



west virginia department of environmental protection

Division of Air Quality
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Charleston, WV 25304
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

July 21, 2016

CERTIFIED MAIL
91 7199 9991 7034 1380 3120

Ms. Leslie Hartz, VP, Pipeline Construction
Atlantic Coast Pipeline, LLC
707 Main St.
Richmond, VA 23219

RE: **Permit Issuance**
Atlantic Coast Pipeline, LLC
Marts Compressor Station
Permit No. R13-3271
Plant ID No. 041-00076

Dear Ms. Hartz:

Your application for a permit as required by Section 5 of 45CSR13 - "Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permit, General Permit, and Procedures for Evaluation" has been approved. The enclosed permit R13-3271 is hereby issued pursuant to Subsection 5.7 of 45CSR13. Please be aware of the notification requirements in the permit which pertain to commencement of construction, modification, or relocation activities; startup of operations; and suspension of operations.

Please note, as a result of this permit, the source is a nonmajor or area source subject to 45CSR30. Therefore, the facility is not subject to the permitting requirements of 45CSR30 and is classified as a deferred source.

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.

Should you have any questions or comments, please contact me at (304) 926-0499, extension 1219.

Sincerely,


Joe Kessler, PE
Engineer

Enclosures

Permit to Construct



R13-3271

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 facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
Atlantic Coast Pipeline, LLC
Marts Compressor Station
041-00176

A blue ink signature of William F. Durham, written in a cursive style, positioned above a horizontal line.

William F. Durham
Director

Issued: July 21, 2016

Facility Location: Near Jane Lew, Lewis County, West Virginia
Mailing Address: 707 Main Street, Richmond, VA 23219
Facility Description: Compressor Station
SIC/NAICS Code: 4922/486210
UTM Coordinates: 545.53 km Easting • 4,332.66 km Northing • Zone 17
Latitude/Longitude: 39.13944/-80.46556
Permit Type: Construction
Desc. of Change: Construction of a natural gas compressor station utilizing combustion turbines..

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 ⁽¹⁾
CT-01	CT-01	Solar Titan 130-20502S Turbine	2018	20,500 bhp (ISO) (170.0 mmBtu/hr)	SCR Ox-Cat
CT-02	CT-02	Solar Mars 100-16000S Turbine	2018	15,900 bhp (ISO) (140.0 mmBtu/hr)	SCR Ox-Cat
CT-03	CT-03	Solar Taurus 70-10802S Turbine	2018	11,107 bhp (ISO) (94.3 mmBtu/hr)	SCR Ox-Cat
CT-04	CT-04	Solar Taurus 60-7800S Turbine	2018	7,684 bhp (ISO) (71.4 mmBtu/hr)	SCR Ox-Cat
EG-01	EG-01	Caterpillar 4SLB G3516C Emergency Generator	2018	2,098 bhp	None
TK-1	TK-1	Pipeline Liquids Tank	2018	2,500 gallons	None
TK-2	TK-2	Waste Oil Tank	2018	2,000 gallons	None
TK-3	TK-3	Ammonia Tank	2018	8,000 gallons	None
LR-1	LR-1	Tank Unloading Operations	2018	90 gallons/min	None

(1) SCR = Selective Catalytic Reduction; OxCat = Oxidation Catalyst

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 (45 CSR § 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 2.5µm 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	Ppmv 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 Law W.Va. Code §§22-5-1 et seq. and the following Legislative Rules promulgated thereunder:

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

2.4. Term and Renewal

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

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-3271 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 13-10.3]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses and/or approvals from other agencies; i.e., local, state and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

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

2.7. Duty to Supplement and Correct Information

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

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-4]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-5.4.]

2.10. Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.

[45CSR§13-5.1]

2.11. Inspection and Entry

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

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

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission

limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

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

2.13. Need to Halt or Reduce Activity Not a Defense

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

2.14. Suspension of Activities

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

2.15. Property Rights

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

2.16. Severability

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

2.17. Transferability

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

2.18. Notification Requirements

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

2.19. Credible Evidence

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

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

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

3.2. Monitoring Requirements

- 3.2.1. **Emission Limit Averaging Time.** Unless otherwise specified, compliance with all annual limits shall be based on a rolling twelve month total. A rolling twelve month total shall be the sum of the measured parameter of the previous twelve calendar months. Compliance with all hourly emission limits shall be based on the applicable NAAQS averaging times or, where applicable, as given in any approved performance test method.

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, SE
Charleston, WV 25304-2345

If to the USEPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance Review (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 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.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility by this permit. In accordance with the information filed in Permit Application R13-3271, the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, shall use the specified control devices, and comply with any other information provided under Table 1.0.

4.1.2. Combustion Turbines

The combustion turbines (CTs), identified as CT-1 through CT-4, shall meet the following requirements:

- a. Each authorized CT shall be the make, model, and size as specified under Table 1.0 and shall only be fired by pipeline-quality natural gas;
- b. With the exception of operation during “Low-Temperature Mode” and “Non-SoLoNOx” as defined under 4.2.1(a), at all times each CT is in operation, each unit shall utilize SoLoNOx dry low-NO_x combustor technology;
- c. With the exception of “Non-SoLoNOx Mode” as defined under 4.2.1(a), at all times each CT is in operation, each unit shall be controlled by Selective Catalytic Reduction (SCR) for control of NO_x emissions and shall utilize an oxidation catalyst for control of CO and unburnt hydrocarbon (UHC) emissions;
- d. Each CT shall be fired using good combustion practices;
- e. The maximum emissions from each CT shall not exceed the limits (during specific operational scenarios) as given in Appendix A; and
- f. **40 CFR 60, Subpart KKKK**
 The CTs shall meet all applicable requirements under 40 CFR 60, Subpart KKKK including the following:

(1) What emission limits must I meet for nitrogen oxides (NO_x)?

(i) You must meet the emission limits for NO_x specified in Table 1 to this subpart.
[40 CFR§60.4320(a)]

(ii) Table 1 to Subpart KKKK of Part 60—Nitrogen Oxide Emission Limits for New Stationary Combustion Turbines

Combustion turbine type	Combustion turbine heat input at peak load (HHV)	NO _x emission standard
New turbine firing natural gas	50 MMBtu/h and 850 MMBtu/h	25 ppm at 15 percent O ₂ or 150 ng/J of useful output (1.2 lb/MWh).

[40 CFR60, Subpart KKKK, Table 1]

(2) **What emission limits must I meet for sulfur dioxide (SO₂)?**

(ii) If your turbine is located in a continental area, you must comply with either paragraph (a)(1), (a)(2), or (a)(3) of this section. If your turbine is located in Alaska, you do not have to comply with the requirements in paragraph (a) of this section until January 1, 2008.

[40 CFR§60.4330(a)]

(A) You must not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO₂ in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh)) gross output;

[40 CFR§60.4330(a)(1)]

(B) You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.

[40 CFR§60.4330(a)(2)]

4.1.3. **Emergency Generator**

The emergency generator, identified as EG-01, shall meet the following requirements:

- a. The unit shall be a 2,098 hp 4-Stroke Lean Burn (4SLB) Caterpillar G3516C Emergency Generator (1,500 kWe), shall only be fired by pipeline-quality natural gas, and shall not operate in excess of 100 hours per year during periods not defined as emergencies;
- b. The maximum emissions from the Emergency Generator shall not exceed the limits given in the following table:

Table 4.1.3(b): Emergency Generator Emission Limits

Pollutant	PPH	TPY
CO	9.02	0.45
NO_x	2.31	0.12
VOC	4.86	0.24
Formaldehyde	2.41	0.12

c. **40 CFR 60, Subpart JJJJ**

The Emergency Generator shall meet all applicable requirements under 40 CFR 60, Subpart JJJJ including the following:

- (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.

[40 CFR §60.4233(e)]

Table 1 to Subpart JJJJ of Part 60—NO_x, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^(d)	NO _x	CO	VOC ^(d)
Emergency	HP≥130	1/1/2009	2.0	4.0	1.0	160	540	86

(a) Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

(b) For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included. [40 CFR60, Subpart JJJJ, Table 1]

(2) The emergency generator shall meet the definition of "Emergency stationary internal combustion engine" as given under §60.4248.
 [40 CFR §60.4248]

d. **40 CFR 63, Subpart ZZZZ**

An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
 [40 CFR §63.6590(c)]

4.1.4. [Reserved]

4.1.5. Storage Tanks

Use of the storage tanks, identified as TK-1 through TK-3, shall be in accordance with the following:

- a. Tank size and material stored shall be limited as specified under Table 1.0 of this permit; and
- b. The aggregate throughput of pipeline liquids (not counting any other liquids) in the storage tanks shall not exceed a limit of 12,500 gallons per year.

4.1.6. Truck Loadout

The Truck Loading operations, identified as LR-1, shall be in accordance with the following requirements:

- a. All pipeline liquids trucks shall be loaded using the submerged-fill method. The "submerged-fill method" shall, for the purposes of this permit, mean either bottom-filling or filling by extending the pipe to near the bottom of the tank, and as soon as is practicable, below the level of liquid; and
- b. The aggregate maximum loadout of pipeline liquids (not counting any other loadout operations) from the storage tanks shall not exceed 12,500 gallons per year.

4.1.7. Control Devices

Use of oxidation catalysts shall be in accordance with the following:

- a. The SCR systems and oxidation catalysts shall be designed, operated and maintained according to good engineering practices and manufacturing recommendations so as to achieve, at a minimum, the following limits:

- (1) NO_x: 5 ppmvd @ 15% O₂;
- (2) CO: 5 ppmvd @ 15% O₂; and
- (3) VOCs: 1.25 ppmvd @ 15% O₂.

- b. Catalyst performance shall be monitored and catalysts replaced according to good engineering practices and manufacturing recommendations; and
- c. The permittee shall operate the SCR in the optimal aqueous ammonia injection range as determined according to manufacturer recommendations or during the required performance testing. Ammonia slip from each SCR shall not exceed 10 ppmvd at 15% O₂ except during periods of "low-load mode" as defined under 4.2.3(1) and (2).
- d. **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.]

4.1.8. **Fugitive Emissions**

The permittee shall mitigate the release of fugitive emissions according to the following requirements:

- a. The permittee shall, within 180 days of facility startup, submit a modification or Class II Administrative Update, as applicable pursuant 45CSR13, to revise the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3271 or any amendments or revisions submitted thereto if the as-built number of components results in calculated VOC or HAP emissions in excess of those given under Attachment N;
- b. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced;
- c. The number of compressor blowdowns events due to turbine startups shall not exceed 100 per year per turbine and due to turbine shutdowns shall not exceed 100 per year per turbine. However, in lieu of the event limits given in this section, if the permittee can accurately determine the quantity of gas released during each event, the permittee may show compliance with 4.1.12(c) by limiting total annual gas released to less than 10.1 mmscf; and
- d. The permittee shall develop a plan to limit the duration of any unforeseen release of natural gas by responding to the event in a reasonable time frame. This plan will include the placement of visible contact information at the facility for public reporting such an event. This plan shall be submitted to the DAQ prior to startup of the facility.

- 4.1.9. The permittee shall meet all applicable requirements, including those not specified above, as given under 45CSR2, 45CSR10, 40 CFR 60, Subparts A, JJJJ, KKKK, OOOOa, and 40 CFR 63, Subpart ZZZZ. Any final revisions made to the above rules will, where applicable, supercede those specifically cited in this permit.

4.2. Monitoring, Compliance Demonstration, Recording and Reporting Requirements

4.2.1. Combustion Turbines

The CTs shall meet the following Monitoring, Compliance Demonstration, Recording and Reporting Requirements:

- a. The permittee shall monitor and record the monthly amount of hours each CT operates in the following modes:
 - (1) Normal Mode (SoLoNO_x) = Load \geq 50%: SoLoNO_x mode, SCR and Ox-Cat operating at minimum required emission rates;
 - (2) Low-Temperature Mode = Temperature \leq 0°F: non-SoLoNO_x mode, SCR and Ox-Cat operating at minimum required emission rates; and
 - (3) Non-SoLoNO_x (Startup/Shutdown) Mode = Load < 50%: non-SoLoNO_x mode, SCR and Ox-Cat not operating at minimum required emission rates.
- b. To determine compliance with the CT annual emissions limits given in Appendix A, the permittee shall calculate the monthly and twelve month rolling total emissions (in tons) that each CT emitted. The calculation of actual monthly and annual emissions shall be in accordance with the following:
 - (1) The permittee shall, by the end of each calendar month, calculate the monthly and rolling twelve month total of emissions of each CT using the data recorded under 4.2.1(a) and the best available emission factors in accordance with the following requirements:
 - (i) Emission factors may be used that were measured during the most recent performance test approved the Secretary (and that were used to determine compliance with hourly limits given in Appendix A);
 - (ii) When emission factors as described under 4.2.1(b)(i) are not available, the permittee shall use the emission factors used to calculate the potential-to-emit of the CTs as given in Permit Application R13-3271.
- c. **40 CFR 60, Subpart KKKK**

You may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for units located in continental areas and 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for units located in noncontinental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. You must use one of the following sources of information to make the required demonstration:

 - (1) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less and 0.4 weight percent (4,000 ppmw) or less for noncontinental areas, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet and 140 grains of sulfur or less per 100 standard cubic feet for noncontinental areas, has potential sulfur emissions of less than less than 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for

continental areas and has potential sulfur emissions of less than less than 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for noncontinental areas; or

- (2) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for continental areas or 180 ng SO₂/J (0.42 lb SO₂/MMBtu) heat input for noncontinental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

[40 CFR§60.4365]

4.2.2. **Emergency Generator**

For the purposes of demonstrating compliance with the maximum hours of operation limits set forth in 4.1.3(a), the permittee shall install a non-resettable hour meter and maintain monthly and rolling twelve month records of the hours of operation of the emergency generator.

4.2.3. **[Reserved]**

4.2.4. **Storage Tanks**

For the purposes of demonstrating compliance with maximum throughput limit of pipeline liquids set forth in 4.1.5(b), the permittee shall monitor and record the monthly and rolling twelve month total of pipeline liquids (in gallons) throughput in each storage tank. Monitoring and recording the monthly and rolling twelve month total of pipeline liquids (in gallons) unloaded from the storage tanks can be used to show compliance with this requirement.

4.2.5. **Control Devices**

The permittee shall meet the following Monitoring, Compliance Demonstration, Recording and Reporting Requirements for the oxidation catalysts:

- a. The permittee shall regularly inspect, properly maintain and/or replace catalytic reduction devices to ensure functional and effective operation of each unit. The permittee shall ensure proper operation, maintenance and performance of catalytic reduction devices by following the catalyst manufacturer emissions related operating and maintenance recommendations, or develop, implement, or follow a site-specific maintenance plan.
- b. To demonstrate compliance with section 4.2.5(b), the permittee shall maintain a copy of the site specific maintenance plan or manufacturer maintenance plan.

4.2.9 **Fugitive Emissions**

The permittee shall meet the following Monitoring, Compliance Demonstration, Recording and Reporting Requirements for the fugitive emissions:

- a. For the purposes of determining compliance with 4.1.8(c), the permittee shall monitor and record the monthly and rolling twelve month records of the number of compressor blowdowns events due to both turbine startups and shutdowns at the facility. The information will further include the duration, estimated volume of gas vented, and reason for event; and
- b. The permittee shall monitor and record other unplanned events (not listed under 4.1.8(c)) where gas is released (i.e., pressure relief trips). The information will further include the duration, estimated volume of gas vented, reason for event, and corrective actions taken.
- c. The permittee shall report all events recorded under 4.2.9(b) to the DAQ in writing as soon as practicable but no later than fifteen (15) days after the event.

4.3. Performance Testing Requirements

4.3.1. At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

4.3.2. Combustion Turbines

The permittee shall meet the following performance testing requirements with respect to the CTs:

- a. The permittee shall, pursuant to the timing and other requirements of 40 CFR 60, Subpart KKKK, conduct, or have conducted, performance testing on the CTs to determine the emission rates of NO_x, during operation in “normal mode” as defined 4.2.1(a)(1). The testing shall, in addition to meeting all applicable requirements under 40 CFR 60, Subpart KKKK, be in accordance with 3.3.1. Results of the this performance testing shall, unless granted in writing a waiver by the Director, be used to determine compliance with the NO_x emission limits given under 4.1.2(e). After the initial test, subsequent NO_x performance testing shall be conducted annually (no more than 14 months following the previous test) unless the previous results demonstrate that the affected units achieved compliance of less than or equal to 75 percent of the applicable emission limits, then the permittee may reduce the frequency of subsequent tests to once every three years (no more than 38 calendar months following the previous test).;
- b. In addition to the required performance testing under 4.3.2(a), the permittee shall, within 60 days after achieving the maximum rate at which the CTs will be operated, but not later than 180 days after initial startup, conduct, or have conducted, a performance test on the each CT to determine compliance with the emission limits of CO, during operation in “normal mode” as defined 4.2.1(a)(1). After the initial tests, subsequent performance testing on CO shall be conducted annually (no more than 14 months following the previous test) unless the previous results demonstrate that the affected units achieved compliance of less than or equal to 75 percent of the applicable emission limits, then the permittee may reduce the frequency of subsequent tests to once every three years (no more than 38 calendar months following the previous test). The permittee shall use the test methods specified in Table 4.3.2(b) unless granted approval in writing by the Director to use an alternative test method in a protocol submitted pursuant to 3.3.1.c.

Table 4.3.2(b): Combustion Turbine Test Methods

Pollutant	Test Method ⁽¹⁾
CO	Method 10B

(1) All test methods refer to those given under 40 CFR 60, Appendix A

4.4. Additional Recordkeeping Requirements

4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;

- d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- 4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
- a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

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

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

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

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

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 USEPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.