

Fact Sheet



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

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on December 28, 2010.

Permit Number: **R30-07900006-2010**

Application Received: **June 13, 2014**

Plant Identification Number: **03-54-079-00006**

Permittee: **Appalachian Power Company (d.b.a. American Electric Power)**

Facility Name: **John E. Amos Plant**

Mailing Address: **1 Riverside Plaza, Columbus, OH 43215-2373**

Permit Action Number: *MM01* Revised: *March 27, 2015*

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|--------------------|---|
| Physical Location: | St. Albans, Putnam County, West Virginia |
| UTM Coordinates: | 428.16 km Easting • 4258.42 km Northing • Zone 17 |
| Directions: | From Charleston, take Interstate 64 West (towards Huntington). Turn right onto Exit 44 ramp and proceed to Route 817. Turn left onto Route 817 (North). The facility is located approximately 1.5 miles on the right. |

Facility Description

The Amos Plant is a fossil fuel fired electric generation facility and operates under Standard Industrial Classification (SIC) code 4911. The facility consists of two (2) coal-fired steam generators with a rated design capacity of 7,020 mmBtu/hr each, one (1) coal-fired steam generator with a rated design capacity of 11,936 mmBtu/hr, one (1) oil-fired auxiliary boiler with a rated design capacity of 642 mmBtu/hr, one (1) oil-fired auxiliary boiler with a rated design capacity of 600 mmBtu/hr, various supporting operations such as coal handling and ash handling, and various tanks with insignificant emissions. The facility has the potential to operate seven (7) days per week, twenty-four (24) hours per day and fifty-two (52) weeks per year.

This minor modification incorporates into the Title V Permit the requirements of General Permit Registration G60-C063 for general permit G60-C, which is for the installation of four (4) emergency

generators (*EG-1, EG-2, EG-3 and EG-4*), each powered by a dedicated reciprocating internal combustion engine (RICE). Also, four (4) new 4,800-gallon diesel fuel storage tanks (*EGT01, EGT02, EGT03 and EGT04*) will be installed.

Emissions Summary

The changes in potential emissions (based upon 500 hours per year of operation) accounting for all four engines are:

| Pollutant | Increase in Potential Emissions (TPY) |
|--|---------------------------------------|
| SO ₂ | 0.2 |
| NO _x | 36.4 |
| PM/PM ₁₀ /PM _{2.5} | 0.32 |
| CO | 4.84 |
| VOC | 1.2 |

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 122,479.0 tons per year of SO₂, 72,025.3 tons per year NO_x, 4,103.5 tons per year PM₁₀, 10,177.9 tons per year CO, 1001.7 tons per year VOCs and 23,595.8 tons per year HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAP, John E. Amos Plant 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.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:

- 45CSR13 Permits For Construction, Modification, Relocation And Operation Of Stationary Sources Of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, And Procedures For Evaluation
- 45CSR16 Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60
- 45CSR30 Requirements For Operating Permits
- 45CSR34 Emission Standards For Hazardous Air Pollutants
- 40 C.F.R. 60, Subpart III Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 C.F.R. 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

State Only: N/A

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>) |
|--------------------------------|------------------|--|
| G60-C063 | August 5, 2014 | |

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," which may be downloaded from DAQ's website.

Determinations and Justifications

Section 6 was added to the Title V permit for the “black-start” emergency diesel generators (EDG).

The engines for these EDGs will be Caterpillar CAT® C3516C-HD-TA diesel engines each with a power output rating of 3,004 horsepower (bhp) at 1,800 revolutions per minute (rpm) and have a displacement of less than 30 liters per cylinder. As the manufacturer, Caterpillar has certified this model engine to emission standards of Part 60 as an emergency stationary engine, which has been issued with the following certificate and engine family numbers from U.S. EPA:

| Manufacturer's Certification Numbers | |
|--------------------------------------|--------------------------|
| Manufacturer | Caterpillar Inc. |
| Emission Unit ID | EG-1, EG-2, EG-3, & EG-4 |
| Engine Model | 3516C |
| Model Year of Engine | 2014 |
| Certificate Number | ECPXL 78.1NZZ-024 |
| Engine Family Number | ECPXL 78.1NZZ |

Each EDG will have a self-contained 4800 gallon fuel oil tank (EGT01, EGT02, EGT03 & EGT04) that has enough storage capacity for 24-hours of continuous operation.

General Permit G60-C, G60-C063 General Permit Registration

The general permit registration G60-C063 provides specific hourly and annual mass rate emission limits for NO_x, CO, and VOC, which are incorporated into the Title V permit as condition 6.1.2. There are typographical errors in the underlying registration. For each engine, the annual VOC limitation is 0.03 tpy in the registration, but it should have been 0.30 tpy. The Engineering Evaluation for the underlying permit registration lists 0.3 tpy in “Table #2 Emissions from the EDGs” under the “ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER” section. Also, the Emission Summary Sheets (Attachment O of the NSR application) reads 0.30 tpy of VOC for each engine. Furthermore, the lb/hr emission rate of 1.18 for each engine calculates to be 0.3 tpy based on 500 hours of operation. Also, the total tons/yr for all four engines

combined, is correctly listed as 0.12 tpy in the registration. Therefore, the annual VOC limitation for each engine has been corrected to 0.3ton/yr in condition 6.1.2.

The requirements of the General Permit Registration G60-C063 for general permit G60-C have been added to this section with the following exceptions:

- Sections 2 and 3 are general permit boiler plate language and therefore not added to the title V permit except that condition 3.4.2. of the Title V permit was amended to include “*General Permit G60-C, 3.5.I*” in the citation of authority.
- Section 4 are requirements for equipment with air pollution control equipment and for sources that are minor for Hazardous Air Pollutants (HAP). The EDG engines do not have air pollution control equipment and the Amos plant is a major source of HAP.
- Section 5 conditions 5.1.4. and 5.2.1. do not apply since the engines do not use catalytic reduction devices.
- Section 6 has no requirements applicable to the facility. The EDG tanks are less than 10,000 gallons in capacity and do not have a maximum throughput limit, vapor pressure limit or emission limits listed in the general permit registration. The tanks are listed in the Title V Section 1 equipment table.
- Section 7 - This section contains the requirements from 40 CFR 60 Subpart IIII. Not all of these requirements are applicable to the EDG engines and therefore only the applicable requirements have been added to the permit.
 - Conditions 7.1.18., 7.1.19. and 7.1.20 contain the requirements of 40 CFR §60.4209. The EDG engines are certified engines and meet the standard applicable to non-emergency engines. Therefore, they are not required to install a non-resettable hour meter rendering 7.1.19. and 40 CFR §60.4209(a) and the record keeping in 7.3.7 and 40 CFR §60.4214(b) non-applicable. The engines are not equipped with diesel particulate filters and therefore 7.1.20. and 40 CFR §60.4209(b) the record keeping in 7.3.8 and 40 CFR §60.4214(c) are non-applicable. Since the requirements of 7.1.19. and 7.1.20. are not applicable to the engines, the only applicable part of condition 7.1.18.and 40 CFR §60.4209 is the requirement to meet the monitoring requirements of 40 CFR §60.4211 which has been included in the Title V permit.
 - The EDG engines are USEPA certified. Therefore they meet the requirements of 40 CFR §60.4211(c) and are in compliance with 40 CFR 60 Subpart IIII and are not subject to the 40 CFR §60.4211(g) record keeping and compliance testing requirements provided they are installed, configured, operated and maintained in accordance with the manufacturer’s emission related written instructions. Hence, the testing requirements of G60-C §7.2.4. (engines with a displacement of less than 30 liters per cylinder) are not applicable since the testing requirements of 40 CFR §60.4211(g) are not applicable.
 - Conditions 7.2., 7.2.1., 7.2.2. and 7.2.3. are boilerplate requirements and are contained in condition 3.3.1 of the title V permit.
 - Condition 7.1.25 of the general permit cites *40CFR§60.4211e* as the authority for this condition. In 2011 the §60.4211 was amended in part by re-designating paragraph (e) as paragraph (f); by adding a new paragraph (e); and revising newly re-designated paragraph (f). Paragraph (f) was again amended in 2013.

Condition 6.1.13. of the Title V permit contains the verbatim language (including the paragraph numbering) of the 2013 version of paragraph (f). The citation of authority for Condition 6.1.13. includes §7.1.25 of the General permit.

40 CFR 60 Subpart IIII

This subpart applies to stationary compression ignition engines and the owners and operators of such engines that commence construction after July 11, 2005 where the engine is manufactured after April 1, 2006 and is not a fire pump engine (cf. §60.4200(a)(2)(i)). The permittee will commence construction after July 11, 2005 of emergency generators equipped with CI engines manufactured after April 1, 2006. To comply with the applicable provisions in 40 CFR §60.4205(b), the permittee has elected to purchase certified engines as allowed under 40 CFR §60.4211(c) and operate such emergency engines according to the manufacturer's emission-related written instructions. Therefore they are in compliance with this subpart and are not subject to 40 CFR §60.4211(g) which requires compliance testing.

40 CFR 63 Subpart ZZZZ

Each emergency generator engine EG-1, EG-2, EG-3 and EG-4 is greater than 500 bhp, located at a major source of HAP, and will commence construction after December 19, 2002. Therefore they are "new stationary RICE" and are affected sources under §63.6590(a)(2)(i). These engines are to be operated for emergency purposes and meet the criteria in §63.6590(b)(1)(i) for RICE subject to limited requirements. According to §63.6590(b)(1), such RICE do not have to meet the requirements of Subpart ZZZZ and Subpart A except for the initial notification requirements of §63.6645(f) which requires the initial notification to include items in §63.9(b)(2)(i) through (v).

45CSR42

This rule has been repealed. Therefore Conditions 3.1.17. and 3.5.10. have been removed from the permit

Title V Condition 3.7.2. – Permit Shield

The EDG engines are subject to 40 CFR 63 Subpart ZZZZ. Therefore the permit shield for non-applicable requirements in permit condition 3.7.2.for 40 CFR 63 Subpart ZZZZ no longer applies to the facility. Consequently, 40 CFR 63 Subpart ZZZZ has been removed from the non-applicable permit shield table.

Since the engine driven fire pumps (EDFP-Unit1, EDFP-Unit2, & EDFP-Unit3) are existing emergency stationary RICE, they are not subject to the requirements of 40 CFR 63 Subpart ZZZZ pursuant to 40 CFR §63.6590(b)(3).

Non-Applicability Determinations

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

40 CFR Part 64 - CAM determinations are not applicable for minor modifications.

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: Not Applicable for minor modifications.

Ending Date: N/A

Point of Contact

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

Frederick Tipane
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1215 • Fax: 304/926-0478
Frederick.tipane@wv.gov

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.

Response to Comments (Statement of Basis)

Not applicable.