

**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**

September 15, 2010

SUBJECT: Review of Application
Title V Operating Permit
Cheswick Power Station
Pittsburgh and Porter Street
Springdale, PA 15144

RE: Operating Permit File No. 0054
Electrical Generating Facility

TO: Sandra L. Etzel
Chief Engineer

FROM: David D. Good
Air Quality Engineer

FACILITY DESCRIPTION:

The Cheswick Power Station is an electric generating facility located on Pittsburgh and Porter Streets in Springdale, PA. The plant is composed of one main boiler exhausting to one stack, which fires coal or synfuel as the primary fuel and natural gas as an auxiliary fuel for startup and shutdown. Pollution control equipment for the main boiler includes low NO_x burners with separated overfire air, electrostatic precipitation with flue gas conditioning, and selective catalytic reduction. On April 2, 2007 the facility received a permit for installation of a flue gas desulfurization unit. Upon satisfying the requirements of the installation permit, which was amended on April 20, 2010, this operating permit will be revised to incorporate those conditions. The plant also has a No. 2 oil fired auxiliary boiler which exhausts to a separate stack.

The facility is a major source of sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM), particulate matter < 10 microns in diameter. (PM-10), particulate matter < 2.5 microns in diameter. (PM-2.5), carbon monoxide emissions (CO), and hazardous air pollutants (HAPs); and is a minor source of volatile organic compounds (VOCs), as defined in section 2101.20 of Article XXI. The facility is also subject to the acid rain regulations and Clean Air Interstate Rule requirements.

The facility consists of the following emission units:

1. Main Boiler No. 1; 5,500 MMBtu/hr rated and 6,000 MMBtu/hr maximum, tangentially fired; bituminous coal or synfuel (primary fuel), natural gas (auxiliary fuel)
2. Auxiliary Boiler; 160 MMBtu/hr; No. 2 fuel oil
3. Ammonia Storage Tanks (4); 42,000 gallons each tank; aqueous ammonia (19%)
4. Coal Handling and Storage
5. Ash Handling, Processing, and Storage
6. Plant Roads
7. Station Cooling Water Cooling Tower (3 Cells)
8. Facility Space Heaters (7 heaters)

POTENTIAL EMISSION SUMMARY:

Potential Emissions (tons/year)

Pollutant	Main Boiler No. 1	Auxiliary Boiler	Ammonia Storage Tanks	Coal Handling & Storage	Ash Handling & Storage	Plant Roads	Cooling Tower	Space Heaters	Total
PM	1,927	5.9	0.00	82.04	8.12	104.8	0.33	0.35	2,129
PM10	1,927	5.9	0.00	21.45	8.06	23.10	0.33	0.35	1,986
PM2.5	1,927	5.9	0.00	21.45	8.06	23.10	0.33	0.35	1,986
NOx	10,840.5	41.2	0.00	0.00	0.00	0.00	0.00	2.11	10,886
CO	573.4	9.0	0.00	0.00	0.00	0.00	0.00	0.53	583
SO2	67,452	56.5	0.00	0.00	0.00	0.00	0.00	0.75	67,509
VOC	82.0	0.4	0.00	0.00	0.00	0.00	0.00	0.02	82.4

* A year is defined as any consecutive 12-month period.

Emission Unit Data:

See Appendix A

Potential and Allowable Emissions:

See Appendix B

Fugitive emission sources:

Coal Handling and Storage
Ash Handling, Processing, and Storage
Plant Paved and Unpaved Roads

EMISSION SOURCES OF MINOR SIGNIFICANCE:

1. Minor emission sources (e.g., vents, drains, connectors, etc.) associated with maintenance activities in the boiler and turbine buildings, machine shop, etc.
2. Minor emissions associated with water and wastewater treatment (vents, storage tanks, equipment components, etc.)
3. Vents, drains, and other equipment associated with the storage and distribution of turbine lube oil, fuel oil, waste oil, solvents, acid, caustic, etc.⁽¹⁾
4. Minor emissions associated with building ventilation and air conditioning, and space heaters
5. Minor emissions associated with fire protection equipment

Note:

(1) The 150,000 gallon No. 2 fuel oil storage tank (T-008) is listed as an insignificant source on the basis that: 1) it is not subject to 40 CFR 60 Subpart K since it was constructed prior to the rule applicability date of June 11, 1973; 2) ACHD §2105.12.b does not apply since No. 2 fuel oil has a vapor pressure below the rule applicability threshold of 1.5 psia under actual storage conditions; and 3) VOC emissions from the tank are insignificant at less than 1.0 ton per year.

EMISSION CONTROL:

The Main Boiler No. 1 is equipped with low NO_x burners with separated overfire air and selective catalytic reduction (SCR) for control of nitrogen oxides and an electrostatic precipitator (ESP) with flue gas conditioning (FGC) for the control of particulate matter. The SCR system is used to meet the NO_x budget requirements during the ozone season and may be used to generate allowances to be used at other facilities.

The Auxiliary Boiler has no emissions control equipment. The aqueous ammonia storage tanks have vapor recovery and bottom loading for the control of ammonia. The coal handling and storage operations utilize wet suppression for the control of particulate matter. The ash handling, processing, and storage operations use wet suppression and fabric filters for the control of particulate matter. Fugitive particulate matter emissions from vehicular traffic on plant paved and unpaved roads are controlled through watering, chemical treatment, and traffic speed control.

TESTING/MONITORING REQUIREMENTS:

Article XXI §2103.12.h.1 and §2108.02

The permittee shall perform nitrogen oxides, sulfur oxides, and particulate matter emissions testing on Main Boiler No. 1 once every two years in order to demonstrate compliance with the emission limitations of this permit. Such testing shall be conducted in accordance with applicable U.S. EPA approved test methods, Article XXI §2108.02, and as approved by the Department (§2103.12.h.1; §2108.02). The use of properly calibrated and certified CEMS may be used to demonstrate compliance also. Testing for nitrogen oxides emissions due to operation of the Auxiliary Boiler shall be performed at least once every five years.

Notations of visible emissions from coal and ash handling and storage shall be performed once per week during normal daylight operations. A trained employee shall record whether any emissions are observed and whether these emissions extend beyond the facility property line.

ACHD RACT Plan Approval Order and Agreement No. 217, Dated March 8, 1996

Compliance with the Main Boiler No. 1 24-hour and annual nitrogen oxides emission limitations of this permit shall be determined through use of continuous emissions monitoring data. (RACT Order No. 217, Condition 1.3)

ACHD Installation Permit No. 0054-I002

Emissions testing on Main Boiler No. 1 shall be performed annually to demonstrate compliance with the ammonia emissions limitation of 3 ppm_{vd} @ 3% O₂ and the corresponding ammonia emission limits in this permit in accordance with Article XXI §2108.02.d and e. (ACHD IP No. 0054-I002, Condition V.A.2.a, issued June 13, 2001). The permittee shall also monitor the catalytic bed inlet gas temperature, ammonia solution injection rate, and the ammonia solution concentration of the selective catalytic reduction (SCR) system and operate and maintain the SCR equipment and monitoring instrumentation in accordance with the manufacturer's specifications and good air pollution control practice (§2105.03, ACHD IP No. 0054-I002, Condition V.A.3, issued June 13, 2001). The aqueous ammonia storage tanks shall be inspected monthly to assure structural integrity of the tanks and that no leaks are present (ACHD IP No. 0054-I002, Condition V.B.3, issued June 13, 2001).

40 CFR Part 75, Continuous Emission Monitoring

For Main Boiler No. 1 the permittee shall install, certify, operate, and maintain continuous emission monitors per Appendix A of 40 CFR §75 and PADEP Source Testing Manual Revision 8 or approved alternative for opacity, SO₂, NO_x, and CO₂ emissions. The permittee must also determine and record the heat input for every hour or part of an hour of any fuel that is combusted per Appendix F of Part 75. (40 CFR §75.10-75.14)

APPLICABLE REQUIREMENTS:

Article XXI, Requirements for Issuance:

The requirements of Article XXI, Parts B and C for the issuance of major source operating permits have been met for this facility. Article XXI, Part D, Part E & Part H will have the necessary sections addressed individually.

40 CFR PART 64, “Compliance Assurance Monitoring”:

The requirements of 40 CFR Part 64, “Compliance Assurance Monitoring,” were found to be applicable to the Main Boiler No. 1 as a large emission unit for emissions of PM₁₀, due to the electrostatic precipitator for particulate control. While Main Boiler No. 1 is equipped with low NO_x burners/selective catalytic reduction system for NO_x control, 40 CFR §64.2(b)(iii) specifies that the requirements of Part 64 do not apply to Acid Rain Program requirements pursuant to sections 404, 405, 406, 407(a), 407(b), or 410 of the Act. This emission unit is subject to the NO_x provisions of the Acid Rain Program and is therefore not subject to Part 64 for NO_x emissions.

Main Boiler No.1 is also equipped with an electrostatic precipitator (ESP) for particulate matter control and the pre-control particulate matter emissions (as PM₁₀) exceed 100% of the amount for classification as a major source. While the source will continue to use an ESP with a COM, and continuously monitor and record opacity and ESP operating parameters to comply with the applicable particulate emission limit, the requirements of 40 CFR Part 64 shall not apply to the Main Boiler No.1 until the renewal of this Part 70 major source operating permit. The source shall, however, record and report all deviations associated with the operation of this equipment, including corrective action taken to restore compliance, as required pursuant to Part 70 and Article XXI, Parts B and C.

Title IV Acid Rain Program (Title IV Acid Rain Permit, §2103.22.j, and 40 CFR 72 through 40 CFR 78)

NO_x emissions from the Main Boiler shall be limited to 0.45 lb/MMBtu (annual average) and SO₂ emissions shall be limited to 16,924 tons/year (plus or minus based on emissions trading). The SO₂ allowance allocation is reflective of 16,919 tons, as specified at 40 CFR 73.10, Table 2, Phase II Allowance Allocations for calendar years 2010 and beyond, plus an EPA reallocation transfer of five (5) additional tons. The permittee, as of January 1 of each year, shall hold SO₂ allowances in the unit’s compliance account not less than the total annual emissions of SO₂ for the previous year (40 CFR §72.9(c)). A Designated Representative for the facility, for the purposes of the Acid Rain Program, must be identified on a certificate of representation form; and this Designated Representative shall certify all Acid Rain Submissions (40 CFR §72.20-72.24).

CAIR NO_x and SO₂ Trading Programs (40 CFR Part 97 and 25 Pa Code § 145):

The permittee shall comply with all requirements of 40 CFR PART 97 (relating to Federal NO_x Budget Trading Program and CAIR NO_x and SO₂ Trading Programs) and 25 Pa Code § 145 (relating to Interstate Pollution Transport Reduction). The permittee is subject to the standard requirements of 40 CFR § 97.106, 40 CFR § 97.206 and 40 CFR § 97.306. The requirements are hereby incorporated by

reference in the permit. This program has replaced Pa Code §123.102-123.120(§2105.100).

ACHD RACT Plan Approval Order and Agreement No. 217:

Section 2105.06 of Article XXI requires that RACT be applied to all major sources of NO_x. Plan Approval Order and Agreement Upon Consent Number 217, dated March 8, 1996, submitted to the US EPA as a site specific SIP revision to Allegheny County's portion of the PA SIP, has established the following NO_x RACT emission limitations for Main Boiler No. 1:

1. 0.5548 lb/MMBtu (24-hour average);
2. 0.45 lb/MMBtu (annual average); and
3. 10,840 tons/year.

Article XXI, Presumptive RACT Requirements for the Auxiliary Boiler (§2105.06(d))

Section 2105.06 of Article XXI requires that RACT be applied to all major sources of NO_x. The permittee has requested that the existing 160 MMBtu/hour No.2 oil-fired Auxiliary Boiler be limited in annual capacity such that the requirements of Article XXI, §2105.06.d, *Presumptive RACT for Certain NO_x Sources*, would apply. As such, the annual heat input to the boiler is limited to less than 438,000 MMBtu per consecutive 12-month period. This is equivalent to an annual capacity factor of 31.25% and an annual average of less than 50 MMBtu/hr. Therefore, the permittee shall comply with the applicable requirements of §2105.06.d.2 for Presumptive RACT, as well as §2105.06.g for related record keeping. Such requirements are incorporated into the operating permit for this emission unit.

ACHD Operating Permit No. 1065009-003-00100, issued December 8, 1981:

Operating Permit No. 1065009-003-00100 provides for operating approval of Main Boiler. This approval also requires quarterly reporting of monthly average coal sulfur content and ash content; amount of coal fired each month (tons); maximum measured sulfur content of coal for any sample in each month (mixed coal as fired); and a listing of measured opacity exceedances of the 20% opacity limit and the reasons for such. These requirements are incorporated into the major source operating permit.

ACHD Operating Permit No. 1065009-003-00600, issued May 2, 1995:

Operating Permit No. 1065009-003-00600 provides for operating approval of the Auxiliary Boiler. This approval establishes fuel oil sulfur content at 0.2%; hourly and annual pollutant emission limits; and an exemption from the cold start-up reporting requirements pursuant to §2108.01.d. These requirements are incorporated into the major source operating permit, except the annual pollutant emission limits are streamlined as follows:

ACHD Installation Permit No. 93-I-0009-C:

This permit was issued on 11-19-1993 and contains hourly and annual emission limits for all criteria pollutants based on a rating of 5,280 mmBtu/hr. Conditions from this permit which authorized installation of LNCFS II have been incorporated into the Title V Operating Permit.

ACHD Installation Permit No. 0054-I002:

This permit was issued on 6-13-2001 and contains hourly and annual emission limits for NO_x and ammonia based on a maximum design rating of 5,500 mmBtu/hr. Conditions from this permit which authorized installation of Selective Catalytic Reduction (SCR) have been incorporated into the Title V Operating Permit.

Ammonia slip from the SCR system on Main Boiler No. 1 shall not exceed 3 ppm_{vd} @ 3% O₂ when the boiler is operating under steady state conditions and shall not exceed 10 ppm_{vd} @ 3% O₂ at any time (ACHD IP No. 0054-I002, Condition V.A.1.b, issued June 13, 2001). Emissions of ammonia shall not exceed 34 lb/hr or 97.4 tons/year where a year is defined as any 12 consecutive months at any time (ACHD IP No. 0054-I002, Condition V.A.1.c). The operating temperature of the SCR catalyst shall not exceed 810 °F (ACHD IP No. 0054-I002, Condition V.A.1.d).

The ammonia storage tanks shall not be loaded or unloaded unless the vapor balancing system is in place and operating properly according to manufacturer's specifications at all times during the operation (ACHD IP No. 0054-I002, Condition V.B.1, issued June 13, 2001).

Nitrogen oxide emissions from the Main Boiler shall not exceed 0.5548 lb/mmBtu 24-hour average or 0.45 lb/mmBtu annual average. (Plan Approval Order and Agreement No. 217 Upon Consent, dated March 8, 1996)

ACHD Installation Permit No. 0054-I004a:

Installation Permit No. 0054-I004a issued on 4-20-2010, relating to the installation of a Flue Gas Desulfurization (FGD) unit on the main boiler at the Cheswick Power Station, shall be incorporated into the Operating Permit after initial compliance has been demonstrated.

ACHD Determinations

- 11-5-09 – Approval to combust up to 35% Powder River Basin coal.**
- 7-20-09 – Approval for fly ash disposal.**
- 4-21-09 – Approval for injecting magnesium hydroxide for slag and SO₃ control.**
- 4-1-09 – Approval to evaporate non-hazardous solution from boiler chemical cleaning.**
- 3-11-08 – Approval to follow latest revision of PaDEP Continuous Source Monitoring Manual.**
- 5-16-07 – Approval for Trona injection testing.**
- 7-30-02 – Approval for the combustion of Synfuel.**
- 11-14-00 – Exemption of IP3 for replacement cooling tower.**

Article XXI, ACHD Pollutant Emission Standards for Combustion (§2104.02, §2104.03)

Pursuant to Article XXI, the following pollutant emissions standards apply to the facility:

1. Pursuant to Article XXI, §2104.02, particulate matter (PM) emissions from the Main Boiler are limited to 0.008 lb/MMBtu when combusting natural gas only (§2104.02.a.1.A.); and 0.08 lb/MMBtu when combusting coal only or synfuel (§2104.02.a.2.C.). When combusting coal and natural gas concurrently in the Main Boiler, PM emissions shall not exceed the allowable emissions (lb/MMBtu) calculated by the formula in §2104.02.a.3.

Particulate matter emissions from the Auxiliary Boiler are limited to 0.015 lb/MMBtu (§2104.02.a.1.B).

2. Based on maximum fuel feed rates provided by the permittee, the maximum heat input rates to the Main Boiler are 5,500 MMBtu/hr when firing coal/synfuel; and 1,028 MMBtu/hr when firing natural gas. Therefore, pursuant to Article XXI, §2104.03.a.2.D, sulfur dioxide (SO₂) emissions

from the Main Boiler shall be as follows:

- a. When combusting coal or synfuel (as bituminous coal fines and binder), the SO₂ emissions shall not exceed 2.8 lb/MMBtu; and
- b. When combusting natural gas, the SO₂ emissions shall be the potential to emit.

Sulfur dioxide emissions from the Auxiliary Boiler shall not exceed the allowable emissions A (in lb/MMBtu) calculated by the formula $A = 1.7E^{0.14}$, where E = actual heat input in MMBtu/hr. At a heat input rate of 160 MMBtu/hr, the Auxiliary Boiler shall not exceed an SO₂ emission rate of 0.835 lb/MMBtu. (§2104.03.a.2.B.)

Streamlining of Auxiliary Boiler Allowable SO₂ Emission Limits:

Permit No. 1065009-003-00600, issued May 2, 1995, limits SO₂ emissions from the auxiliary boiler to not exceed 133.6 lb/hour and 551.5 tons per year based on the formula provided in the preceding paragraph. This notwithstanding, Permit No. 1065009-003-00600 also specifies a No. 2 fuel oil sulfur content of 0.2% by weight. This fuel oil sulfur limit is equivalent to 41.3 lb/hr and 180.8 tons per year, based on an AP-42 emission factor increased by 15%. The source shall comply with the more stringent emission limits, based on a fuel oil sulfur limit of 0.2% by weight.

Article XXI, ACHD Particulate Matter Emission Limitations for Materials Handling, Processing, and Storage and Plant Roads (§2104.05, §2104.02.c, and §2105.49)

Pursuant to Article XXI, the following pollutant emissions standards apply to the facility:

1. Particulate matter emissions from coal handling and processing shall not exceed seven (7) pounds in any 60 minute period or 100 pounds in any 24-hour period, except no person shall be required to reduce emissions to a greater degree than 99 percent (§2104.02.b).
2. Particulate matter emissions from coal crushing, grinding, or screening shall not at any time exceed the rate determined by the following formula (§2104.02.c):

$$A \text{ (lb/hr)} = 0.76E^{0.42},$$

where E = emission index = (F) x (W)

F = 20 lbs/ton feed

W = charge rate (tons/hr)

3. The permittee shall conduct coal and ash handling operations in a manner such that emissions from these operations are not visible at or beyond the facility property line at any time, pursuant to §2104.05. The permittee shall also comply with the visible emission standards of §2104.01.a, as specified in the Site Level section of the permit, whereby the opacity of visible emissions from the coal and ash handling operations, excluding uncombined water, do not:
 - a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
 - b. Equal or exceed an opacity of 60% at any time.
4. Coal handling equipment and storage pile wet suppression systems for PM control shall be in operation and control emissions as specified in the Fugitive Dust Emissions Control Plan submitted to the Department, and as delineated in the major source operating permit.
5. The permittee shall take actions to minimize the potential for fugitive emissions from ash

handling and vehicular traffic, including but not limited to, the following: (§2105.49)

- a. The periodic scraping of fine dust from haul roads;
- b. The use of water sprays and dust suppressants;
- c. Periodic street sweeping of paved roads; and
- d. Maintain vehicle speed below ten (10) miles per hour.

NON-APPLICABLE REQUIREMENTS

New Source Performance Standards (§2105.05, 40 CFR Part 60)

The requirements of the following New Source Performance Standards are not included in the major source operating permit as indicated below:

1. The requirements of 40 CFR Part 60 Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971), Subpart Da (Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978), and Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) are not included in the permit for the Main Boiler No.1 and Auxiliary Boiler because these units were constructed in 1970, prior to the construction commencement applicability dates in the regulations, and there have been no modification or reconstruction approvals issued to the source for these units.
2. The requirements of 40 CFR Part 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) and 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) are not applicable to the 150,000 gallon No. 2 fuel oil storage tank because No. 2 fuel oil does not meet the definition of a petroleum liquid.
3. The requirements of 40 CFR Part 60 Subpart Y (Standards of Performance for Coal Preparation Plants) are not included in the permit for the facility's coal handling and storage equipment because the equipment was constructed prior to the regulation's construction commencement applicability date of October 24, 1974, and there have been no modification or reconstruction approvals issued to the source for these units.
4. The requirements of 40 CFR Part 60 Subpart HHHH (Emission Guidelines and Compliance Times for Coal-Fired Electric Generating Units) are not included in the permit for the Main Boiler No.1 and Auxiliary Boiler because a state implementation plan for PA's mercury rule was never finalized.
5. The requirements of 40 CFR Part 60 Subpart KKKK (Standards of Performance for Stationary Combustion Turbines) are not included in the permit for the Main Boiler No.1 and Auxiliary Boiler because there are no combustion turbines at this site.

Risk Management Program (§2104.08, 40 CFR Part 68)

The aqueous ammonia storage tanks are not subject to the Risk Management Program requirements of 40 CFR Part 68 because the material they store (19% aqueous ammonia) is not a listed regulated material. Additionally, this plant discontinued using chlorine for waste water treatment activities during 1998 and no longer maintains chlorine storage tanks. The plant currently utilizes 1,000 pound totes of bleach for water treatment activities. Therefore, the requirements of Part 68 are not applicable to this source.

However, should the facility, as defined in 40 CFR Part 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in Part 68.10 and shall certify compliance with the requirements of Part 68 as part of the facility's annual compliance certification.

REGULATED POLLUTANTS WITH NO ESTABLISHED REGULATORY EMISSION LIMITATION:

Section 2103.12.a.2.B of Article XXI requires that RACT be applied to pollutants regulated by Article XXI without established regulatory emission limitations. RACT for carbon monoxide and volatile organic compound emissions from the Main Boiler No. 1 have been determined to be proper operation and maintenance of the boiler according to accepted combustion practices. RACT for the pollutants emitted from the Auxiliary Boiler have been determined to be proper operation and maintenance of the boiler according to accepted combustion practices. Therefore, the emission limitations for these pollutants will be the maximum potential emissions under proper operation of the boilers as shown in the above emission summary.

METHOD OF COMPLIANCE DETERMINATION:

Compliance with the boiler emission limitations will be demonstrated by compliance with the maximum fuel usage limitations; fuel certifications; periodic emissions testing and continuous monitoring pollutant and opacity, and record keeping and reporting requirements that include inspection, maintenance and repair data, continuous monitoring data, and monthly fuel usage. Compliance with the fugitive particulate matter emission limitations for the coal and ash handling and storage operations and for plant roads will be demonstrated according to the work practice and fugitive dust control measures established in the facility Fugitive Dust Emissions Control Plan. See the Major Source Operating Permit No. 0054 for the specific compliance methods, record keeping and reporting requirements for the facility.

RECOMMENDATIONS:

The facility is in compliance with all applicable regulations of Article XXI and it is recommended that the Operating Permit No. 0054 be issued.

APPENDIX A

Emission Unit Data

Emission Unit Data

Unit: **Main Boiler No. 1**
Make: Combustion Engineering
Model: External Combustion Boiler
Type: Bituminous Coal Tangentially Fired Boiler
Max. Capacity: -6,000 MMBtu/hr (5,500 MMBtu/hr rated capacity) when firing coal and synfuel; 1,028MMBtu/hr when firing natural gas
Date installed: 1970
Primary fuel: Coal or synfuel (bituminous coal fines and binder)
Auxiliary Fuels: Natural Gas
Exhaust Stack No. 1; 2,200,000 acfm at 285-330⁰F
Emission controls: Low NOx Burners with separated overfire air, Electrostatic Precipitator (ESP) with Flue Gas Conditioning, Selective Catalytic Reduction (SCR)

Unit: **Auxiliary Boiler**
Make: Riley
Model: External Combustion Boiler
Type: Oil Fired External Combustion Boiler
Max. Capacity: 160 MMBtu/hr
Date Installed: 1970
Fuel: No. 2 Fuel Oil, 0.2% (wt.) sulfur content
Exhaust Stack No.2; 68,850 acfm at 674⁰F
Emission controls: None

Unit: **Ammonia Storage Tanks (4)**
Type: Horizontal Fixed-Roof Storage Tanks
Capacity: 42,000 gallons each
Date installed: 2001
Emission controls: Vapor Balancing and Bottom Loading

Unit: **Coal Handling and Storage**
Process Description: Coal Barge Unloading, Coal Conveying, Pile Maintenance and Storage, Indoor Storage, and Crushing Operations
Capacity: 230 tons/hour; 2,014,800 tons/year
Date installed: 1970
Emission controls: Wet Suppression

Emission Unit Data

Unit: **Ash Handling, Processing, and Storage**
Process Description: Fly Ash Handling/Processing (Vacuum Pump Discharge Vents, Fly Ash Silo Dust Collectors, Fly Ash Silo Loadout) and Bottom Ash Handling/Processing (Truck Loading/Unloading, Hopper Loading, Conveying, Stacking, Screening, and Storage Pile Wind Erosion)
Capacity: Approximately 151,110 tons/year Fly Ash; Approximately 70,000 tons/year Bottom ash
Date installed: 1970
Emission Controls: Fabric Filters (Fly Ash Vacuum Pump Discharge Vents and Fly Ash Silo Dust Collectors); Wet Suppression Primarily Used for Fugitive Dust Control

Unit: **Plant Roads**
Process Description: Vehicular Traffic of Plant Paved and Unpaved Roads
Annual Vehicle Miles: Approximately 37,313 (Paved Roads); Approximately 15,100 (Unpaved Roads)
Emission controls: Wet Suppression, Chemical Treatment, Road Cleaning, and Traffic Speed Enforcement

Unit: **Station Cooling Water Cooling Tower**
Type: Cross flow forced draft design, consisting of three (3) identical cells
Capacity: 13,000 gallons per minute
Date installed: 2000 (Replacement of original cooling tower installed 1970)
Emission controls: Mist Eliminators

Unit: **Facility Space Heaters**
Type: Seven portable torpedo space heaters, four rated at 0.6 MMBtu/hr each; two rated at 0.35 MMBtu/hr each, and one rated at 0.15 MMBtu/hr
Capacity: 3.25 MMBtu/hr, combined
Fuel type: Kerosene
Emission controls: None

APPENDIX B

Allowable & Potential Emissions

(Detailed emission calculations are contained in the attached spreadsheets)