or October 15, 2012, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.
 - (2) Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.
 - (3) You must demonstrate initial compliance with standards that apply to reciprocating compressor affected facilities as required by § 60.5410.
 - (4) You must demonstrate continuous compliance with standards that apply to reciprocating compressor affected facilities as required by § 60.5415.
 - (5) You must perform the required notification, recordkeeping, and reporting as required by § 60.5420.

[40CFR§60.5385, Reciprocating Compressor Engines]

8.2. Initial Compliance Demonstration

- 8.2.1. You must determine initial compliance with the standards for each affected facility using the requirements in paragraph (c) of this section. The initial compliance period begins on October 15, 2012 or upon initial startup, whichever is later, and ends no later than one year after the initial startup date for your affected facility or no later than one year after October 15, 2012. The initial compliance period may be less than one full year.

- (a) To achieve initial compliance with the standards for each reciprocating compressor affected facility you must comply with paragraphs (c)(1) through (4) of this section.
- (1) During the initial compliance period, you must continuously monitor the number of hours of operation or track the number of months since the last rod packing replacement.
 - (2) You must submit the notifications required in 60.7(a)(1), (3), and (4).

- (3) You must submit the initial annual report for your reciprocating compressor as required in § 60.5420(b).
- (4) You must maintain the records as specified in § 60.5420(c)(3) for each reciprocating compressor affected facility. **[40CFR§60.5410]**

8.3. Continuous Compliance Demonstration

8.3.1. For each reciprocating compressor affected facility, you must demonstrate continuous compliance according to paragraphs (1) through (3) of this section.

- (1) You must continuously monitor the number of hours of operation for each reciprocating compressor affected facility or track the number of months since initial startup, or October 15, 2012, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.
- (2) You must submit the annual report as required in § 60.5420(b) and maintain records as required in § 60.5420(c)(3).
- (3) You must replace the reciprocating compressor rod packing before the total number of hours of operation reaches 26,000 hours or the number of months since the most recent rod packing replacement reaches 36 months.

8.3.2. Affirmative defense for violations of emission standards during malfunction. In response to an action to enforce the standards set forth in §§ 60.5375, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at § 60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

- (1) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in § 60.5420(a), and must prove by a preponderance of evidence that:
 - (i) The violation:
 - Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
 - Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
 - Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
 - (ii) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
 - (iii) The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
 - (iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

- (v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
 - (vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
 - (vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
 - (viii) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
 - (ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.
- (2) Report. The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (h)(1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.
- [40CFR§60.5415]**

8.4. Notification, Recordkeeping and Reporting Requirements

- 8.4.1. You must submit the notifications required in § 60.7(a)(1) and (4), and according to paragraphs (a)(1) and (2) of this section, if you own or operate one or more of the affected facilities specified in § 60.5365 that was constructed, modified, or reconstructed during the reporting period.
- 8.4.2. Reporting requirements. You must submit annual reports containing the information specified in paragraphs (b)(4) of this section to the Administrator and performance test reports as specified in paragraph (b)(7) of this section. The initial annual report is due 30 days after the end of the initial compliance period as determined according to § 60.5410. Subsequent annual reports are due on the same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (6) of this section. Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.
- (1) The general information specified in paragraphs (b)(1)(i) through (iv) of this section.
 - (i) The company name and address of the affected facility.
 - (ii) An identification of each affected facility being included in the annual report.
 - (iii) Beginning and ending dates of the reporting period.

- (iv) A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (4) For each reciprocating compressor affected facility, the information specified in paragraphs (b)(4)(i) through (ii) of this section.
- (i) The cumulative number of hours of operation or the number of months since initial startup, October 15, 2012, or since the previous reciprocating compressor rod packing replacement, whichever is later.
 - (ii) Records of deviations specified in paragraph (c)(3)(iii) of this section that occurred during the reporting period.
- (7)
- (i) Within 60 days after the date of completing each performance test (see § 60.8 of this part) as required by this subpart you must submit the results of the performance tests required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority.
 - (ii) All reports required by this subpart not subject to the requirements in paragraph (a)(2)(i) of this section must be sent to the Administrator at the appropriate address listed in § 63.13 of this part. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraph (a)(2)(i) and (ii) of this section in paper format.
[40CFR§60.5420]
- 8.4.3. Recordkeeping requirements. You must maintain the records identified as specified in § 60.7(f) and in paragraph (c)(1) of this section. All records must be maintained for at least 5 years.
- (3) For each reciprocating compressors affected facility, you must maintain the records in paragraphs (c)(3)(i) through (iii) of this section.
- (i) Records of the cumulative number of hours of operation or number of months since initial startup or October 15, 2012, or the previous replacement of the reciprocating compressor rod packing, whichever is later.

- (ii) Records of the date and time of each reciprocating compressor rod packing replacement.
- (iii) Records of deviations in cases where the reciprocating compressor was not operated in compliance with the requirements specified in § 60.5385.
[40CFR§60.5420]

9.0. Source-Specific Requirements (Diesel Fired Emergency Engine G-1)

9.1. Limitations and Standards

- 9.1.1. The quantity of diesel fuel that shall be consumed in the 342bhp the diesel fueled fired compression engine, Cummins Inc. QSL9-G7 NR3 (G-1) shall not exceed 17.7 gallons per hour or 8,845 gallons per year.
- 9.1.2. Maximum emissions from the 342 bhp diesel fueled fired engine (G-1E) shall be controlled by a turbocharger and CAC shall not exceed the following limits.

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	2.02	0.51
Carbon Monoxide (CO)	1.96	0.49
Volatile Organic Compounds (VOC)	0.04	0.01
Particulate Matter (PM10)	0.11	0.03
Sulfur Dioxide (SO2)	0.70	0.18
Formaldehyde	0.01	0.01

- 9.1.3. **Maximum Yearly Operation Limitation.** The maximum yearly hours of operation for the 342 hp emergency diesel fired generator, (G-1) shall not exceed 500 hours per year. Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the hours of operation at any given time during the previous twelve consecutive calendar months.

9.2. Monitoring Requirements

- 9.2.1. See Facility-Wide Monitoring Requirements Section 3.2 and Monitoring Requirements of Section 10.5.

9.3. Testing Requirements

- 9.3.1. See Facility-Wide Testing Requirements Section 3.3 and Testing Requirements of Section 10.7.

9.4. Recordkeeping Requirements

- 9.4.1. To demonstrate compliance with sections 9.1.1 through 9.1.3, the permittee shall maintain records of the amount and type of fuel consumed in the engine and the hours of operation of the 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.

- 9.4.2. See Facility-Wide Recordkeeping Requirements in Section 3.4 and Recordkeeping Requirements in Section 10.8.

9.5. Reporting Requirements

- 9.5.1. See Facility-Wide Reporting Requirements Section 3.5 and Reporting Requirements in 10.8.

10.0. Source-Specific Requirements (40CFR60 Subpart IIII Requirements, G-1)

10.1. General Limitations and Standards

- 10.1.1. The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

- (1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:
 - (i) 2007 or later, for engines that are not fire pump engines;
 - (ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.
- (2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:
 - (i) Manufactured after April 1, 2006, and are not fire pump engines, or
 - (ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.
- (3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.
- (4) The provisions of § 60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.
[40CFR§60.4200(a)(1)(2)(3)(4)]

- 10.1.2. The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand. **[40CFR§60.4200(b)]**

- 10.1.3. If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources. **[40CFR§60.4200(c)]**

- 10.1.4. Stationary CI 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 part 89, subpart J and 40 CFR part 94, subpart J, 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§60.4200(d)]**

- 10.1.5. Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad

engine provisions, are not required to meet any other provisions under this subpart with regard to such engines. [40CFR§60.4200(e)]

10.2. Emission Limitations and Standards

- 10.2.1. Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [40CFR§60.4205(b)]
- 10.2.2. Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in § 60.4212. [40CFR§60.4205(e)]
- 10.2.3. Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section. [40CFR§60.4202(a)]
- 10.2.4. For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007. [40CFR§60.4202(a)(2)]
- 10.2.5. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine. [40CFR§60.4206]

10.3. Fuel Requirements and Standards

- 10.3.1. Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a). [40CFR§60.4207(a)]
- 10.3.2. Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40CFR§60.4207(b)]

10.4. Other Requirements for Owners and Operators

- 10.4.1 After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines. [40CFR§60.4208(a)]
- 10.4.2. After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines. [40CFR§60.4208(b)]
- 10.4.3. After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW

(75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines. [40CFR§60.4208(c)]

- 10.4.4. After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines. [40CFR§60.4208(d)]
- 10.4.5. After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines. [40CFR§60.4208(e)]
- 10.4.6. After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines. [40CFR§60.4208(f)]
- 10.4.7. After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines. [40CFR§60.4208(g)]
- 10.4.8. In addition to the requirements specified in §§ 60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section. [40CFR§60.4208(h)]
- 10.4.9. The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location. [40CFR§60.4208(i)]

10.5. Monitoring Requirements Owners and Operators

- 10.5.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine. [40CFR§60.4209(a)]
- 10.5.2. If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in § 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40CFR§60.4209(b)]

10.6. Compliance Requirements Owners and Operators

- 10.6.1. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:
 - (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
 - (2) Change only those emission-related settings that are permitted by the manufacturer; and
 - (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

[40CFR§60.4211(a)]

- 10.6.2. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(b) or § 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must comply by purchasing an engine certified to the emission standards in § 60.4204(b), or § 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section. **[40CFR§60.4211(e)]**
- 10.6.3. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
 - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
 - (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to

generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - (D) The power is provided only to the facility itself or to support the local transmission and distribution system.
 - (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.
- [40CFR§60.4211(f)(1)(2)(3)]**

10.6.4. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

- (2) If you are an owner or operator of a stationary CI 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 to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
- [40CFR§60.4211(g)(2)]**

10.7. Testing Requirement Owner and Operators (Internal Combustion Engine with a Displacement of Less Than 30 Liters Per Cylinder)

- 10.7.1. The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder. **[40CFR§60.4212(a)]**
- 10.7.2. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical

requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in § 60.4213 of this subpart, as appropriate.

[40CFR§60.4212(c)]

10.8. Notification, Reporting, and Recordkeeping Requirements

10.8.1. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

[40CFR§60.4214(b)]

10.8.2. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

[40CFR§60.4214(c)]

10.8.3. If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

- (i) Company name and address where the engine is located.
- (ii) Date of the report and beginning and ending dates of the reporting period.
- (iii) Engine site rating and model year.
- (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
- (v) Hours operated for the purposes specified in § 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(2)(ii) and (iii).
- (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 60.4211(f)(2)(ii) and (iii).
- (vii) Hours spent for operation for the purposes specified in § 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §

60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

- (2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.
- (3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4.

[40CFR§60.4214(d)]

11.0. Source-Specific Requirements (Natural Gas Fired Reboiler, RBLR-1)

11.1. Limitations and Standards

11.1.1. **Maximum Design Heat Input.** The maximum design heat input for the TEG Dehydration Unit Reboiler (RBLR-1) shall not exceed 1.5 MMBtu/hr. The quantity of natural gas that shall be consumed shall not exceed 1,405 cubic feet per hour (cf/hr) or 12.3 million cubic feet per year (MMcf/yr).

11.1.2. Maximum emissions from the TEG Dehydration Unit Reboiler (RBLR-1E) shall not exceed the following limits.

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	0.14	0.62
Carbon Monoxide (CO)	0.12	0.52
Volatile Organic Compounds (VOC)	0.01	0.03
Particulate Matter (PM10)	0.01	0.05
Sulfur Dioxide (SO2)	0.01	0.01

11.1.3. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

[45CSR§2-3.1.]

11.2. Monitoring Requirements

11.2.1. At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with Section 11.1.3. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.

11.3. Testing Requirements

11.3.1. Compliance with the visible emission requirements of section 11.1.3 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and

may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of section 11.1.3. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.

[45CSR§2-3.2.]

11.4. Recordkeeping Requirements

- 11.4.1. To demonstrate compliance with sections 11.1.1 and 11.1.2, the permittee shall maintain records of the amount of natural gas consumed in the reboiler (RBLR-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.
- 11.4.2. The permittee shall maintain records of all monitoring data required by Section 11.2.1 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80F, 6 - 10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9.

11.5. Reporting Requirements

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

12.0. Source-Specific Requirements (Emergency Flare, FL-1)

12.1. Limitations and Standards

- 12.1.1. The permittee shall install an emergency flare to be operated at normal conditions (nonemergency conditions) and shall not exceed the 265 cubic feet per hour (cf/hr) and 2.3 million cubic feet per year (MMcf/yr) at the facility of natural gas.
- 12.1.2. Maximum emissions from the flare (FL-1E) shall not exceed the following limits for normal operation.

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	0.02	0.11
Carbon Monoxide (CO)	0.02	0.09
Volatile Organic Compounds (VOC)	0.01	0.01
Particulate Matter (PM10)	0.01	0.01
Sulfur Dioxide (SO2)	0.01	0.01

- 12.1.3. The flare (FL-1) is subject to 45CSR6. The requirements of 45CSR6 include but are not limited to the following:
- i. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is either 5.43 for an incinerator with a capacity of less than 15,000 lbs/hr or 2.72 for an incinerator with a capacity of 15,000 lbs/hr or greater. **[45CSR6 §4.1]**
 - ii. No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater. **[45CSR6 §4.3]**
 - iii. The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per startup. **[45CSR6 §4.4]**
 - iv. No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air. **[45CSR6 §4.5]**
 - v. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors. **[45CSR6 §4.6]**
 - vi. At such reasonable times as the Secretary may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading, by using 40 CFR Part 60, Appendix A, Method 5 or other equivalent U.S. EPA approved method approved by the Secretary, in exhaust gases. Such tests shall be conducted in such manner as the Secretary may specify and be filed on forms and in a manner acceptable to the Secretary. The Secretary may, at the Secretary's option, witness or conduct such stack tests. Should the Secretary exercise his or her option to conduct such tests, the operator will provide all the 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. **[45CSR6 §7.1]**
 - vii. The Secretary may conduct such other tests as the Secretary may deem necessary to evaluate air pollution emissions other than those noted above. **[45CSR6 §7.2]**
 - viii. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. **[45CSR6 §8.2]**
- 12.1.4. The presence of a pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
- 12.1.5. The flare (FL-1) shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.

- 12.1.6. The flare (FL-1) installed shall be a pressure-assisted flare operated and designed in accordance with the information filed in permit application R13-3099 to achieve a control efficiency of 98.5%.
- 12.1.7. The permittee will comply with the requirements of Section 2.12 of this permit during emergency operation of the flare.

12.2. Monitoring Requirements

- 12.2.1. In order to demonstrate compliance with the requirements of 12.1.1, 12.1.2 and 12.1.3.i, the permittee shall monitor the throughput to the flare (FL-1) on a monthly basis.
- 12.2.2. To demonstrate compliance with the flame requirements of 12.1.4 and 12.1.5, the presence of a flame shall be continuously monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

12.3. Testing Requirements

- 12.3.1. In order to demonstrate compliance with the flare opacity requirements of 12.1.3.ii, the permittee shall conduct a Method 22 opacity test for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period using 40CFR60 Appendix A Method 22. The permittee shall conduct this test within one (1) year of permit issuance or initial startup whichever is later. The visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.
- 12.3.2. An initial operational assurance test by the flare vendor shall be conducted to ensure flame stability and smokeless operation of the flare (FL-1).

12.4. Recordkeeping Requirements

- 12.4.1. For the purpose of demonstrating compliance with section 12.1.4 and 12.2.2, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
- 12.4.2. For the purpose of demonstrating compliance with section 12.1.2, 12.1.6 and 12.3.2, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director. The permittee shall maintain a record of the initial operational assurance test.
- 12.4.3. For the purpose of demonstrating compliance with the requirements set forth in sections 12.1.3.vi and 12.1.3.vii, the permittee shall maintain records of testing conducted in accordance with 12.3.2.
- 12.4.4. The permittee shall document and maintain the corresponding records specified by the on-going monitoring requirements of 12.2 and testing requirements of 12.3.
- 12.4.5. For the purpose of demonstrating compliance with section 12.1.3.ii, the permittee shall maintain records of the visible emission opacity tests conducted per Section 12.3.1.

- 12.4.6. For the purpose of demonstrating compliance with section 4.1.1, the permittee shall maintain a record of all potential to emit (PTE) HAP calculations for the entire affected facility. These records shall include the natural gas compressor engines and ancillary equipment.
- 12.4.7. In order to demonstrate compliance with 12.1.2, upon request of the Director, the permittee shall demonstrate compliance emissions thresholds by maintaining the amount of natural gas consumed in the emergency flare.
- 12.4.8. All records required under Section 12.4 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.

12.5. Reporting Requirements

- 12.5.1. If permittee is required by the Director to demonstrate compliance with section 12.1.3.iv and 12.1.3.vii, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.
- 12.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 12.5.3. Any deviation(s) from the flare design and operation criteria in Section 12.1.6 and permit application R13-3099, shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.
- 12.5.4. The permittee shall report to the Director, the time, cause of event, estimate of emissions and corrective actions taken when the flare was used for an emergency at the facility.

13.0. Source-Specific Requirements (Natural Gas Dehydration Units Not Subject to MACT Standards and Being Controlled by a Flare Control Device, DEHY-1, FL-2)

13.1. Limitations and Standards

- 13.1.1. **Maximum Throughput Limitation.** The maximum wet natural gas throughput to the TEG dehydration unit/still column (DEHY-1) shall not exceed 50 million standard cubic feet per day (MMscfd). 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.

- 13.1.2. Maximum emissions from the TEG Dehydrator Still Vent (DEHY-1) controlled by a flare (FL-2E) shall not exceed the following limits.

Pollutants	Maximum Hourly Emissions (lbs/hr)	Maximum Annual Emission (tpy)
Nitrogen Oxides (NOx)	0.19	0.82
Carbon Monoxide (CO)	0.16	0.69
Volatile Organic Compounds (VOC)	1.94	8.51
Particulate Matter (PM10)	0.01	0.06
Sulfur Dioxide (SO2)	0.01	0.01
Benzene	0.01	0.01
Ethylbenzene	0.01	0.01
n-Hexane	0.20	0.90
Toluene	0.01	0.01
Xylenes	0.01	0.01

- 13.1.3. The flare (FL-1) is subject to 45CSR6. The requirements of 45CSR6 include but are not limited to the following:

- i. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is either 5.43 for an incinerator with a capacity of less than 15,000 lbs/hr or 2.72 for an incinerator with a capacity of 15,000 lbs/hr or greater. **[45CSR6 §4.1]**

- ii. No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater. **[45CSR6 §4.3]**
- iii. The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per startup. **[45CSR6 §4.4]**
- iv. No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air. **[45CSR6 §4.5]**
- v. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors. **[45CSR6 §4.6]**
- vi. At such reasonable times as the Secretary may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading, by using 40 CFR Part 60, Appendix A, Method 5 or other equivalent U.S. EPA approved method approved by the Secretary, in exhaust gases. Such tests shall be conducted in such manner as the Secretary may specify and be filed on forms and in a manner acceptable to the Secretary. The Secretary may, at the Secretary's option, witness or conduct such stack tests. Should the Secretary exercise his or her option to conduct such tests, the operator will provide all the 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. **[45CSR6 §7.1]**

- vii. The Secretary may conduct such other tests as the Secretary may deem necessary to evaluate air pollution emissions other than those noted above. **[45CSR6 §7.2]**
- viii. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. **[45CSR6 §8.2]**
- 13.1.4. The presence of a pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
- 13.1.5. The flare (FL-2) shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.
- 13.1.6. The flare (FL-2) installed shall be a pressure-assisted flare operated and designed in accordance with the information filed in permit application R13-3099 to achieve a control efficiency of 98.0%.
- 13.1.7. 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.
- 13.1.8. Any source that determines it is not a major source, but has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP (i.e., 50 percent of the major source thresholds), shall update its major source determination within 1 year of the prior determination or October 15, 2012, whichever is later, and each year thereafter, using gas composition data measured during the preceding 12 months. **[40CFR§63.760(c)]**
- 13.1.9. The permittee is exempt from the requirements of 40CFR§63.760(b)(2) if the criteria below is met, except that the records of the determination of these criteria must be maintained as required in 40CFR§63.774(d)(1).
- The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year (1 ton/yr), as determined by the procedures specified in §63.772(b)(2) of this subpart.
- [40CFR§63.764(e)(1)]**

13.2. Monitoring Requirements

- 13.2.1. In order to demonstrate compliance with the requirements of 13.1.4, the permittee shall monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device, except during SSM events.
- 13.2.2. The permittee shall monitor the throughput of wet natural gas fed to the dehydration system on a monthly basis for the glycol dehydration unit (DEHY-1). In addition, the permittee shall monitor the amount of natural gas used to ignite the pilot on the flare on a monthly basis.
- 13.2.3. In order to demonstrate compliance with the area source status, claimed within section 13.1.2 and 13.1.9, the following parameters shall be measured at least once monthly, with the exception of wet gas composition, in order to define annual average values or if monitoring is not practical, some parameters may be assigned default values as listed below.

- a. Natural Gas Flowrate
 - i. Number of days operated per year
 - ii. Monthly throughput (MMscf/month)
 - iii. Annual daily average (MMscf/day), and
 - iv. Maximum design capacity (MMscf/day)
- b. Absorber temperature and pressure
- c. Lean glycol circulation rate
- d. Glycol pump type and maximum design capacity (gpm)
- e. Flash tank temperature and pressure, if applicable
- f. Stripping gas flow rate, if applicable
- g. Wet gas composition (upstream of the absorber – dehydration column) sampled in accordance with GPA method 2166 and analyzed consistent with GPA extended method 2268 as well as the procedures presented in the GRI-GLYCalc™ Technical Reference User Manual and Handbook V4
- h. Wet gas water content (lbs H₂O/MMscf)
- i. Dry gas water content (lbs H₂O/MMscf) at a point directly after exiting the dehydration column and before any additional separation points

The following operating parameter(s) may be assigned default values when using GRI-GLYCalc:

- a. Dry gas water content can be assumed to be equivalent to pipeline quality at 7 lb H₂O/MMscf
- b. Wet gas water content can be assumed to be saturated
- c. Lean glycol water content if not directly measured may use the default value of 1.5% water as established by GRI
- d. Lean glycol circulation rate may be estimated using the TEG recirculation ratio of 3 gal TEG/ lb H₂O removed.

Note: If you are measuring and using actual wet or dry gas water content, then you should also measure the glycol recirculation rate rather than using the default TEG recirculation ratio. [45CSR§13-5.11, §63.772(b)(2)(i)]

13.3. Testing Requirements

- 13.3.1. In order to demonstrate compliance with the flare opacity requirements of 13.1.3.ii, the permittee shall conduct a Method 22 opacity test for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period using 40CFR60 Appendix A Method 22. The permittee shall conduct this test within one (1) year of permit issuance or initial startup whichever is later. The visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.
- 13.3.2. For the purpose of demonstrating compliance with section 13.1.2 and 13.1.6, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.

- 13.3.3. The permittee shall determine the composition of the wet natural gas by sampling in accordance with GPA Method 2166 and analyzing according to extended GPA Method 2286 analysis as specified in the GRI-GLYCalc™ V4 Technical Reference User Manual and Handbook. As specified in the handbook, the permittee shall sample the wet gas stream at a location prior to the glycol dehydration contactor column, but after any type of separation device, in accordance with GPA method 2166. The permittee may utilize other equivalent methods provided they are approved in advance by DAQ as part of a testing protocol. If alternative methods are proposed, a test protocol shall be submitted for approval no later than 60 days before the scheduled test date. The initial compliance test must be conducted within 180 days of permit issuance or within 180 days of startup of the glycol dehydration unit, whichever is later.

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, the permittee 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. [45CSR§13-5.11]

- 13.3.4. The following testing and compliance provisions of Part 63 Subpart HH National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities are applicable to the facility:

§63.772 Test methods, compliance procedures, and compliance demonstrations.

- (b) Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.
- (2) The determination of actual average benzene emissions or BTEX emissions from a glycol dehydration unit shall be made using the procedures of paragraph (b)(2)(i) of the requirement. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.
- (i) The owner or operator shall determine actual average benzene emission using the model GRI-GLYCalc™, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalc™ Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1). [§63.772(b)(2)(i)]

- 13.3.5. An initial operational assurance test by the flare vendor shall be conducted to ensure flame stability and smokeless operation of the flare (FL-2).

13.4. Recordkeeping Requirements

- 13.4.1. For the purpose of demonstrating compliance with section 13.1.4, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
- 13.4.2. For the purpose of demonstrating compliance with section 13.1.6 and 13.3.5, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations

and other related information requested by the Director. The permittee shall maintain a record of the initial operational assurance test.

- 13.4.3. The permittee shall document and maintain the corresponding records specified by the on-going monitoring requirements of 13.2 and testing requirements of 13.3.
- 13.4.5. For the purpose of demonstrating compliance with section 13.1.3.ii, the permittee shall maintain records of the visible emission opacity tests conducted per Section 13.3.1.
- 13.4.6. For the purpose of demonstrating compliance with section 4.1.1, the permittee shall maintain a record of all potential to emit (PTE) HAP calculations for the entire affected facility. These records shall include the natural gas compressor engines and ancillary equipment.
- 13.4.7. The permittee shall maintain a record of the wet natural gas throughput through the dehydration system and the natural gas throughput used to pilot the flame to demonstrate compliance with sections 13.1.1, 13.1.2 and 13.2.2.
- 13.4.8. For the purpose of documenting compliance with the emission limitations, HAP major source thresholds, as well as the benzene exemption, the permittee shall maintain records of all monitoring data, wet gas sampling, and annual GRI-GLYCalc™ emission estimates. **[45CSR§13-5.11]**
- 13.4.9. All records required under Section 13.4 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.

13.5. Reporting Requirements

- 13.5.1. If permittee is required by the Director to demonstrate compliance with section 13.3.2, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.
- 13.5.2. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 13.5.3. Any deviation(s) from the flare design and operation criteria in Section 13.1.6 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of discovery of such deviation.
- 13.5.4. The permittee shall submit an emission summary for the glycol dehydration units, which incorporated the wet gas testing results required in 13.3.3. These reports shall include an actual annual average emission estimate for the calendar year of the sample, modeled using GRI-GLYCalc™, Version 3.0 or higher software, which incorporates site specific parameters measured in accordance with 13.2.3. The permittee shall also supply all supporting documentation where site specific operating parameters are tabulated to define the annual average values. The report shall incorporate a copy of the laboratory analysis obtained from the wet gas

testing as well as a description of how and where the sample was taken. The report shall include a reference to all sampling and analytical method utilized. Additionally, the permittee shall also define the glycol unit's maximum potential to emit (PTE) using the TEG pump's design capacity for recirculation rate input as well as the maximum design throughput of the contactor column or 1.2 time the highest documented annual average rate for any of the 5 years prior to October 15, 2012. If this calculated PTE exceeds 50% of major source thresholds then annual sampling shall be implemented in accordance with 40 CFR §63.760(c). The permittee shall also identify where the compressor station is located with respect to a custody transfer point, which is referenced within 40 CFR 63 subpart HH as the point where the gas enters into a natural gas transmission and/or storage pipeline. This report shall be signed by a responsible official upon submittal. The permittee shall submit a written report of the results of testing required in 13.3.3 of this permit before the close of business on the 90th day following the completion of such testing to the Director. [45CSR§13-5.11]

15.0. Source-Specific Requirements (Vapor Recovery Unit, VRU-1, Storage Tanks, T-1, T-2, T-3, T-4, Product Loadout Rack, LOAD-1)

15.1. Limitations and Standards

- 15.1.1. Emissions from the storage tanks (T-1 through T-3) and the Product Loadout Rack (LOAD-1) shall be controlled by a vapor recovery system (VRU-1), prior to release to the atmosphere. Emissions from these tanks will be collected and compressed by the vapor recovery unit (VRU-1) whereby the vapors are sufficiently compressed to be introduced in the inlet gas line and processed with the inlet gas. In addition, truck loading will take place with a vapor balance system in place, whereby vapors generated during the loading operation are routed back to the tanks and ultimately captured by the vapor recovery unit (VRU-1).
- 15.1.2. The maximum quantities specified in the table below shall not be exceeded for each loading operation.

Liquid Name	Maximum Daily Throughput (1,000 gal/day)	Maximum Yearly Throughput (1,000 gal/yr)
Condensate	25	3,600
Produced Water	25	2,400
Mixed Liquids	25	3,000

Compliance with the Maximum Daily Throughput Limitation shall be determined using a 24 hour period. Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the hours of operation at any given time during the previous twelve consecutive calendar months.

- 15.1.3. The vapor recovery system (VRU-1) must be installed and operating prior to start-up of the storage tanks (T-1, T-2 and T-3). The system will employ a vapor return which shall be designed to achieve a minimum guaranteed capture efficiency of 100% for the storage tanks (T-1 through T-3) and 70% for the truck loading, followed by the vapor recovery unit required in Section 15.1.1. All trucks loading the Condensate, Produced Water and Mixed Liquids are required to be certified as meeting the NSPS Annual Leak Test. Compliance with this requirement shall be demonstrated by keeping records of the NSPS Annual Leak Test certification for every truck loaded.
- 15.1.4. The Dehydrator Glycol Tank (T-4) shall be designed and operated in accordance with the information file in permit application R13-3099.

15.2. Monitoring Requirements

- 15.2.1. The permittee shall monitor the throughput to the loading operations on a monthly basis.
- 15.2.2. To demonstrate compliance with section 15.1.3, the permittee shall monitor the VRU (2E) in accordance with the plans and specifications and manufacturer's recommendations.

15.3. Recordkeeping Requirements

- 15.3.1. For the purpose of demonstrating compliance with section 15.1.2 and 15.2.1, the permittee shall maintain records of the amount of condensate, produced water and mixed liquids loaded.
- 15.3.2. For the purpose of demonstrating compliance with section 15.1.3, the permittee shall maintain records of the NSPS Annual Leak Tests of all trucks loaded with condensate, mixed liquids and produced water at the facility.
- 15.3.3. All records required under Section 15.3 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.
- 15.3.4. **Record of Maintenance of VRU.** The permittee shall maintain accurate records of the VRU-1 (VRU-1E) equipment inspection and/or preventative maintenance procedures.
- 15.3.5. **Record of Malfunctions of VRU.** The permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the (VRU-1) 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.
- 15.3.6. Upon request by the Director, the permittee shall report deviations within a requested time from of any occurrences when the control device was operated outside of the parameters defined in the monitoring plan.

16.0. Source-Specific Requirements (40CFR60 Subpart Kb, Storage Tank, T-3)

16.1. Applicability and designation of affected facility

- 16.1.1. Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. **[§60.110b(a)]**

- 16.1.2. This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa. [**§60.110b(b)**]

16.2. Standard for volatile organic compounds (VOC)

- 16.2.1. A closed vent system and control device meeting the following specifications:

- (i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).
- (ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§ 60.18) of the General Provisions. [**§60.112b(a)(3)(i)(ii)**]

16.3. Testing and procedures

- 16.3.1. The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b.

(a) *Reserved;*

(b) *Reserved;*

- (c) The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.

- (1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

- (i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.
- (ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

- (2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

[40CFR§60.113b]

16.4. Reporting and recordkeeping requirements

- 16.4.1. The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment. **[\$60.115b]**
- 16.4.2. After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.
 - (1) A copy of the operating plan.
 - (2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2). **[\$60.115b (c)]**

16.5. Monitoring of operations

- 16.5.1. The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source. **[\$60.116b(a)]**
- 16.5.2. The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. **[\$60.116b(b)]**
- 16.5.3. Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. **[\$60.116b(c)]**
- 16.5.4. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. **[\$60.116b(e)]**
 - (1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. **[\$60.116b(e)(1)]**
 - (2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:
 - (i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of

the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa. **[\$60.116b(e)(2)]**

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.
[\$60.116b(e)(3)]

16.5.4. The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in § 60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see § 60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

[\$60.116b(f)]

16.5.4. The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of § 60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section. **[\$60.116b(g)]**

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.

Signature¹ _____
(please use blue ink) Responsible Official or Authorized Representative Date

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

Telephone No. _____ Fax No. _____

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

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.