

# Fact Sheet



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

Permit Number: **R30-05300009-2020**  
Application Received: **March 11, 2019**  
Plant Identification Number: **05300009**  
Permittee: **Appalachian Power Company**  
Facility Name: **Mountaineer Plant**  
Mailing Address: **1 Riverside Plaza, Columbus, OH 43215**

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Physical Location: New Haven, Mason County, West Virginia  
UTM Coordinates: 419.04 km Easting • 4314.70 km Northing • Zone 17

Directions: From Charleston take Interstate 77 North to Exit 138. Travel west on Route 62 approximately 24 miles to New Haven. Facility is located on the right one mile east of New Haven in Mason County.

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### Facility Description

The Mountaineer Plant is a fossil fuel fired electric generation facility and operates under Standard Industrial Classification (SIC) code 4911. The facility consists of one (1) coal-fired steam generator with a rated design capacity of 11,960 mm Btu/hr, two (2) oil-fired auxiliary boilers with a rated design capacity of 598 mm Btu/hr each, 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.

### Emissions Summary

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Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2018 Actual Emissions
Carbon Monoxide (CO)	1,897	585.6
Nitrogen Oxides (NO <sub>x</sub> )	46,168	2,534.97
Particulate Matter (PM <sub>2.5</sub> )	2,348	56.42

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Regulated Pollutants	Potential Emissions	2018 Actual Emissions
Particulate Matter (PM <sub>10</sub> )	3,205	112.35
Total Particulate Matter (TSP)	6,255	207.33
Sulfur Dioxide (SO <sub>2</sub> )	79,294	3,364.86
Volatile Organic Compounds (VOC)	225	69.62

*PM<sub>10</sub> is a component of TSP.*

Hazardous Air Pollutants	Potential Emissions	2018 Actual Emissions
Arsenic	1.93	0.03
Beryllium	0.11	0.00
Chromium	1.81	0.05
Cobalt	0.55	0.01
Manganese	2.19	0.05
Mercury	0.32	0.01
Nickel	1.57	0.14
Selenium	4.95	0.79
Hydrochloric Acid	4,562	6.63
Hydrofluoric Acid	570	6.05

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

### Title V Program Applicability Basis

This facility has the potential to emit 79,294 tons per year of SO<sub>2</sub>, 46,168 tons per year NO<sub>x</sub>, 3,205 tons per year PM<sub>10</sub>, 1,897 tons per year CO, 225 tons per year VOC, more than 10 tons per year of a single hazardous air pollutant (HAP), and more than 25 tons per year of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutants, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Mountaineer 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.

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

Federal and State:	45CSR2	Control of particulate matter emissions from indirect heat exchangers.
	45CSR6	Open burning prohibited.
	45CSR10	Control of sulfur dioxide emissions from indirect heat exchangers.

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45CSR11	Standby plans for emergency episodes.
45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary sources
45CSR16	Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60
45CSR30	Operating permit requirement.
45CSR33	Acid Rain Provisions and Permits
45CSR34	Emission Standards for Hazardous Air Pollutants
45CSR43	Cross-State Air Pollution Rule To Control Annual Nitrogen Oxide Emissions, Annual Sulfur Dioxide Emissions, and Ozone Season Nitrogen Oxides Emissions
40 CFR 60, Subpart D	Standards of performance for Fossil Fuel Fired Steam Generators
40 CFR 60, Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants
40 CFR 60, Subpart Y	Standards of Performance for Coal Preparation Plants
40 CFR 61	Asbestos inspection and removal
40 CFR 64	Compliance Assurance Monitoring
40 C.F.R. Part 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR Part 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters
40 CFR Part 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR 72	Permits Regulation
40 CFR 73	Sulfur Dioxide Allowance System Permits Regulation
40 CFR 74	Sulfur Dioxide Opt-ins
40 CFR 75	Continuous Emissions Monitoring
40 CFR 76	Nitrogen Oxides Reduction Program
40 CFR 77	Excess Emissions
40 CFR78	Appeals Procedure for Acid Rain Program
40 CFR§60.13(i)(2)	Letter of approval to AEP dated June 9, 1999 for Alternative Monitoring Request
40 CFR 82, Subpart F	Ozone depleting substances
40 C.F.R. Part 97, Subpart AAAAA	CSAPR NO <sub>x</sub> Annual Trading Program
40 C.F.R. Part 97, Subpart CCCCC	CSAPR SO <sub>2</sub> Group 1 Trading Program
40 C.F.R. Part 97, Subpart EEEEE	CSAPR NO <sub>x</sub> Ozone Season Group 2 Trading Program
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.

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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 (if any)
R13-0075I	02/03/2017	
G60-C062	08/19/2014	

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**

- **Condition 3.1.13.** – “TR” and “Transport Rule (TR)” were replaced with “CSAPR” and “Cross-State Air Pollution Rule (CSAPR)” respectively and “45CSR43” has been added to the citation of authority.
- **Condition 3.1.14.** - “TR” and “Transport Rule (TR)” were replaced with “CSAPR” and “Cross-State Air Pollution Rule (CSAPR)” respectively and “45CSR43” has been added to the citation of authority. Also, “Group 2” has been added in the title.
- **Condition 3.1.15.** - “TR” and “Transport Rule (TR)” were replaced with “CSAPR” and “Cross-State Air Pollution Rule (CSAPR)” respectively and “45CSR43” has been added to the citation of authority.
- On February 3, 2017 Appalachian Power Company (APC) was issued an administrative update to permit R13-0075H. The permit incorporated requirements to use the SCR and Flue Gas Desulfurization system on Unit 1. Making these requirements enforceable in a permit, apparently, allowed APC to withdraw its request for a SIP amendment. APC made no request for any changes to any emission limits. Therefore, the new conditions 4.1.1.1, 4.1.1.2 and 4.1.1.3 were added to R13-0075I and have been incorporated in this Title V permit renewal as conditions 4.1.8.1, 4.1.8.2, 4.1.10.1 and 4.1.10.2.
- G60-C062 was issued on August 19, 2014 for the construction and operation of two (2) diesel-fired emergency generators to be used to provide power to critical equipment during periods of utility power outages. Appalachian Power Company will utilize two (2) Caterpillar 2050 kW generator sets powered by two (2) 3,003 horsepower diesel fired Caterpillar CAT 3516C-HD TA engines that are both EPA Tier 2 certified. These emergency engines were constructed after July 11, 2005, manufactured after April 1, 2006, and are not fire pump engines. They are more than 500 HP (with a displacement less than 30 liters per cylinder) and are located at a major source of HAPs. Therefore, they are subject to both 40 C.F.R. 60 Subpart IIII and 40 C.F.R. 63 Subpart ZZZZ. General permit registration G60-C062, general permit G60-D, 40 C.F.R. 60 Subpart IIII, and 40 C.F.R. 63 Subpart ZZZZ applicable requirements were added in section 9 of this permit. Also, EGS01, EGS02, EGT01 and EGT02 were added to the emission units table.

- **Section 1.1 Emission Units Table Changes.** The following changes were made to the Emission Units Table in Section 1.1:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
4S	4E	Quench Pump	2007	80 hp	N/A
5S	5E	Diesel fired emergency fire pump	1974	275hp	N/A
Tank #17	Tank #17	<del>East Garage</del> NE FGD Building Heater Tank	<del>1970</del> 1990	3751,000 gal.	N/A
Tank #18	Tank #18	<del>Southwest Garage</del> SE FGD Building Heater Tank	<del>1970</del> 1990	3751,000 gal.	N/A
Tank #19	Tank #19	<del>Southwest Garage</del> W FGD Building Heater Tank	<del>1970</del> 1990	3751,000 gal.	N/A
Tank #23	Tank #23	Diesel Oil Storage at Limestone Area	<del>1990</del> 2007	500 gal.	N/A
Tank #24	Tank #24	#1 Fire Protection Pump Diesel Fuel Tank	<del>1974</del> 2016	275350 gal.	N/A
Tank #25	Tank #25	#2 Fire Protection Pump Diesel Fuel Tank	<del>1974</del> 2018	275350 gal.	N/A
Tank #31	Tank #31	HEDP Near Cooling Tower	<del>1985</del> 2012	30001,500 gal.	N/A
Tank #32A & 32B	Tank #32A & 32B	<del>HEDP Dispersant</del> Near Cooling Tower	<del>1985</del> 2012	30001,500 gal.	N/A
Tank #33	Tank #33	Diethylene Glycol near Coal Handling Stations <del>3N</del>	1974	250330 gal. Tote	N/A
Tank #34	Tank #34	Diethylene Glycol near Coal Handling Stations <del>5</del>	1974	250330 gal. Tote	N/A
Tank #35	Tank #35	Diethylene Glycol near Coal Handling Stations <del>6</del>	1974	250330 gal. Tote	N/A
Tank #36	Tank #36	Diethylene Glycol near Coal Handling Stations <del>7</del>	1974	250330 gal. Tote	N/A
Tank #37	Tank #37	Diethylene Glycol near Coal Handling Stations <del>8</del>	1974	250330 gal. Tote	N/A
Tank #38	Tank #38	Diethylene Glycol near Coal Handling Stations <del>9</del>	1974	250330 gal. Tote	N/A
Tank #39	Tank #39	Diethylene Glycol near Coal Handling Stations <del>10</del>	<del>1974</del> 2007	250330 gal. Tote	N/A
Tank #40	Tank #40	Diethylene Glycol near Coal <del>Handling Stations</del> Stackers/ Reclaimer	1974	250330 gal. Tote	N/A
Tank #41	Tank #41	<del>Betz FS 20 near Ignition Oil</del> Diethylene Glycol near Coal Barge Unloader		1000330 gal. Tote	N/A
Tank #48	Tank #48	<del>Barge Unloader Dust Suppressant</del> C.H. Station 3N Heating Oil	<del>1974</del> 1990	40005,000 gal.	N/A
<del>Tank #49</del>	<del>Tank #49</del>	<del>Coal Station 8 Dust Suppressant</del>	1974	3,000 gal.	N/A
<del>Tank #64</del>	<del>Tank #64</del>	<del>Emergency Quench Pump Diesel Tank</del>	2007	70 gal.	N/A
Tank #71	Tank #71	Gypsum Transfer Station #7 G-1 Diethylene Glycol Tank	2007	250330 gal. Tote	N/A
Tank #72	Tank #72	Gypsum Transfer Station #8 E-Crane Hopper Diethylene Glycol Tank	2007	250 gal.	N/A

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Tank #73	Tank #73	Gypsum Transfer Station #9 <u>G-6 Diethylene Glycol Tank</u>	2007	<del>250</del> 330 gal. <u>Tote</u>	N/A
Tank #74	Tank #74	<del>FGD Building West Heating Oil Tank</del> <u>Gypsum Transfer Station G-7 Diethylene Glycol Tank</u>	<del>2008</del> 2007	<del>2000</del> 330 gal. <u>Tote</u>	N/A
Tank #75	Tank #75	<del>FGD Building East Heating Oil Tank #1</del> <u>#1 Gypsum Transfer Station G-8 Diethylene Glycol Tank</u>	<del>2008</del> 2007	<del>4000</del> 330 gal. <u>Tote</u>	N/A
Tank #76	Tank #76	<del>FGD Building East Heating Oil Tank #2</del> <u>#2 Gypsum Transfer Station G-9 Diethylene Glycol Tank</u>	<del>2008</del> 2007	<del>4000</del> 330 gal. <u>Tote</u>	N/A
<u>Tank #77</u>	<u>Tank #77</u>	<u>Limestone Transfer E-Crane Hopper Diethylene Glycol Tank</u>	<u>2007</u>	<u>250 gallons</u>	<u>N/A</u>
<u>Tank #78</u>	<u>Tank #78</u>	<u>Gypsum Transfer Station G-11 (Stacker) Diethylene Glycol Tank</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
<u>Tank #79</u>	<u>Tank #79</u>	<u>Metclear at CPS</u>	<u>2007</u>	<u>1,500 gallons</u>	<u>N/A</u>
<u>Tank #80</u>	<u>Tank #80</u>	<u>Metclear at Bottom Ash Pond Complex</u>	<u>2007</u>	<u>1,500 gallons</u>	<u>N/A</u>
<u>Tank #81</u>	<u>Tank #81</u>	<u>Klaraid at Bottom Ash Pond Complex</u>	<u>2007</u>	<u>1,500 gallons</u>	<u>N/A</u>
<u>Tank #82</u>	<u>Tank #82</u>	<u>Bleach Storage</u>	<u>2007</u>	<u>8,400 gallons</u>	<u>N/A</u>
<u>Tank #83</u>	<u>Tank #83</u>	<u>Nutrient Tank at Bioreactor</u>	<u>2007</u>	<u>12,770 gallons</u>	<u>N/A</u>
<u>Tank #84</u>	<u>Tank #84</u>	<u>Diethylene Glycol near Coal Equipment Refuel Shed</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
<u>Tank #85</u>	<u>Tank #85</u>	<u>Diethylene Glycol near Coal Rail Car Unloader</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
<u>Tank #86</u>	<u>Tank #86</u>	<u>CPS WWTP Coagulant</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
<u>Tank #87</u>	<u>Tank #87</u>	<u>CPS WWTP Flocculant</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
<u>Tank #88</u>	<u>Tank #88</u>	<u>CPS WWTP Anti-Foaming Agent</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
<u>Tank #89</u>	<u>Tank #89</u>	<u>CPS WWTP Biocide</u>	<u>2007</u>	<u>330 gal. Tote</u>	<u>N/A</u>
HOP-3	HOP-3	Frozen Limestone Reclaim Hopper	2009	40 Tons <u>Capacity</u>	
STA-46	STA-46	Gypsum Discharge <u>Telescoping Chute</u>	2007	1,500 TPH	MC, FE
<u>17S</u>	<u>17E</u>	<u>Two (2) Cummins CFP9E-F30 Diesel Engines for Emergency Fire Water System Pumps</u>	<u>2017</u>	<u>308 bhp each</u>	<u>N/A</u>

- Per company’s request, tanks #77 to #89 were added to the Emission Units Table. The size of the tanks does not trigger 40 C.F.R. 60 Subpart Kb requirements.
- Per company’s request, in the Emission Units Table, the title for “Limestone Material Handling System” was change to “Limestone Barge unloading to storage”.
- Per company’s request through email on January 13, 2020, Emission Unit IDs-4S and 5S were removed from the Emission Units Table because the pump engines have been permanently removed from the facility. Applicable requirements for Emission Unit IDs-4S and 5S were removed from the section 8 of this permit. Condition 4.1.27 (R13-0075I, condition 4.1.6) for Emission Unit ID-4S was also removed from this permit.
- Per company’s request through email on January 13, 2020, Emission Unit ID-17S was added to the Emission Units Table to replace Emission Unit ID-5S. This emission unit includes two diesel-fueled engines (operated at 1785 rpm, producing 308 BHP) for emergency backup to provide fire suppression water to protect plant equipment and structures. The two engines are Cummins Fire Power (model CFP9E-

F30), each with a displacement of 543 cubic inches (8.9 liters) and are 4-cycle, in-line, 6-cylinder, turbocharged, air cooled design.

The engines are Tier III certified emission units burning ultra-low sulfur fuel oil (15 PPM sulfur) and will be operated for no more than the permitted hours each year. The units will not be permitted to operate as peaking units. These emergency engines were constructed after July 11, 2005, manufactured after July 1, 2006, and are fire pump engines. They are less than 500 HP (with a displacement less than 30 liters per cylinder) and are located at a major source of HAPs. Therefore, they are subject to 40 C.F.R 60 Subpart IIII and 40 C.F.R. 63 Subpart ZZZZ. Applicable requirements were added in section 8 of this permit.

- The last particulate emission testing in accordance with condition 4.3.1 at Mountaineer Plant was completed on January 26, 2018. The unit is on a 3 year testing frequency.
- **APPENDIX B** – References to the “Transport” Rule and “TR” have been changed to “Cross-State Air Pollution” Rule and “CSAPR.” The appendix has also been rearranged into a modified layout.
- **APPENDIX C**- The Acid Rain Permit has been added as Appendix C.
- **40 CFR Part 64** – This is a 3<sup>rd</sup> renewal. Since CAM was addressed in the first renewal and there were no modifications to the facility that have triggered a CAM review subsequent to the previous renewals, a CAM evaluation was not made.

**Non-Applicability Determinations**

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

40 CFR 63 Subpart Q	The Mountaineer Plant cooling tower does not use chromium based water treatment chemicals.
40 C.F.R. 60 Subpart Da	The Mountaineer Plant electric utility steam generating unit commenced construction prior to September 18, 1978 and has not undergone a “modification” as defined in 40 C.F.R. 60.
40 C.F.R. 60 Subpart K, Ka	There are no tanks containing “Petroleum Liquids” that are greater than 40,000 gallons in capacity.
40 C.F.R. 60 Subpart Kb	All tanks storing volatile organic liquids are below 19,812 gallons in capacity.
40 C.F.R 60 Subpart Y	All other sections of the existing conveyor system except Conveyor M5 are not Subpart Y facilities per §60.250(b) because they were constructed before October 24, 1974.
40 C.F.R. 60 Subpart OOO	The equipment making up source (5S) is not subject to 40 CFR Part 60 Subpart OOO since there is no processing of the limestone in the equipment from the barge unloader to the storage pile.
45CSR5	The Rule to Prevent and Control Air Pollution from the Operation of Coal Preparation Plants, Coal Handling Operations, and Coal Disposal Areas is not applicable to the facility since 45CSR2 applies.

45CSR17	The Rule to Prevent and Control Particulate Matter Air Pollution from Material Handling Preparation, Storage, and Other Sources of Fugitive Particulate Matter is not applicable to the facility because 45CSR2 is applicable
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**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: January 22, 2020  
Ending Date: February 21, 2020

**Point of Contact**

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

Beena Modi  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1228 • Fax: 304/926-0478  
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**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)**

None