

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-083000101-2012**
Application Received: **September 19, 2011**
Plant Identification Number: **083-000101**
Permittee: **Energy Corporation of America**
Facility Name: **Ellamore Compressor Station**
Mailing Address: **P. O. Box 459, Buckhannon, WV 26201**

Revised: N/A

Physical Location: Ellamore, Randolph County, West Virginia
UTM Coordinates: 536.40 km Easting • 4306.30 km Northing • Zone 17
Directions: Proceed east from the town of Ellamore on County Route 151 for approximately 3 miles to the station which is located on the left side of the road and visible.

Facility Description

The Ellamore Station is a natural gas transmission facility covered by NAICS 211111 and SIC 1311. The station has the potential to operate seven (7) days per week, twenty-four (24) hours per day. The station consists of one (1) 600-hp and one (1) 800-hp natural gas fired reciprocating engines, one (1) 120-hp emergency generator, one (1) heating system boiler, one (1) dehydrator reboiler, one (1) glycol regenerator, one (1) glycol absorber, one (1) liquids knockout system, and two (2) 1,000 gallon storage tanks, and one (1) 630 gallon storage tank.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2010 Actual Emissions
Carbon Monoxide (CO)	149.48	84.11
Nitrogen Oxides (NO _x)	158.30	66.46
Particulate Matter (PM ₁₀)	1.31	-
Total Particulate Matter (TSP)	1.31	0.46
Sulfur Dioxide (SO ₂)	0.05	0.02
Volatile Organic Compounds (VOC)	4.80	0.94

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2010 Actual Emissions
Benzene	0.41	0.02
Ethyl Benzene	0.80	0.04
Formaldehyde	2.07	0.76
n-Hexane	0.42	0.02
Toluene	0.81	0.04
Xylenes	1.12	0.06
Total HAPs	5.64	0.94

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

This facility has the potential to emit 149.48 TPY of CO and 158.30 TPY of NO_x. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Energy Corporation of America is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.
	45CSR6	Open burning prohibited.
	45CSR10	Emissions of sulfur oxides.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	NSR permits.
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 CFR 63, Subpart HH	Oil and Gas Production NESHAP
	40 CFR 63, Subpart ZZZZ	RICE
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2347	October 21, 1999	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

Equipment Changes: This permit renewal includes the following equipment updates:

1. The previously used generator (G1) powered by a Ford CSG-649-300 CID engine was replaced in 2005 with a generator powered by an Onan modified Ford LRG-245L engine.

2. An underground 1000 gal pipeline liquids tank (B01) was removed, and a 630 gal above ground tank (A03) was installed in 2006.
3. Additionally, the throughput for the TEG Dehydrator (FL1) was corrected to read “15 mmscf/day” instead of “0.63 MMBtu/hr”. This does not reflect an equipment change but corrects an error in the previous permit.

Streamlining of Visible Emissions Requirements: 45CSR§6-4.3 limits opacity to 20%; this was incorporated into the previous Title V permit as condition 5.1.4. 45CSR§6-4.4 states that 45CSR§6-4.3 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up; this was incorporated into the previous Title V permit as condition 5.1.5. Also in the previous Title V permit, Condition 5.1.9 specified no visible emissions, except for periods not to exceed five (5) minutes in and two (2) consecutive hours. With this permit renewal, the limit in 45CSR§6-4.3 was streamlined with the more stringent visible emission limit of 5.1.9, and the limits in 45CSR§6-4.4 were added to 5.1.9. Thus the former conditions 5.1.4 and 5.1.5 were removed.

Visual Emission Checks: Condition 5.2.2 was added with this permit renewal requiring monthly visual emission checks. If during these checks, visible emissions are observed, compliance shall be determined by conducting tests in accordance with Method 9 of 40 C.F.R. 60, Appendix A. Records shall be maintained stating the date and time of each visible emission check and whether visible emissions were observed.

45CSR10—To Prevent and Control Air Pollution from the Emission of Sulfur Oxides: It has been determined that 45CSR10 applies to this facility. With this permit renewal, the following permit conditions were added to this Title V permit:

- Condition 5.1.6 was added limiting in-stack sulfur dioxide concentrations to 2,000 parts per million by volume, as required by 45CSR§10-4.1.
- Condition 5.1.7 was added limiting hydrogen sulfide concentrations in process gas streams to 50 grains per 100 cubic feet of gas except in the case of a person operating in compliance with an emission control and mitigation plan approved by the Director and U. S. EPA, as required by 45CSR§10-5.1.
- Condition 5.2.3 was added to demonstrate compliance with the area source status and the one ton/year benzene exemption, but can also be used to demonstrate compliance with sulfur dioxide and hydrogen sulfide limits. Using GRI-GLYCalc V3 or higher, the dehydration system will be accurately defined by monitoring and recording actual operating parameters associated with the dehydration system.
- Condition 5.3.4 was added requiring this facility to determine the composition of the wet natural gas by sampling in accordance with condition 5.2.3 during the 3rd year of the permit term, prior to submitting the permit renewal application (see also 40 C.F.R. 63, Subpart HH discussion).
- Condition 5.5.5 was added requiring an emission summary for the dehydration unit (FL1), which incorporates the wet gas testing results required by condition 5.3.4, to be submitted by March 31st of the following year (see also 40 C.F.R. 63, Subpart HH discussion).

40 C.F.R. 63, Subpart HH—National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities: It has been determined that 40 C.F.R. 63, Subpart HH is applicable to this facility. Therefore, conditions referencing this subpart were added with this Title V permit renewal. The additional permit language is as follows:

- Condition 5.1.11 was added to incorporate the applicability date of 40 C.F.R 63, Subpart HH area source requirements.
- Condition 5.1.12 was added to incorporate the general standards from 40 C.F.R. 63, Subpart HH as well as the specific glycol optimization standards. The exemption criteria is also incorporated in accordance with the threshold of “less than 1 ton/yr actual average benzene emissions”.

- Condition 5.1.13 was added to address timing of implementing the glycol optimization requirement of 5.1.12 should the exemption criteria be exceeded.
- New monitoring language was added as condition 5.2.3 requiring the facility to use GRI-GLYCalc V3 or higher in order to provide a means of collecting operating data sufficient to demonstrate compliance with the emissions limits, minor HAP source status, as well as the 1 ton/yr benzene exemption threshold for subpart HH.
- Condition 5.3.4 was added requiring the permittee to determine the composition of the wet natural gas by sampling in accordance with GPA Method 2166 and analyzing according to extended GPA Method 2286.
- Testing condition 5.3.5 was added to incorporate the area source, subpart HH, provisions for testing. It was also recognized by the writer within streamlining language following this condition that the requirement is satisfied by complying with the more specific requirements of 5.2.13 and 5.3.4 within the proposed permit. As a result, a new record keeping provision was added as 5.4.7. This requirement is to encompass keeping records of all supporting HAP determination data related to the GLYCalc emission estimation software run(s), which is designed to document and support the inputs to the estimating model.
- The reporting provisions of 5.5.5 were added requiring an emission summary for the dehydration unit (001-04), which incorporates the wet gas testing results required by 5.3.4. in order to establish a means of demonstrating compliance via a self-monitoring report. This is determined necessary to maintain compliance with minor source applicability thresholds and the 1 ton per year benzene exemption threshold from the 40 C.F.R. 63, Subpart HH Area Source provisions.

40 C.F.R. 63, Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE): The facility maintains three spark ignition, natural gas fueled reciprocating engines—two compressors and a generator. These engines are covered by 40 CFR 63, Subpart ZZZZ provisions. The compliance date for the rule provisions is October 19, 2013 with initial notification on or prior to February 16, 2011.

G1 is classified as a non-emergency spark-ignition four-stroke rich burn stationary engine rated below 500 HP located at an area source of HAPs. E01 is classified as a non-emergency spark-ignition two-stroke lean burn engine rated over 500 HP located at an area source of HAPs. Both engines are covered by identical provisions of 40 CFR 63, Subpart ZZZZ as follows:

- These engines must comply with the emission limitations in 40 C.F.R. §63.6603 and Table 2d to this subpart. These limits were added as condition 4.1.1.a.
- These engines must comply with the continuous compliance requirements in 40 C.F.R. §§63.6605 and 6640. These requirements were added as conditions 4.1.1.c and h, 4.5.1, and 4.5.2.
- These engines must comply with the general provisions of 40 CFR part 63. Except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h). This requirement was added as condition 4.1.1.d.
- These engines must be operated in compliance with the monitoring, installation, collection, operation, and maintenance requirements of 40 C.F.R. §§ 63.6625(e), (h), and (j). These requirements were added as condition 4.2.1.
- These engines must be operated in compliance with the recordkeeping requirements of 40 C.F.R. §§63.6655(a), (b), (d), and (e). These requirements were added as condition 4.4.1.

E02 is classified as a non-emergency spark-ignition four-stroke rich burn engine rated at over 500 HP located at an area source of HAPs that operates over 24 hr/year. This engine must comply with the following 40 CFR 63, Subpart ZZZZ provisions:

- This engine must comply with the emission limitations in 40 C.F.R. §63.6603 and Table 2d to this subpart. These limits are also included with condition 4.1.1.a.
- This engine must comply with the operating limitations in 40 C.F.R. §63.6603 and Table 1b to this subpart. These limits were added condition 4.1.1.b.

- This engine must comply with the initial compliance requirement in 40 C.F.R. §63.6630 and Table 5 to this subpart. This requirement was added as condition 4.1.1.f.
- In addition to the continuous compliance requirements specified for the other engines (40 C.F.R. §§63.6605 and 6640), this engine must be operated in accordance with 40 C.F.R. §63.6635. This requirement was added as condition 4.1.1.g.
- This engine must comply with all general provisions of 40 CFR part 63. This requirement was added as condition 4.1.1.e.
- These engines must be operated in compliance with the monitoring, installation, collection, operation, and maintenance requirements of 40 C.F.R. §§ 63.6625(a), (b), (h), and (k). These requirements were added as condition 4.2.2.
- This engine must be tested in accordance with 40 C.F.R. §§ 63.6612, 63.6615, and 63.6620 and Tables 3, 4, and 5 to this subpart. These requirements were added as condition 4.3.1.
- This engine must be operated in compliance with the recordkeeping requirements of 40 C.F.R. §§63.6655(a), (b), and (d). These requirements were added as condition 4.4.2.
- For this engine, the permittee must comply with the notification requirements in 40 C.F.R. §63.6645. This requirements was added as condition 4.5.3.
- For this engine, the permittee must comply with the reporting requirements in 40 C.F.R. §§63.6650(a), (b), (c), (d), (e), and (f). These requirements were added as condition 4.5.4.

Greenhouse Gas Tailoring Rule: This is a renewal Title V Permit and there have been no changes that would have triggered a PSD permit. As such, there are no applicable GHG permitting requirements.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

45CSR21	Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds. Ellamore station is not located in Cabell, Kanawha, Putnam, Wayne, or Wood counties that are affected by 45CSR21.
45CSR27	To Prevent and Control the Emissions of Toxic Air Pollutants. 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. 60 Subpart GG	Standards of Performance for Stationary Gas Turbines. There are no turbines at the Ellamore Compressor Station.
40 C.F.R. 60 Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978. All tanks are below 40,000 gallons in capacity.
40 C.F.R. 60 Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984. All tanks are below 40,000 gallons in capacity.
40 C.F.R. 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. All tanks storing volatile organic liquids are below 75 m ³ in capacity.
40 C.F.R. 60 Subpart KKK	Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants. Ellamore station is not engaged in the extraction of natural gas from field gas or in the fractionation of mixed natural gas liquids to natural gas products.
40 C.F.R. 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions. There are no sweetening units at the Ellamore station.
40 C.F.R. 60 Subpart KKKK	Standards of Performance for Stationary Combustion Turbines. There are no turbines at the Ellamore Compressor Station.
40 CFR 63 Subpart HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Ellamore station is not a natural gas storage and transmission facility as defined under 40 C.F.R. §63.1270.
40 CFR 63 Subpart JJJJJ	National Emissions Standards for Hazardous Air Pollutants: Industrial, Commercial, and Institutional Boilers Area Sources. The boilers at this facility burn only natural gas; thus this facility is exempt per 40 CFR §63.11195(e).
40 C.F.R. Part 64	This is the second permit renewal for this facility. At the time of the first renewal, CAM was determined not to be applicable to the sources at this facility. No changes have been made at this facility since the first renewal that would make this facility subject to CAM.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: December 27, 2011
Ending Date: January 26, 2012

All written comments should be addressed to the following individual and office:

Rex Compston, P.E.
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Rex Compston, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

Comment from EPA: "My only comment is to make the permit more consistent with page 4 of the fact sheet by including language in condition 5.2.3 stating that it is also used for monitoring SO₂ and H₂S."

The appropriate language was added to the permit.