

West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Title V Operating Permit Revision

For Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Action Number: MM01 **SIC:** 4922
Name of Permittee: Columbia Gas Transmission, LLC
Facility Name/Location: Frametown Compressor Station
County: Braxton County
Permittee Mailing Address: 1700 MacCorkle Avenue SE, Charleston, WV 25314

Description of Permit Revision: Minor Modification to make administrative changes such as revising emission unit descriptions and changing compliance language for Fuel Heater H1 from Method 22 visual emission observations to Method 9 or continuous opacity monitoring systems (COMS) approved by the Secretary in order to be consistent with the requirements used in other permits issued to Columbia Gas Transmission, LLC. Recent Title V boilerplate changes were also incorporated at this time.

Title V Permit Information:

Permit Number: R30-00700100-2022
Issued Date: April 4, 2022
Effective Date: April 18, 2022
Expiration Date: April 4, 2027

Directions to Facility: Travel approximately 0.5 miles north from Frametown on State Route 4 and turn left onto County Route 9. Proceed on CR 9 approximately 1.5 miles to the station which is on the right side of the road.

THIS PERMIT REVISION IS ISSUED IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL ACT (W.VA. CODE §§ 22-5-1 ET SEQ.) AND 45CSR30 - "REQUIREMENTS FOR OPERATING PERMITS." THE PERMITTEE IDENTIFIED AT THE FACILITY ABOVE IS AUTHORIZED TO OPERATE THE STATIONARY SOURCES OF AIR POLLUTANTS IDENTIFIED HEREIN IN ACCORDANCE WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

Laura M. Crowder

Laura M. Crowder

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August 14, 2024

Laura M. Crowder
Director, Division of Air Quality

Date Issued

Permit Number: **R30-00700100-2022**
Permittee: **Columbia Gas Transmission, LLC**
Facility Name: **Frametown Compressor Station**
Permittee Mailing Address: **1700 MacCorkle Avenue SE, Charleston, WV 25314**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Frametown, Braxton County, West Virginia
Facility Mailing Address:	1598 Wilsie Road Frametown, WV 26623
Telephone Number:	(304) 357-2047
Type of Business Entity:	LLC
Facility Description:	Natural Gas Compression Facility
SIC Codes:	4922
UTM Coordinates:	511.970 km Easting • 4,279.227 km Northing • Zone 17

Permit Writer: Dan Roberts

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.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
04501	E01	Turbine Engine/Centrifugal Compressor; Rolls Royce Avon Turbine 1533-76G	1969	12,500 Hp	N/A
04502	E02	Turbine Engine/Centrifugal Compressor; Solar T-3000	1971	3,350 Hp	N/A
04503	E03	Turbine Engine/Centrifugal Compressor; Solar T-3000	1973	3,550 Hp	N/A
04504	E04	Solar Mars 100-16000S Turbine/ Compressor	2013	16,300 Hp 122 MMBtu/hr	N/A
045G5	G05	Emergency Generator <u>RICE – Waukesha VGFL3GL 4SRB</u>	2013	925 Hp	N/A
045H1	H1	Fuel Gas Heater – <u>ETI Model #SB20-10</u>	2013	0.80 MMBtu/hr	N/A
045SH1	SH1	Bruest Model 24-72 space heaters (40) <u>Catalytic Heaters (40)</u>	2013	Each 0.072 MMBtu/hr <u>2.88 MMBtu/hr (total)</u>	N/A
A03	A03	Produced Pipeline Liquids Tank	1992	6,000 gal	None
A04	A04	Produced Pipeline Liquids Tank	1992	6,000 gal	None
A05	A05	Produced Pipeline Liquids Tank	1992	6,000 gal	None
A09	A09	Produced Pipeline Liquids Tank	2019	3,000 gal	None
LR-1	LR-1	Produced Pipeline Liquids Unloading Rack	1992	42,000 gal/yr	None

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2234 B <u>C</u>	11/15/21 <u>01/16/24</u>

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 39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2 Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
 - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the permit shield.
 - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
 - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39 40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. 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; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

- 2.14.1. 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.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

- 2.16.1. It shall not be a defense for a permittee in an enforcement action that it would 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.

[45CSR§30-5.1.f.2.]

2.17. ~~Emergency~~ Reserved

~~2.17.1. An "emergency" means any situation arising from sudden and reasonably 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.~~

~~[45CSR§30-5.7.a.]~~

~~2.17.2. 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 45CSR§30-5.7.c. are met.~~

~~[45CSR§30-5.7.b.]~~

~~2.17.3. 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.—Subject to the requirements of 45CSR§30-5.1.e.3.C.1, 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, report, and variance request fulfills the requirement of 45CSR§30-5.1.e.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.~~

~~[45CSR§30-5.7.e.]~~

~~2.17.4.—In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.~~

~~[45CSR§30-5.7.d.]~~

~~2.17.5.—This provision is in addition to any emergency or upset provision contained in any applicable requirement.~~

~~[45CSR§30-5.7.e.]~~

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. 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 modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required 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.

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. 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.

[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

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

[45CSR§30-5.3.e.3.B. and ~~45CSR38~~]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§30-5.1.e.]

2.24. Property Rights

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

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person 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 or allow 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. [40 C.F.R. §61.145(b) and 45CSR34]
- 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. **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]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. No person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.

[45CSR§17-3.1; State Enforceable Only]

3.2. Monitoring Requirements

- 3.2.1. 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, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are 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.
- 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 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.
 3. A statement of compliance or non-compliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** 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.

[45CSR§30-5.1.c.2.A.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **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§30-5.1.c. 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.
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, 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 or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, [RCRA and Toxics Branch Section](#) (3ED21)
~~1650 Arch Street~~ [Four Penn Center](#)
[1600 John F. Kennedy Boulevard](#)
Philadelphia, PA 19103-~~2029~~ [2852](#)

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

¹For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

- 3.5.4. ~~Certified emissions statement~~ **Fees.** The permittee shall ~~submit a certified emissions statement and~~ pay fees on an annual basis in accordance with ~~the submittal requirements of the Division of Air Quality~~ [45CSR§30-8](#).
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on

site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

- 3.5.7. ~~**Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.~~ [Reserved.](#)

3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
- ~~1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.~~ [Reserved.](#)
 - Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or ~~telefax~~ [email](#). A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 - Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 - All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. None

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

45CSR4	<i>To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Cause or Contributes to an Objectionable Odor or Odors:</i> This State Rule shall not apply to the following source of objectionable odor until such time as feasible control methods are developed: Internal combustion engines.
45CSR10	<i>To Prevent and Control Air Pollution from the Emission of Sulfur Dioxide - Emissions from Indirect Heat Exchangers.</i> WVDAQ has determined that 45CSR10 does not apply to natural gas fired engines.
45CSR21	<i>To Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds:</i> The facility is not located in a designated VOC County. Therefore, this State Rule does not apply.
45CSR27	<i>To Prevent and Control the Emissions of Toxic Air Pollutants:</i> Natural gas is included as a petroleum product and contains less than 5% benzene by weight. 45CSR§27-2.4 exempts equipment “used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight.”
40 C.F.R. Part 60 Subpart OOOO	<i>Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.</i> The Storage Vessel requirements defined for transmission sources are not applicable to this site because there are no affected source storage vessels constructed or reconstructed after August 23, 2011 and on or before September 18, 2015 as stated in accordance with 40CFR§60.5365(e). No other affected sources were identified at this site.

<p>40 C.F.R. Part 60 Subpart OOOOa</p>	<p><i>Standards of Performance for Crude Oil and Natural Facilities for which Construction, Modification, or Reconstruction Commenced after September 18, 2015.</i> The GHG and VOC requirements defined by this NSPS are not applicable to this site because all affected sources, except A09, commenced construction prior to September 18, 2015 in accordance with the applicability criteria defined within [40CFR§60.5365a]. A09 commenced construction after September 18, 2015, and on or before November 16, 2020, but is not considered a storage vessel affected facility because its potential for VOC emissions is not equal to or greater than 6 tons per year (tpy) in accordance with the applicability criteria defined within [40CFR§60.5365a(e)(1)]. Promax software was used to calculate A09’s potential to emit as 0.24 tpy for VOCs. Affected sources evaluated are as follows: Compressors, Equipment Leaks, Pneumatic Controllers, and Storage Vessels.</p>
<p>40 C.F.R. Part 60 Subparts K and Ka</p>	<p><i>Standards of Performance for Petroleum Liquid Storage Vessels.</i> All tanks at the station are below the applicability criteria of 40,000 gallons in capacity as stated in 40CFR§§60.110(a) and 60.110a(a)</p>
<p>40 C.F.R. Part 60 Subpart Kb</p>	<p><i>Standards of Performance for Volatile Organic Liquid Storage Vessels.</i> All tanks at the station are below the applicability criteria of 19,813 gallons in capacity as stated in 40CFR§60.110b(a).</p>
<p>40 C.F.R. Part 60 Subpart Dc</p>	<p><i>Standards of Performance for Steam Generating Units.</i> The fuel gas heater burner has a maximum design heat input capacity of less than 10 MMBtu/hr, which is below the applicability threshold defined within [40CFR§60.40c(a)]. Additionally, the heater is not a steam generating unit.</p>
<p>40 C.F.R. Part 60 Subpart KKK</p>	<p><i>Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plant(s).</i> The station is not engaged in the extraction or fractionation of natural gas liquids from field gas, the fractionation of mixed natural gas liquids to natural gas products, or both. As a result, the station has no affected sources operating within this source category.</p>
<p>40 C.F.R. Part 60 Subpart GG</p>	<p>The provisions of this subpart are not applicable to the 04501, 04502, or 04503 turbines at this site because they were installed prior to the October 3, 1977 NSPS applicability date defined within 40CFR§60.330(b). Additionally, no modifications have occurred since the original installation.</p>
<p>40 C.F.R. Part 60 Subpart IIII</p>	<p><i>Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.</i> The Compressor Station does not have any compression ignition internal combustion engines.</p>
<p>40 C.F.R. Part 63 Subpart HHH</p>	<p><i>National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities.</i> The Compressor Station is not subject to Subpart HHH since it is not a major source of HAPs and it does not incorporate dehydration operations.</p>
<p>40 C.F.R. Part 63 Subpart YYYY</p>	<p>National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines does not apply to this station since it does not exceed major source HAP thresholds.</p>
<p>40 C.F.R. Part 63 Subpart DDDDD</p>	<p>National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters does not apply to this station since it does not exceed major source HAP thresholds.</p>

40 C.F.R. Part 63 Subpart JJJJJ	<i>National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.</i> The facility is not subject to 40 C.F.R. Part 63 Subpart JJJJJ since the fuel gas heater (045H1) is not a boiler, but a process heater, which is not regulated under this source category.
40 C.F.R. Part 64	There are no add-on controls, so this is not applicable per 40 CFR§64.2(a)(2).

3.8 Emergency Operating Scenario

For emergency situations which interrupt the critical supply of natural gas to the public, and which pose a life threatening circumstance to the customer, the permittee is allowed to temporarily replace failed engine(s) as long as all of the following conditions are met:

- a. The replacement engine(s) is only allowed to operate until repair of the failed engine(s) is complete, but under no circumstance may the replacement engine(s) operate in excess of sixty (60) days;
- b. Both the replacement engine(s) and the repaired failed engine(s) shall not operate at the same time with the exception of any necessary testing of the repaired engine(s) and this testing may not exceed five (5) hours;
- c. Potential hourly emissions from the replacement engine(s) are less than or equal to the potential hourly emissions from the engine(s) being replaced;
- d. Credible performance emission test data verifying the emission rates associated with the operation of the substitute engine shall be submitted to the Director within five (5) days;
- e. The permittee must provide written notification to the Director within five (5) days of the replacement. This notification must contain:
 - i. Information to support the claim of life threatening circumstances to justify applicability of this emergency provision;
 - ii. Identification of the engine(s) being temporarily replaced;
 - iii. The design parameters of the replacement engine(s) including, but not limited to, the design horsepower and emission factors;
 - iv. Projected duration of the replacement engine(s); and
 - v. The appropriate certification by a responsible official.

[45CSR§30-12.7]

4.0 45CSR13 Permit Conditions from R13-2234B C [emission point ID(s): E01, E04, H1, G05, A03, A04, A05, A09 and LR-1]

4.1. Limitations and Standards

4.1.1. Emissions from the equipment listed in Table 1.0 of this permit shall not exceed the following:

Source ID No.	NO _x		CO		VOC		SO ₂		PM/PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
E01	49.47	49.47	83.64	83.64	0.31	0.31	8.42	0.62	0.97	0.97
E04	60.37	33.79	653.41	90.33	7.47	4.33	0.46	2.02	2.03	8.90
H1	0.08	0.34	0.07	0.29	<0.01	0.02	0.05	<0.01	<0.01	0.03
G05	4.08	1.02	2.65	0.66	0.53	0.13	0.36	0.02	0.06	0.02
A03	--	--	--	--	0.14	0.62	--	--	--	--
A04	--	--	--	--	0.14	0.62	--	--	--	--
A05	--	--	--	--	0.14	0.62	--	--	--	--
A09	--	--	--	--	0.05	0.24	--	--	--	--
LR-1	--	--	--	--	<0.01	0.02	--	--	--	--
Total	114.00	84.62	739.77	174.91	8.79	6.89	9.29	2.66	3.07	9.91

Source ID No.	Formaldehyde		Total Haps	
	lb/hr	TPY	lb/hr	TPY
E01	0.04	0.04	0.15	0.15
E04	0.39	1.71	0.43	1.90
H1	<0.01	<0.01	<0.01	<0.01
G05	0.13	0.03	0.21	0.05
A03	--	--	<0.01	<0.01
A04	--	--	<0.01	<0.01
A05	--	--	<0.01	<0.01
A09	--	--	<0.01	<0.01
LR-1	--	--	<0.01	<0.01
Total	0.58	1.78	0.98	2.11

[45CSR13 Permit R13-2234, Condition 4.1.1]

4.1.2. Turbine E01 shall not operate more than 2,000 hours per year based on a rolling 12 month total.
[45CSR13 Permit R13-2234, Condition 4.1.2]

4.1.3. Emergency Generator [RICE](#) G05 shall not operate more than 500 hours per year ([during periods of non-emergencies](#)) based on a rolling 12 month total.
[45CSR13 Permit R13-2234, Condition 4.1.3]

4.1.4. The Fuel Heater (H1) shall operate according to the following requirements:

- a. The MDHI of the Line Heater shall not exceed 0.80 mmBtu/hr and the unit shall only be fired by natural gas; and

- b. 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.

[45CSR13 Permit R13-2234, Condition 4.1.4; 45CSR§2-3.1]

- 4.1.5. **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.
[45CSR13 Permit R13-2234, Condition 4.1.8]

4.2. Monitoring Requirements

~~4.2.1. For the purposes of demonstrating compliance with visible emissions limitations set forth in 4.1.4(b), the permittee shall:~~

- ~~a. Conduct an initial Method 22 visual emission observation on the fuel heater to determine the compliance with the visible emission provisions. The permittee shall take a minimum of two (2) hours of visual emissions observations on the fuel heaters.~~
- ~~b. Conduct monthly Method 22 visible emission observations of the fuel heater to ensure proper operation for a minimum of ten (10) minutes each month the fuel heater is in operation.~~
- ~~c. In the event visible emissions are observed in excess of the limitations given under 4.1.4(b), the permittee shall take immediate corrective action.~~

Upon request by the Secretary, compliance with the visible emission requirements of permit condition 4.1.4(b) 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 Secretary. The Secretary 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 permit condition 4.1.4.b. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.

[45CSR13 Permit R13-2234, Condition 4.3.9]

- 4.2.2. Compliance with the annual emission limits in 4.1.1 of this permit shall be based on a rolling 12 month total. Turbine E04 monthly emissions shall be demonstrated using the following equation:

$$ME_{Px} = DLN_{Px} * DLN \text{ hours} + LL_{Px} * LL \text{ hours} + LT_{Px} * LT \text{ hours} + SS_{Px} * SS \text{ cycles}$$

Where:

ME_{Px}	=	Monthly emissions of Pollutant X
DLN_{Px}	=	Hourly emission rate of Pollutant X during normal operation
DLN	=	Number of hours of normal operation in said month
LL_{Px}	=	Hourly emission rate of Pollutant X during low load (<50%) operation
LL	=	Number of hours of low load operation in said month
LT_{Px}	=	Hourly emission rate of Pollutant X during low temperatures (<0F)
LT	=	Number of hours of low temperature operation in said month

SS_{Px} = Unit emission rate (lb/cycle) for Pollutant X during startup/shutdown cycles
 SS = Number of startup/shutdown cycles for said month

Hourly emission rates used in the above calculation shall be based on either data provided in Tables 2-2 and 2-3 of the letter from Columbia Gas to Steven R. Pursley dated January 30, 2013 or any actual source specific testing (whichever is higher).

Permit application R13-2234B and renewal application R30-00700100-2022 included the following manufacturer and site specific data.

Emission Rates for Turbines During Normal Operation (lb/hr) ^a

Emission Point ID	Model	Basis	NO _x ^b	CO ^b	VOC ^c	SO ₂ ^{d,e}	PM ₁₀ ^{d,e}	CH ₂ O ^{c,e}
E01	Rolls Royce Avon 1533-76G	Maximum Power	49.5	83.6	0.31	8.42	0.97	0.04
E02	Solar T-3000	Maximum Power	25.47	5.09	0.93	2.33	0.27	0.01
E03	Solar T-3000	Maximum Power	26.99	5.39	0.99	2.47	0.29	0.01
E04	Solar Mars	Maximum Power	7.34	7.44	0.85	0.46	2.03	0.39

- (a) Horsepower, fuel consumption, fuel flowrate, and lower heating value (LHV) were obtained from Solar's Summary of Engine Exhaust Analysis, dated April 8, 2012.
- (b) Emission factors for NO_x and CO were obtained from Solar's Summary of Engine Exhaust Analysis, dated April 8, 2012 (0°F and 100% load).
- (c) Emission factors for VOC and formaldehyde were obtained from Solar's Product Information Letter PIL-168, Revision 3 (02/15/2008).
- (d) Emission factors for PM and SO₂ were obtained from the US EPA's AP-42, Table 3.1-2a.
- (e) SO₂, PM, PM₁₀, PM_{2.5}, and HAP emissions are a function of fuel content and are not expected to change during start-up or shutdown operation. Therefore, the maximum emissions are accounted for in assuming normal operation for 8,760 hours per year.

Emissions Rates for Solar Mars Turbine E04 During Non-SoLoNOx Operation

Mode	Basis	Emission Factors			lb/hr		
		NO _x	CO	VOC	NO _x	CO	VOC
Low Ambient Temperature ^{a,b,c}	>-20°F and <0°F	16.10 lb/hr	653.4 lb/hr	7.47 lb/hr	16.10	653.4	7.47
Low Load ^{d,e}	<50%	120 ppmvd	150 ppmvd	10 ppmvd	60.37	45.95	0.88
Startup/Shutdown ^{f,g,h}	Per cycle	1.60 lb / 1.90 lb	151.20 lb / 166.80 lb	1.72 lb / 1.90 lb	7.17	321.72	4.05

- (a) Annual hours of cold ambient temperature operation (≥ -20° F and < 0° F) were conservatively assumed to be 40 hours per year.
- (b) Uncontrolled emission factors for NO_x and CO during cold ambient temperature operation were obtained from Table 1 of Solar's Product Information Letter PIL 167, Revision 4 (06/06/2012) and VOC from Solar's PIL 168.
- (c) The ppmvd emission factors for NO_x, CO, and VOC during cold ambient temperature operation were converted to lb/hr using the following equation:

$$\text{lb/hr} = [(\text{conc}) \text{ ppmvd} / 1,000,000] \times [(20.9 - \% \text{ O}_2 (\text{ref})) / (20.9 - \% \text{ O}_2 (\text{mea}))] \times [\text{MW} / 385.4 \text{ ft}^3 / \text{lb-mole}] \times \text{volumetric flow (dscfm)} \times 60 \text{ min} / \text{hr}$$
- (d) Annual hours of low load operation (< 50% load) were conservatively assumed to be 100 hours per year.
- (e) Uncontrolled emission factors for NO_x, CO, and VOC during low load operation were provided by Solar.

- (f) Start-up and shutdown event durations and emissions per event were obtained from Solar's Product Information Letter (PIL-170), Revision 4 (6/9/2011).
- (g) SO₂, PM, PM₁₀, PM_{2.5} and HAP emissions during start-up and shutdown event durations are a function of fuel content and are not expected to change during start-up or shutdown operation. Therefore, the maximum emissions are accounted for in assuming normal operation for 8,760 hours per year.
- (h) The lb/hr emission rates during start-up and shutdown event durations assume one start-up event, one shutdown event, and 30 minutes of normal operation can occur within the same hour.

[45CSR13 Permit R13-2234, Condition 4.3.4; Manufacturer and site specific information provided in permit application R13-2234B and renewal application R30-00700100-2022; Emission Point ID (E04)]

4.3. Testing Requirements

- 4.3.1. N/A

4.4. Recordkeeping Requirements

- 4.4.1. The permittee shall maintain records of all visual emission observations pursuant to the monitoring required under 4.2.1 including any corrective action taken.

[45CSR13 Permit R13-2234, Condition 4.3.10]

- 4.4.2. **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.

[45CSR13 Permit R13-2234, Condition 4.3.1]

- 4.4.3. **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.

[45CSR13 Permit R13-2234, Condition 4.3.2]

- 4.4.4. **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.

[45CSR13 Permit R13-2234, Condition 4.3.3]

- 4.4.5. In order to determine compliance with 4.1.1 and 4.2.2 of this permit, the permittee shall maintain certifiable monthly records of the following:

- a. Monthly hours of operation of compressor turbine E04 during normal operation.
- b. Monthly hours of operation of compressor turbine E04 during low load operations.
- c. Monthly hours of operation of compressor turbine E04 during low ambient temperature.
- d. Monthly number of compressor turbine E04 startup and shutdown cycles.

[45CSR13 Permit R13-2234, Condition 4.3.5, Emission Point ID (E04)]

- 4.4.6. In order to determine compliance with 4.1.2 of this permit, the permittee shall maintain certifiable monthly records of the number of hours of operation of the turbine E01.

[45CSR13 Permit R13-2234, Condition 4.3.6, Emission Point ID (E01)]

- 4.4.7. In order to determine compliance with 4.1.3 of this permit, the permittee shall maintain certifiable monthly records of the number of hours of operation of the Emergency Generator [RICE](#) G05.

[45CSR13 Permit R13-2234, Condition 4.3.7, Emission Point ID (G05)]

4.5. Reporting Requirements

- 4.5.1. 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.

[45CSR13 Permit R13-2234, Condition 4.3.11]

4.6. Compliance Plan

- 4.6.1. None

5.0 40 C.F.R. 60, Subpart JJJJ Requirements for Emergency Reciprocating Internal Combustion Engine (RICE) [emission point ID(s): G05]

5.1. Limitations and Standards

5.1.1. Emissions from Emergency Generator [RICE](#) G05 shall not exceed the following:

NSPS JJJJ –Limits	NO _x	CO	VOC
Standard (g/Hp hr)	2.0	4.0	1.0

[45CSR16; 40CFR§60.4233(e) and 45CSR13 Permit R13-2234, Condition 4.1.5]

5.1.2. The permittee must install a non-resettable hour meter.

[45CSR16; 40CFR§60.4237(a)]

5.1.3. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (a) through (c) 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 (a) through (c) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (a) through (c) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

- a. There is no time limit on the use of emergency stationary ICE in emergency situations.
- b. You may operate your emergency stationary ICE for any combination of the purposes specified in paragraph (b)(1) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (c) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (b).
 1. 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.
- c. 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 (b) of this section. Except as provided in paragraph (c)(1) of this section, the 50 hours per 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.

1. 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:
 - i. The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - ii. 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.
 - iii. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - iv. The power is provided only to the facility itself or to support the local transmission and distribution system.
 - v. 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.

[45CSR16; 40CFR§60.4243(d)]

- 5.1.4. The permittee must operate and maintain the stationary SI ICE that achieve the emission standards as required in 40CFR§60.4233 over the entire life of the engine.

[45CSR16; 40CFR§60.4234]

- 5.1.5. 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 40CFR§60.4233.

[45CSR16; 40CFR§60.4243(e)]

5.2. Monitoring Requirements

- 5.2.1. If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in 40CFR§60.4233(d) or (e), you must demonstrate compliance according to the methods specified in the following paragraphs:

- a. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in 40CFR§§60.4233(d) or (e) and according to the requirements specified in 40CFR§60.4244, as applicable, and according to the following paragraph:

[40CFR§60.4243(b)(2)]

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)]

[45CSR16; 40CFR§60.4243(b)(2) and 45CSR13 Permit R13-2234, Conditions 4.2.1 and 4.3.8]

5.3. Testing Requirements

- 5.3.1. Testing requirements are included in condition 5.2.1.a.1.

5.4. Recordkeeping Requirements

- 5.4.1. Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a) through (d) 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 not a certified engine or is a certified engine operating in a non-certified manner and subject to 40CFR§60.4243(a)(2), documentation that the engine meets the emission standards.

[45CSR16; 40CFR§§60.4245(a)(1), (2) and (4)]

- 5.4.2. For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter.

The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

[45CSR16; 40CFR§60.4245(b)]

5.5. Reporting Requirements

- 5.5.1. If you own or operate an emergency stationary SI 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 40CFR§§60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in 40CFR§60.4243(d)(3)(i), you must submit an annual report according to the requirements in paragraphs (a) through (c) of this section.
 - a. The report must contain the following information:
 1. Company name and address where the engine is located.
 2. Date of the report and beginning and ending dates of the reporting period.

3. Engine site rating and model year.
 4. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
 5. Hours operated for the purposes specified in 40CFR§§60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40CFR§§60.4243(d)(2)(ii) and (iii).
 6. Number of hours the engine is contractually obligated to be available for the purposes specified in 40CFR§§60.4243(d)(2)(ii) and (iii).
 7. Hours spent for operation for the purposes specified in 40CFR§60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40CFR§60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.
- b. 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.
- c. 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 40CFR§60.4.

[45CSR16; 40CFR§60.4245(e)]

- 5.5.2. 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. Performance test reports using EPA Method 18, EPA Method 320, or ASTM D6348-03 (incorporated by reference – see 40 CFR 60.17 to measure VOC require reporting of all QA/QC data. For Method 18, report results from sections 8.4 and 11.1.1.4; for Method 320, report results from sections 8.6.2, 9.0, and 13.0; and for ASTM D6348-03 report results of all QA/QC procedures in Annexes 1-7.

[45CSR16; 40CFR§60.4245(d)]

5.6. Compliance Plan

- 5.6.1. None

6.0 40 C.F.R. 60, Subpart KKKK Requirements for Turbine [emission point ID(s): E04]

6.1. Limitations and Standards

- 6.1.1. NO_x emissions from the Solar Mars Turbine (E04) shall not exceed 25 ppm at 15% O₂ (or an alternative limit of 150 ng/J of useful output).
[45CSR16; 40CFR§60.4320(a), 45CSR13 Permit R13-2234, Condition 4.1.6]
- 6.1.2. The Solar Mars Turbine (E04) shall only burn fuel with a total potential SO₂ emission rate of less than 0.06 lb/MMBTU.
[45CSR16; 40CFR§60.4330(a)(2), 45CSR13 Permit R13-2234, Condition 4.1.7]
- 6.1.3. The permittee must operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.
[45CSR16; 40CFR§60.4333(a)]
- 6.1.4. If you are not using water or steam injection to control NO_x emissions, you must perform annual performance tests in accordance with 40CFR§60.4400 to demonstrate continuous compliance. If the NO_x emission result from the performance test is less than or equal to 75 percent of the NO_x emission limit for the turbine, you may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_x emission limit for the turbine, you must resume annual performance tests.
[45CSR16; 40CFR§60.4340(a)]
- 6.1.5. You must monitor the total sulfur content of the fuel being fired in the turbine, except as provided in §60.4365.
[45CSR16; 40CFR§60.4360]

6.2. Monitoring Requirements

- 6.2.1. 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. You must use one of the following sources of information to make the required demonstration:
 - a. 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 natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet, has potential sulfur emissions of less than 26 ng SO₂/J (0.060 lb SO₂/MMBtu) heat input for continental areas; or
 - b. 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. 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.

[45CSR16; 40CFR§60.4365]

6.3. Testing Requirements

- 6.3.1. Within 180 days of startup or within 60 days of achieving maximum load operation (whichever occurs first), the permittee will perform testing to determine compliance with 6.1.1 of this permit.

- a. The permittee must conduct an initial performance test, as required in §60.8. Subsequent NO_x performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test).

1. There are two general methodologies that you may use to conduct the performance tests. For each test run:

- i. Measure the NO_x concentration (in parts per million (ppm)), using EPA Method 7E or EPA Method 20 in appendix A of this part. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then, use the following equation to calculate the NO_x emission rate:

$$E = \frac{1.194 \times 10^{-7} * (NO_x)_e * Q_{std}}{P} \quad (\text{Eq. 5})$$

Where:

E = NO_x emission rate, in lb/MWh

1.194 × 10⁻⁷ = conversion constant, in lb/dscf-ppm

(NO_x)_e = average NO_x concentration for the run, in ppm

Q_{std} = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to §60.4350(f)(2); or

- ii. Measure the NO_x and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in appendix A of this part. Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the NO_x emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §60.4350(f) to calculate the NO_x emission rate in lb/MWh.

2. Sampling traverse points for NO_x and (if applicable) diluent gas are to be selected following EPA Method 20 or EPA Method 1 (non-particulate procedures), and sampled for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.

3. Notwithstanding paragraph (a)(2) of this section, you may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in appendix A of this part if the following conditions are met:

- i. The permittee may perform a stratification test for NO_x and diluent pursuant to

A. [Reserved], or

- B. The procedures specified in section 6.5.6.1(a) through (e) of appendix A of part 75 of this chapter.
- ii. Once the stratification sampling is completed, you may use the following alternative sample point selection criteria for the performance test:
 - A. If each of the individual traverse point NO_x concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5ppm or ±0.5 percent CO₂(or O₂) from the mean for all traverse points, then you may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NO_x concentration during the stratification test; or
 - B. For turbines with a NO_x standard greater than 15 ppm @ 15% O₂, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_x concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3ppm or ±0.3 percent CO₂ (or O₂) from the mean for all traverse points; or
 - C. For turbines with a NO_x standard less than or equal to 15 ppm @ 15% O₂, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_x concentrations is within ±2.5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±1ppm or ±0.15 percent CO₂ (or O₂) from the mean for all traverse points

[45CSR16; 40CFR§60.4400(a) and 45CSR13 Permit R13-2234, Condition 4.2.2]

6.4. Recordkeeping Requirements

6.4.1. N/A

6.5. Reporting Requirements

- 6.5.1. For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, you must submit reports of excess emissions and monitor downtime, in accordance with 40CFR§60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.
[45CSR16; 40CFR§60.4375(a) and 45CSR13 Permit R13-2234, Condition 4.4.1]
- 6.5.2. For each affected unit that performs annual performance tests in accordance with 40CFR§60.4340(a), you must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.
[45CSR16; 40CFR§60.4375(b) and 45CSR13 Permit R13-2234, Condition 4.4.1]

- 6.5.3. All reports required under §60.7(c) must be postmarked by the 30th day following the end of each 6-month period.
[45CSR16; 40CFR§60.4395]

6.6. Compliance Plan

- 6.6.1. None