

West Virginia Department of Environmental Protection

Division of Air Quality

*Earl Ray Tomblin
Governor*

*Randy C. Huffman
Cabinet Secretary*

Permit to Modify



R13-2715F

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:

**Columbia Gas Transmission, LLC
Seneca Compressor Station
071-00008**

*William F. Durham
Director*

Issued: Draft

This permit will supercede and replace Permit R13-2715E issued on March 5, 2015.

Facility Location: Seneca Rocks, Pendleton County, West Virginia
Mailing Address: 1700 MacCorkle Ave. SE
Charleston, WV 25314
Facility Description: Natural Gas Compressor Station
NAICS Codes: 486210
UTM Coordinates: 640.9 km Easting • 4,301.2 km Northing • Zone 17
Latitude/Longitude: 38.84861/-79.37607
Permit Type: Modification
Desc. of Change: Installation of one (1) new natural gas-fired turbine, one (1) fuel gas heater and twenty three (23) catalytic space heaters.

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 subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
HTR1	H1	Heater #1	2008	0.58 mmbtu/hr	None
HTR2	H2	Heater #2	2013	0.85 mmbtu/hr	None
HTR3	H3	Heater #3	2016	0.25 mmbtu/hr	None
03704	E04	GE Frame 3 Turbine	1981	22,000 HP	None
03705	E05	Solar Taurus 60-7800S Turbine	2008	7,491 HP	None
03706	E06	Solar Taurus 60-7800S Turbine	2008	7,491 HP	None
03707	E07	Solar Saturn 10-71400 Turbine	2013	1,557 HP	None
03708	E08	Solar Mars 100-15000S Turbine	2013	15,432 HP	None
03709	E09	Solar Taurus 70 Turbine	2016	10,613 HP	None
037G3	G3	Dresser-Waukesha VGF-L36GL Emergency Generator	2013	880 HP	None
037SH1	SH1	Catalytic Space Heaters (36)	2013	2.60 mmbtu/hr (total)	None
037SH2	SH2	Catalytic Space Heaters (23)	2016	1.12 mmbtu/hr (total)	None

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 supercedes and replaces previously issued Permit R13-2715E. 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 Application R13-2715 through R13-2715F 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

[Reserved]

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit

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

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

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

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State-Enforceable only.*]

3.5. Reporting Requirements

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

If to the DAQ:

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

If to the USEPA:

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

3.5.4. **Operating Fee.**

- 3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a Certified Emissions Statement (CES) and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Annual emissions from the two Solar Taurus 60-7800S turbines (E05 & E06) shall not exceed the following:

	NO _x	CO	VOC	SO ₂	PM ₁₀	CH ₂ O
	tpy	tpy	tpy	tpy	tpy	tpy
E05	18.79	50.5	14.15	0.21	1.96	0.21
E06	18.79	50.5	14.15	0.21	1.96	0.21
Total	37.6	101.0	28.3	0.42	3.92	0.42

4.1.2. The two Solar Taurus 60-7800S turbines (E05 & E06) shall combust only pipeline quality natural gas which contains a maximum of 20 grains of sulfur per 100 scf.

[40 CFR §60.4365(a)]

4.1.3. Each of the two Solar Taurus 60-7800S turbines (E05 & E06) shall consume no more than 75,916 cubic feet of natural gas per hour nor 6.00×10^8 scf of natural gas per year.

4.1.4. Emissions from the two Solar Taurus 60-7800S turbines (E05 & E06) shall not exceed the following:

	E05	E06
NO_x		
Full Load @ ≥0 °F	25 ppm _v @ 15% O ₂ / 3.8 lb/hr	25 ppm _v @ 15% O ₂ / 3.8 lb/hr
Low Temp (<0 to -20 °F)	11 lb/hr	11 lb/hr
Very Low Temp (<-20 °F)	31.6 lb/hr	31.6 lb/hr
Startup/Shutdown	3.9 lb/hr	3.9 lb/hr
Low Load (<50%)	10.3 lb/hr	10.3 lb/hr
SO_x		
Full Load	0.5 lb/hr	0.5 lb/hr
Startup/Shutdown	0.05 lb/hr	0.05 lb/hr
Low Load (<50%)	0.3 lb/hr	0.3 lb/hr
CO		
Full Load @ ≥0 °F	3.9 lb/hr	3.9 lb/hr
Low Temp (<0 to -20 °F)	15.9 lb/hr	15.9 lb/hr

Very Low Temp (<-20°F)	24.1 lb/hr	24.1 lb/hr
Startup/Shutdown	72.0 lb/hr	72.0 lb/hr
Low Load (<50%)	196.5 lb/hr	196.5 lb/hr
VOC		
Full Load @ ≥ 0°F	0.2 lb/hr	0.2 lb/hr
Low Temp (<0 to -20°F)	0.5 lb/hr	0.5 lb/hr
Very Low Temp (<-20°F)	0.7 lb/hr	0.7 lb/hr
Startup/Shutdown	711.2 lb/hr	711.2 lb/hr
Low Load (<50%)	1.5 lb/hr	1.5 lb/hr
PM₁₀		
Full Load @ ≥ 0°F	0.5 lb/hr	0.5 lb/hr
Startup/Shutdown	0.3 lb/hr	0.3 lb/hr
Low Load (<50%)	0.3 lb/hr	0.3 lb/hr

4.1.5. Emissions from turbine E07, turbine E08, turbine E09, emergency generator G3, fuel gas heater H2, fuel gas heater H3, 36 combined space heaters SH1, and 23 combined space heaters SH2 shall not exceed the following:

	NO _x		CO		VOC		SO ₂		PM/PM ₁₀ /PM _{2.5}	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
E07	9.48	41.51	15.39	67.63	0.44	1.94	1.00	0.05	0.32	1.32
E08	6.76	31.83	6.85	63.02	0.79	3.88	7.14	0.37	2.25	9.42
E09	4.74	22.80	4.81	91.80	0.55	3.22	5.01	0.27	0.58	2.53
G3	3.88	0.97	2.52	0.63	0.08	0.02	0.39	0.01	0.07	0.02
H2	0.08	0.37	0.07	0.31	0.01	0.02	0.05	0.01	0.01	0.03
H3	0.02	0.11	0.02	0.09	0.01	0.01	0.01	0.01	0.01	0.01
SH1 (36)	0.25	1.11	0.21	0.93	0.02	0.06	0.15	0.01	0.02	0.08
SH2 (23)	0.11	0.48	0.09	0.40	0.01	0.03	0.06	0.01	0.01	0.04

Note: Maximum hourly emission rate based on 30 °F for E07 and E08
 Maximum hourly emission rate based on 32 °F for E09

Emission Point ID	CO ₂ e
	tpy
E07	8,576
E08	61,264
E09	44,975
G3	200
H2	436
H3	128
SH1 (36)	1,329
SH2 (23)	574

4.1.6. The Solar Mars 100-15000S turbine (E08), the Solar Saturn 10-1400 turbine (E07), the Solar Taurus 70 turbine (E09) and the Dresser-Waukesha VGF-L36GL emergency generator (G3) shall combust only pipeline quality natural gas which contains a maximum of 20 grains of sulfur per 100 scf and which contains a maximum of 0.25 grains of sulfur per 100 scf as averaged over a rolling period of twelve (12) months.
[40 CFR §60.4365(a), 45CSR§13-5.11]

4.1.7. The Solar Mars 100-15000S turbine (E08) , the Solar Saturn 10-1400 turbine (E07) and the Solar Taurus 70 turbine (E09) shall consume no more than the following amounts of natural gas:

Emission Point ID	Natural gas consumption	
	ft ³ /hr	scf/yr
E07	17,216	143.61 x 10 ⁶
E08	122,525	1,025.86 x 10 ⁶
E09	85,971	753.1 x 10 ⁶

Note: E07 and E08 hourly natural gas consumption is based on 30 °F, E09 hourly and annual natural gas consumption is based on 32 °F and annual natural gas consumption is based on 50 °F.

4.1.8. Emissions from the Solar Mars 100-15000S turbine (E08), the Solar Saturn 10-1400 turbine (E07) and the Solar Taurus 70 turbine (E09) shall not exceed the following:

Pollutant	E08	E07
NO_x		
Full Load @ 30°F	25 ppm _v @ 15% O ₂ / 6.76 lb/hr	150 ppm _v @ 15% O ₂ / 9.48 lb/hr
Low Temp (<0 to -20°F)	20.58 lb/hr	10.36 lb/hr
Very Low Temp (<-20°F)	58.80 lb/hr	10.36 lb/hr
Startup/Shutdown	3.1 lb/cycle	1.44 lb/cycle
Low Load (<50%)	16.10 lb/hr	5.67 lb/hr
SO_x (short term emission rate based on 20 gr S/100 scf)		
Full Load	7.14 lb/hr	1.00 lb/hr
Startup/Shutdown	7.14 lb/hr	1.00 lb/hr
Low Load (<50%)	7.14 lb/hr	1.00 lb/hr
CO		
Full Load @30°F	6.85 lb/hr	15.39 lb/hr
Low Temp (<0 to -20°F)	29.83 lb/hr	16.82 lb/hr
Very Low Temp (<-20°F)	44.74 lb/hr	16.82 lb/hr
Startup/Shutdown	272.70 lb/cycle	4.44 lb/cycle
Low Load (<50%)	653.4 lb/hr	14.37 lb/hr
VOC		
Full Load @30°F	0.79 lb/hr	0.44 lb/hr
Low Temp (<0 to -20°F)	1.70 lb/hr	0.48 lb/hr
Very Low Temp (<-20°F)	1.70 lb/hr	0.48 lb/hr
Startup/Shutdown	3.12 lb/cycle	0.23 lb/cycle
Low Load (<50%)	7.47 lb/hr	0.66 lb/hr
PM₁₀		
Full Load @30°F	2.25 lb/hr	0.32 lb/hr
Startup/Shutdown	2.25 lb/hr	0.32 lb/hr

Low Load (<50%)	2.25 lb/hr	0.32 lb/hr
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Pollutant	E09
NO_x	
Full Load @ 32°F	15 ppm _v @ 15% O ₂ / 4.74 lb/hr
Low Temp (<0°F)	14.21 lb/hr
Low Load (<50%)	14.45 lb/hr
Startup/Shutdown	1.90 lb/cycle
SO_x (short term emission rate based on 20 gr S/100 scf)	
Full Load @32°F	5.01 lb/hr
Startup/Shutdown	5.01 lb/hr
Low Load (<50%)	5.01 lb/hr
CO	
Full Load @32°F	4.81 lb/hr
Low Temp (<0 °F)	20.59 lb/hr
Low Load (<50%)	586.42 lb/hr
Startup/Shutdown	166.50 lb/cycle
VOC	
Full Load @32°F	0.55 lb/hr
Low Temp (<0°F)	1.18 lb/hr
Low Load (<50%)	6.70 lb/hr
Startup/Shutdown	1.90 lb/cycle
PM₁₀	
Full Load @32°F	0.58 lb/hr
Startup/Shutdown	0.58 lb/hr
Low Load (<50%)	0.58 lb/hr

- 4.1.9. Emergency Generator G3 shall not operate more than 500 hours per year based on a rolling 12 month total.
- 4.1.10. The MDHI of the fuel gas heater (H2) shall not exceed 0.85 mmBtu/hr and the unit shall only be fired by natural gas. The MDHI of the fuel gas heater (H3) shall not exceed 0.25 mmBtu/hr and the unit shall only be fired by natural gas.
- 4.1.11. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[45CSR§2-3.1.]
- 4.1.12. The MDHI for each of the 36 catalytic space heaters (SH1) shall not exceed 0.072 MMBTU/hr. The MDHI for each of the 23 catalytic space heaters (SH2) shall not exceed 8 units @ 0.005 MMBTU/hr and 15 units @ 0.072 MMBTU/hr.
- 4.1.13. Emissions from Emergency Generator G3 shall not exceed the following:
[40 CFR§ 60.4233(e)]

	NO _x	CO	VOC
Standard (g/HP-hr)	2.0	4.0	1.0

- 4.1.14. NO_x emissions from the Solar Mars Turbine (E08) and Solar Taurus turbine (E09) shall not exceed 25 ppm at 15% O₂ (or an alternative limit of 150 ng/J of useful output).
[40 CFR§ 60.4320]
- 4.1.15. NO_x emissions from the Solar Saturn Turbine (E07) shall not exceed 150 ppm at 15% O₂ (or an alternative limit of 1,100 ng/J of useful output).
[40 CFR§ 60.4320]
- 4.1.16. The Solar Mars Turbine (E08), Solar Saturn Turbine (E07) and Solar Taurus Turbine (E09) shall only burn fuel with a total potential SO₂ emission rate of less than 0.06 lb/MMBTU.
[40 CFR§ 60.4330(a)(2)]
- 4.1.17. **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.]
- 4.1.18. 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 repaired or replaced as needed.

4.2. Testing Requirements

- 4.2.1. In order to show compliance with the NO_x emission limits contained in 4.1.1, 4.1.4, 4.1.5 and 4.1.8 of this permit the permittee must perform an initial and annual performance tests in accordance with §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 contained in 4.1.4 of this permit, the permittee 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 turbines, the permittee must resume annual performance tests. The initial performance test shall be conducted within 60 days after achieving full-load operation or within 180 of startup whichever comes first.
- 4.2.2. In order to show compliance with the CO emission limits contained in 4.1.1, 4.1.4, 4.1.5 and 4.1.8 of this permit the permittee shall perform initial and periodic performance tests on each turbine using EPA approved methods (or other alternative methods approved by the Director). Said testing shall be performed while the turbines are operating at normal conditions, within 25% of full load or at the highest achievable load (and while ambient temperatures are above 0°F). The initial performance test shall be conducted within 180 days of startup. Subsequent testing shall be conducted at least every 5 years.

4.3. Monitoring and Recordkeeping Requirements

- 4.3.1. **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.
- 4.3.2. **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.
- 4.3.3. In order to demonstrate compliance with conditions 4.1.3 and 4.1.7 of this permit, the permittee shall monitor and record the amount of natural gas consumed by each piece of equipment.
- 4.3.4. In order to demonstrate compliance with the emission limitations of condition 4.1.1, 4.1.4, 4.1.5 and 4.1.8 of this permit the permittee will monitor and record the following:
- a. Monthly operating hours of the turbines at normal dry low NO_x (DLN) conditions ($\geq 50\%$ of rated load and ambient temperatures of $\geq 0^\circ\text{F}$).
 - b. Monthly operating hours of the turbines at low load ($\leq 50\%$ load).
 - c. Monthly operating hours of the turbines at low ambient temperature (< 0 to -20°F).
 - d. Monthly operating hours of the turbines at very low temperature ($< -20^\circ\text{F}$).
 - e. Monthly operating hours of turbine startup and shutdown cycles.
 - f. Monthly total operating hours of each turbine and emergency generator G3.
- 4.3.5. The monthly records required by condition 4.3.4 of this permit shall be used to calculate monthly emissions for each regulated pollutant (P_x) using the following equation for turbines E05, E06, E07, E08 and E09:

$$P_T = \text{DLN } P_x * \text{DLN hours} + \text{LL } P_x * \text{LL hours} + \text{LT } P_x * \text{LT hours} + \text{VLT } P_x * \text{VLT hours} + \text{SS } P_x * \text{SS cycles}$$

Where, P_T is the total tons of emissions for the month, $\text{DLN } P_x$, $\text{LL } P_x$, $\text{LT } P_x$, $\text{VLT } P_x$, and $\text{SS } P_x$ are the unit emission rates for pollutant X during normal DLN, low-load, low temperature, very low temperature and startup/shutdown operation respectively. DLN hours, LL hours, LT hours, VLT hours, and SS hours are the unit monthly operating hours at DLN, low-load, low temperature, very low temperature and startup/shutdown conditions respectively. The unit emission rates for each pollutant are the emission limits contained in conditions 4.1.4 and 4.1.8 of this permit.

- 4.3.6. The monthly records required by condition 4.3.4 of this permit shall be used to calculate monthly emissions for each regulated pollutant (P_x) using the following equation for the emergency generator (G3), fuel gas heaters (H2, H3) and catalytic heaters.

$$P_T = P_x * \text{total monthly operating hours}$$

Where, P_T is the total tons of emissions for the month, and P_x is the unit emission rate for pollutant X during normal operation. The unit emission rates for each pollutant are the emission limits contained in condition 4.1.5 of this permit.

- 4.3.7. At the end of each month, the monthly emissions will be calculated for the preceding 12 months to determine compliance with the annual emission limits.
- 4.3.8. In order to determine compliance with 4.1.9 of this permit, the permittee shall maintain certifiable monthly records of the number of hours of operation of the Emergency Generator G3.
- 4.3.9. The permittee shall keep a maintenance plan and records of conducted maintenance of the Emergency Generator G3.
[40 CFR §60.4243(b)(2)(i)]
- 4.3.10. The permittee shall maintain records of all visual emission observations pursuant to the monitoring required under 4.2.3. including any corrective action taken.
- 4.3.11. In order to determine compliance with the fuel sulfur limits of 4.1.6. of this permit, the permittee shall monitor the fuel sulfur content of the natural gas combusted by E07, E08, E09 and G3 and calculate and record the rolling twelve (12) month average of sulfur content of the natural gas combusted in these sources. In lieu of on-site monitoring, the permittee may use data contained in a valid purchase contract, tariff sheet, transportation contract, or other reasonable documentation to determine the fuel sulfur content.

4.4. Reporting Requirements

- 4.4.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subparts JJJJ and KKKK.
- 4.4.2. Any deviation(s) from the allowable natural gas consumption limits of conditions 4.1.3, and 4.1.7 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 extent of the deviation, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 4.4.3. Any deviation(s) from the allowable emission limits of conditions 4.1.1, 4.1.4, 4.1.5 and 4.1.8 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 extent of the deviation, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 4.4.4. Any deviation(s) from the allowable hours of operation limits of conditions 4.1.9 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 extent of the deviation, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 4.4.5. 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.

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.