

# Fact Sheet



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

Permit Number: R30-06100001-2009  
Application Received: 06/25/2008  
Plant Identification Number: 06100001  
Permittee: Monongahela Power Company  
Facility Name: Fort Martin Station  
Mailing Address: 800 Cabin Hill Drive, Greensburg, PA 15601

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Physical Location: Maidsville, Monongalia County, West Virginia  
UTM Coordinates: 591.91 km Easting • 4395.95 km Northing • Zone 17  
Directions: From Morgantown, WV travel on WV-100 approximately 3.6 miles.  
Turn right on County Route 53 to the Power Plant.

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## Facility Description

The Fort Martin Power Station is a fossil fuel fired electric generation facility with two units (560 MW and 568 MW) and operates under Standard Industrial Classification (SIC) code 4911. The facility consists of two (2) 4,984 MMBtu/hr coal-fired boilers, two (2) 115.3 MMBtu/hr auxiliary boilers, two (2) 320 KW diesel-fired emergency generators, boiler-related lime handling and various supporting operations such as coal handling, ash handling, wastewater treatment and various storage 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

<b>Plantwide Emissions Summary [Tons per Year]</b>		
<b>Regulated Pollutants</b>	<b>Potential Emissions</b>	<b>2007 Actual Emissions</b>
Carbon Monoxide (CO)	915.8	750.1
Nitrogen Oxides (NO <sub>x</sub> )	13,119.8	9003.2
Particulate Matter (PM <sub>10</sub> )	2,471.4	129
Particulate Matter (PM <sub>2.5</sub> )	845.9	55.8
Total Particulate Matter (TSP)	4,666.3	380.9
Sulfur Dioxide (SO <sub>2</sub> )	135,405.0	88050.8
Volatile Organic Compounds (VOC)	127.1	89.9
<b>Hazardous Air Pollutants</b>	<b>Potential Emissions</b>	<b>2007 Actual Emissions</b>
Lead (Pb)	6.36E-02	0.05
Antimony	5.02E-03	0.004
Arsenic	5.44E-02	0.04
Beryllium	2.31E-03	0.002
Cadmium	1.68E-02	0.01
Chromium	1.24E-01	0.09
Cobalt	2.95E-02	0.02
Manganese	1.83E-01	0.14
Mercury	3.02E-01	0.23
Nickel	1.50E-01	0.11
Selenium	4.44	3.44
Hydrochloric Acid (HCl)	1,828.6	1129.7
Hydrogen Fluorine (HF)	234.3	156.1
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	289.9	225
Dioxin Compounds	3.20E-06	2.62E-06
Polycyclic Aromatic Compounds	4.08E-02	1.15E-02
Acetaldehyde	1.04	0.85
Acrolein	0.53	0.43
Benzene	2.37	1.94

Benzyl chloride	1.27	1.04
Cyanide Compounds	4.55	3.72
Formaldehyde	0.47	0.38
Isophorone	1.06	0.86
Methyl Bromide	0.29	0.23
Methyl Chloride	0.96	0.79
Methyl Ethyl Ketone	0.71	0.58
Methyl Hydrazine	0.31	0.25
Methylene chloride	0.53	0.43
Propionaldehyde	0.69	0.57
Toluene	0.44	0.36

*<sup>1</sup>PM<sub>2.5</sub> and PM<sub>10</sub> are components of TSP.  
<sup>2</sup>For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.*

## Title V Program Applicability Basis

This facility has the potential to emit 135,405 tons per year of SO<sub>2</sub>, 13,119.8 tons per year of NO<sub>x</sub>, 2471 tons per year PM-10, 915.8 tons per year CO & 127.1 tons per year VOC's . 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 HAPs, Fort martin Power Station 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:	45CSR6	Open burning prohibited.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	
	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 C.F.R. Part 82, Subpart F	Ozone depleting substances
	45CSR16	Standard of Performance for New Stationary Sources Pursuant to 40 CFR Part 60
	45CSR2	Control of Particulate matter emissions from indirect heat exchangers
	45CSR10	Control of sulfur dioxide emissions from indirect heat exchangers
	45CSR33	Acid Rain Provisions and Permits
	40 CFR 64	Compliance Assurance Monitoring
	40 C.F.R Part 72	Permits Regulation
	40 C.F.R 73	Sulfur dioxide allowance
	40 C.F.R. 74	Sulfur dioxide Opt-ins
40 C.F.R. 75	Continous Emissions Monitoring	
40 C.F.R. 76	Nitrogen Oxides Reduction Program	
40 C.F.R. 77	Excess Emissions	
40 C.F.R. 78	Appeal Procedure for Acid Rain Program	
40 C.F.R Subpart Kb	Storage Vessels	
40 C.F.R. Subpart Db	Standards of Performance for Industrial–Commercial-Institutional Steam Generating Units	
State Only:	45CSR4	No objectionable odors.
	45CSR37	Mercury emissions reduction
	45CSR 39	Control of annual Nitrogen Oxide emissions
	45CSR 40	Control of ozone season Nitrogen Oxide Emissions
	45CSR 41	Control of annual Sulfur Dioxide emissions

WVDAQ Letter dated September 3, 2002 addressed to Mr. Greg Wooten and signed by Jesse D. Adkins regarding the thermal decomposition of boiler cleaning solutions.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft 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> )
Fort Martin Acid Rain Permit	6/22/2007	
R13-2711A	9/24/2007	
R13-2705	6/22/2007	
R13-2729	2/7/2008	
G60-B006	6/10/2008	
CO-R37-C-2008-4	4/7/2008	
CAIR Permit Application	6/25/2007	

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:

Since the initial permit, there have been four new 45CSR13 permits issued – R13-2711, R13-2705, R13-2729 and G60-B006. The conditions from the new permits have been incorporated in this renewal.

1. As stated in R13-2705, Monongahela Power Company replaced two old diesel fired auxiliary boilers with two new diesel fired auxiliary boilers in 2007. The new boilers are each 115.3 MMBTU/hr. Since the boilers are greater than 100 MMBTU/hr they are subject to 40 CFR 60 Subpart Db.

#### **40 C.F.R. 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units**

According to §60.40b(a), this rule applies to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 100 MMBtu/hr. The two new diesel fired auxiliary boilers (Em. Unit IDs: Blr 1A, Blr1B) are subject to this rule since they are 115.3 MMBtu/hr capacity each, and were constructed in 2007. However, because their construction date is after June 19, 1986, the auxiliary boilers are not subject to the standards under §60.40b(b).

Sulfur Dioxide

As stated in R13-2705 permit condition 4.1.2, The auxiliary boilers shall fire exclusively No. 2 fuel oil with a maximum sulfur content of 0.50%. Although, the company elected an option to demonstrate compliance for very low sulphur oil as per §60.49b(r)(1) (based on actual sulphur content of the fuel oil the company uses is *less than 0.3%*). In order to do this, they should obtain and maintain fuel receipts from the fuel supplier that certify that the oil meets the definition of distillate oil and also submit reports certifying that only very low sulfur oil meeting this definition was combusted in the facility during the reporting period. Refer to condition 4.5.7 of this permit.

Particulate Matter

None of the standards under §60.43b apply to the oil fired auxiliary boilers. Thus, none of the particulate matter compliance and testing requirements under §60.46b are applicable.

Nitrogen Oxides (NOx)

The auxiliary boilers meet the criteria described in 60.44b(j)(1) (2) and (3), and have a heat input capacity of less than 250 MMBtu/hr, are not subject to NOx emission limits. Permittee shall comply with the reporting requirements of 4.5.6 of this permit.

2. Since the initial permit, DAQ has determined that Rule 10 does not apply to Emergency Diesel Generators, section 5.0 has been removed from this permit.
3. PM testing in accordance with Permit Section 4.3.1. is scheduled for 2009 -2010 for Fort Martin Unit1 and Unit2. PM testing was conducted in 2007 for Fort Martin Unit1 and Unit 2.

**The following table outlines the last particulate stack tests at Ft Martin and the timeframe for the next test:**

Unit	Test Type	Test Requirement	Last Test Date	Last Test Result (lb/hr)	Limit (lb/hr)	Testing Schedule	(Time Frame for Next Test)
1	particulate	45 CSR 2	11/1/2007	27.66	249.2	Cycle 3	4/1/2009 - 11/1/2010
2	particulate	45 CSR 2	10/30/2007	26.84	249.2	Cycle 3	3/30/2009- 10/30/2010

4. Rules 45CSR39 and 45CSR40 effectively provide a budget trading program for the control and reduction of the pollutant NOx emitted from affected sources. Historically, this pollutant has been regulated under rules 45CSR1 (NOx Budget Trading program for non-EGUs) and 45CSR26 (NOx Budget Trading program for EGUs). Since the CAIR rules are providing the NOx regulation, rules 45CSR1 and 45CSR26 are no longer necessary and will be repealed effective May 1, 2009. Therefore, condition 3.1.10 of initial permit has been removed .
5. After consultation with US EPA Region III in which DAQ was informed that 112(j) applied to the vacated standard 40 C.F.R. 63, Subpart DDDDD, “National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters”, but that no date of becoming subject was known, the agency determined that inserting a permit condition to address this situation to allow for a permit application shield while US EPA was in the process of re-proposing and re-promulgating a MACT standard was a reasonable course of action and use of limited resources. The agency’s current position to delay the 112(j) reviews is based on the November 13, 2008 order filed by the United States District Court for the District of Columbia for US EPA to issue a new Boiler and Process Heater MACT to be proposed by July 15, 2009 and promulgated by July 15, 2010; to maintain national consistency; and to most effectively use agency resources.
6. **CAMR and CAIR applicability:**  
 CAMR Mercury Budget Trading Program - The facility is subject to 45CSR37. The Title V Permit was revised by adding Section 3.1.13. 45CSR37 is tied to the provisions of the federal CAMR Program, which

has been vacated. The DEP has initiated the process to repeal 45CSR37, however the repeal will not take effect until June 2009. Until such time as 45CSR37 is repealed, it remains an applicable requirement, therefore the requirement must remain in the permit. The DEP has issued an order, #CO-R37-C-2008-4, holding the requirements of 45CSR37 in abeyance pending resolution of federal litigation.

CAIR NO<sub>x</sub> Annual Trading Program - The facility is subject to 45CSR39. The facility has submitted a CAIR permit application in accordance with 45CSR§39-6.1.a.1. The Title V Permit was revised by adding Section 3.1.14. The CAIR permit application was attached to the Title V permit as Appendix C and becomes the CAIR permit portion of the Title V Permit.

CAIR NO<sub>x</sub> Ozone Season Trading Program - The facility is subject to 45CSR40. The facility has submitted a CAIR permit application in accordance with 45CSR§40-6.1.a.1. The Title V Permit was revised by adding Section 3.1.16. The CAIR permit application was attached to the Title V permit as Appendix C and becomes the CAIR permit portion of the Title V Permit.

CAIR SO<sub>2</sub> Trading Program - The facility is subject to 45CSR41. The facility has submitted a CAIR permit application in accordance with 45CSR§41-6.1.a.1. The Title V Permit was revised by adding Section 3.1.15. The CAIR permit application was attached to the Title V permit as Appendix C and becomes the CAIR permit portion of the Title V Permit.

**7. 40CFR60 Subpart III:** As stated in G60-B006, Maximum controlled emissions from MPC's diesel fired emergency generators (Em. Unit IDs: EDQP-1, EDQP-2) are fire pump engines with a displacement of less than 30 liters per cylinder, therefore are subject to 40CFR60 Subpart III. Section 60.4205c details the emission standards for fire pump engines with a displacement of less than 30 liters per cylinder. They shall meet the emission standards in condition 8.1.2 of this permit.

**8.** Per 40CFR 60.4207(b), fuel requirement for emergency generators (Em. Unit IDs: EDQP-1, EDQP-2) was added as condition 8.1.3 of this permit.

**9.** The two diesel generators ((Em. unit ID-EDG1 & EDG2) are diesel engines connected to emergency quench pumps associated with the FGD scrubbers that are currently being installed at Fort Martin. They will be used in the case of an emergency, when power is lost at the site, to prevent damage to the FGD scrubbers. These generators therefore meet the definition of "Emergency Stationary RICE" under 40 CFR 63.6675. These two sources have been installed and are scheduled to start up later this year.

Per 40 C.F.R. §63.6590(b)(i) & (ii), this facility has to meet the initial notification requirements of §63.6645(h). Refer to condition 3.5.10 of this permit.

**10. 40 CFR 64 - Compliance Assurance Monitoring (CAM)** – Unit 1 & Unit 2 have pre-controlled potential emissions that exceed major source thresholds for all criteria pollutants except volatile organic compounds. Unit 1 & Unit 2 do not utilize emission control devices for carbon monoxide, therefore these units are not PSEUs for carbon monoxide. Unit 1 & Unit 2 are subject to the Acid Rain Program and are not PSEUs for nitrogen oxides or sulfur dioxide in accordance with 40 C.F.R. §64.2(b)(1)(iii).

Unit 1 & Unit 2 have pre-controlled potential emissions that exceed major source thresholds for particulate matter (PM). Each unit is equipped with an electrostatic precipitator (ESP) that is used to comply with federally-enforceable emission limits associated with their operation, therefore each unit represents a pollutant specific emissions unit (PSEU). The submitted plans meet the requirements of the CAM rule.

As a general rule, ESP performance improves as total power input increases. This relationship is true when particulate matter and gas stream properties remain stable and all equipment components (such as rappers, plates, wires, hoppers, and transformer-rectifiers) operate satisfactorily. The secondary voltage drops when a malfunction occurs in the ESP. When secondary voltage drops, less particulate is collected. Also, the secondary voltage can remain high but fail to perform its function if the collection plates are not cleaned, or rapped, appropriately. If the collection plates are not cleaned, the current drops. Thus, since the power is the product of the voltage and the current, monitoring power input will provide a reasonable assurance that the ESP is functioning properly. In other words, problems that would be detected by monitoring other parameters individually also will be manifested in the power input.

Monongahela Power Company will perform emissions testing to establish the minimum power level that will still demonstrate compliance with the particulate matter weight emission limit. Monongahela Power Company will utilize a temporary continuous particulate sampler, the TEOM 7000 Source Particulate Monitor, to collect continuous particulate emission rate information. A detailed description of the CAM testing methodology will be supplied in a CAM testing protocol to be provided to the Department after approval of this CAM plan.

The CAM related testing and CAM plan implementation will be conducted according to the following schedule \*:

1. Monongahela Power Company shall submit a CAM testing protocol to the Department within 45 days of the issuance of the Title V Permit.
2. Monongahela Power Company will complete the CAM testing within 120 days of the issuance of this permit.
3. Testing results, including the excursion limits, and the generated opacity to particulate matter correlation curve will be submitted to the Department within 45 days after completion of testing.
4. Within 60 days of completing the CAM testing, Monongahela Power shall implement the CAM plan\* and begin operation of the monitoring\*.

*\*Note: Pursuant to 40CFR§64.4(e) the schedule to begin monitoring shall not exceed 180 days after the approval of the Title V permit*

Monitoring per the CAM Plan is identical for Pleasants Units 1 and 2 and will be as follows:

Unit 1 & Unit 2		Indicator No. 1
<b>I.</b>	<b>Indicator</b>	ESP Secondary Power Input
	<b>Monitoring Approach</b>	ESP secondary voltage is measured using a voltmeter and the secondary current is measured using an ammeter. The total power (P) input to the ESP is the sum of the products of secondary voltage (V) and current (I) in each field. ( $P = V_1I_1 + V_2I_2$ ) (permit condition 4.2.5.)
<b>II.</b>	<b>Indicator Range or Designated Condition</b>	An excursion will be defined as a three-hour average ESP secondary power less than (value to be determined based on TEOM 7000 testing) kW.
<b>III.</b>	<b>Performance Criteria</b>	The secondary voltage and current for each ESP field are directly measured using instrumentation integrated in the ESP unit.
	<b>A. Data Representativeness</b>	
	<b>B. Verification of Operational Status</b>	N/A
	<b>C. QA/QC Practices and Criteria</b>	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's specifications. (permit condition 4.2.7.)
	<b>D. Monitoring Frequency</b>	The secondary voltage and current are measured continuously and recorded no less than four times per hour, equally spaced over each hour. (permit condition 4.2.5.)
	<b>Data Collection Procedures</b>	The total secondary ESP power input (in kW) is calculated and recorded in an electronic data acquisition system no less than four times per hour, equally spaced over each hour.. (permit condition 4.4.10.)
	<b>Data averaging periods</b>	3-Hour (permit condition 4.4.10.)

11. Emissions for CO<sub>2</sub>, Methane and N<sub>2</sub>O were included in the Emission Summary section in the draft/proposed fact sheet. Since neither EPA nor WV DAQ regulate CO<sub>2</sub>, Methane or N<sub>2</sub>O, EPA recommended that these emissions

not be included in the final fact sheet. Therefore, these emissions were removed from the Emissions Summary Section.

12. In the Non-Applicability Determination section, the reason for non-applicability for Subpart ZZZZ has been changed from that originally provided in the draft/proposed fact sheet. In the draft/proposed fact sheet, the diesel generator (Em. unit ID-DG-CRU) associated with the coal crusher (listed in Table 1.5) was classified as an existing compression ignition (CI) stationary RICE. During the comment period, the company explained that the diesel generator is not a stationary RICE, but a non-road engine as defined in a 40 CFR 1068.30. Therefore, the generator is considered mobile and not a stationary RICE in accordance with 40CFR 63.6585 (a).

**Non-Applicability Determinations**

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

45CSR§10-8	The auxiliary boilers burn distillate fuel only and, as per section 10.3 of 45CSR10, are thereby exempt from section 8 of 45CSR10.
40 CFR 60, Subpart Da	Boilers B1 and B2 commenced construction prior to September 18, 1978.
40 CFR 63 Subpart Q	Fort Martin Power Station Cooling Towers were constructed and in operation prior to September 8, 1994
40 CFR 60, Subpart K	Fort Martin Power Station does not have any tanks storing petroleum liquids (as defined in 40 CFR 60.111) that were constructed after March 8, 1974 and prior to May 19, 1978 and exceed 40,000 gallons in capacity.
40 CFR 60, Subpart Ka	Fort Martin Power Station does not have any tanks storing petroleum liquids (as defined in 40 CFR 60.111a) that were constructed after May 18, 1978 and exceed 40,000 gallons in capacity.
40 CFR 60, Subpart Kb	Fort Martin Power Station has no tanks that were constructed after July 23, 1984 that (a) exceed 75m <sup>3</sup> (19,813 gal) in capacity and store a volatile organic liquid (as defined in 40 CFR 60.111b) with a maximum true vapor pressure greater than 15.0 kPa (2.18 psia) or (b) exceed 151m <sup>3</sup> (39,864 gal) in capacity and store a volatile organic liquid with a maximum true vapor pressure greater than 3.5 kPa (0.51 psia)
45 CSR 5	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 because 45 CSR 2 is applicable.
45CSR 17	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 45 CSR 2 is applicable, as stated in section 6.1 of 45CSR17.
45CSR 60, Subpart OOO	Standards of Performance for Non-Metallic Minerals Handling are not applicable to the Fort Martin Limestone Handling system based upon the Initial Crushing capacity to the Limestone system being 100 tons/hour, which is less than 150 tons/hour threshold of applicability for Subpart OOO(as defined in 45CSR 60.670(C)(2)).
40 CFR 60, Subpart Dc	Subpart Dc is not applicable to this facility because the auxiliary boilers were constructed before June 9, 1989 and are greater than 100 MMBTU/hr.

40CFR63, Subpart <i>ZZZZ</i>	The diesel generator (Em. unit ID-DG-CRU) associated with the coal crusher (listed in Table 1.5) is considered mobile and not a stationary RICE in accordance with 40CFR 63.6585 (a).
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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: May 8, 2009

Ending Date: June 8, 2009

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

Beena Modi  
Title V Permit Writer  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> 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**

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: 304/926-0476

**Response to Comments (Statement of Basis)**

Not applicable.