

Pamela F. Faggert
Vice President and Chief Environmental Officer

Dominion Resources Services, Inc.
5000 Dominion Boulevard, Glen Allen, Virginia 23060
Phone: 804-273-3467



February 29, 2008

Mr. John Benedict
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, West Virginia 25304

Re: Morgantown Energy Associates, Title V Permit Renewal Application
Facility ID: R30-06100027

Dear Mr. Benedict:

Morgantown Energy Associates is pleased to provide four copies (two electronic and two paper copies) of the Title V Permit Renewal Application (with appropriate attachments) for our Morgantown facility located at 555 Beechurst Avenue in Morgantown WV.

On June 21, 2007, Dominion submitted the requested CAIR application for Morgantown so that it can be incorporated in to the Title V permit. We are asking that this be done with the Title V renewal.

Dominion recognizes that this renewal application triggers a review of 40 CFR Part 64, the Compliance Assurance Monitoring (CAM) program. The only CAM-affected pollutant is PM. A proposed approach to meet the CAM requirements is also enclosed.

We trust the provided information is sufficient to deem the application administratively complete and begin the technical review process. Should you have any questions with this submittal please contact Liz Willoughby at (804) 273-3740, (Elizabeth.A.Willoughby@dom.com).

We look forward to working with you throughout the review of this application.

Sincerely,

Pamela F. Faggert

cc: Mr. Denton Mcderment (same as above address)

Mr. John Benedict
February 29, 2008
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Please make 4 hardcopies:

Mr. John Benedict- WVDEP 1 copy, plus the original

Mr. Denton Mcderment- WVDEP – 1 copy

Dayton Schneider- 1 copy Morgantown Energy Associates

EES File Code: **Morgantown (Air) – COR 14 – Title V permit renewal**

Please make 5 DVDs:

Mr. John Benedict – 2 copies

Mr. Denton Mcderment – 1 copy

Dayton Schneider- 2 copies

Please scan signed original/attachments and rename file as:

File Name: **MT Title V permit renewal Application (2-2008).pdf**

Please send renamed document to:

Pam Faggert

Cathy Taylor

Diane Leopold

Jesse Locklar

Dayton Schneider

Charles M. Wishart

Karen Canody

Alice Corey

Liz Willoughby

**epccommo\EES_ELECTRONIC_FILING_SYSTEM\Air Quality
Files\Morgantown\ COR 14**

APPLICATION FOR TITLE V PERMIT RENEWAL APPLICATION
Morgantown Energy Associates
R30-06100027-2003

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.wvdep.org/daq

TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 8 numbered sections: 1. Name of Applicant (Morgantown Energy Associates), 2. Facility Name (Morgantown Energy Facility), 3. DAQ Plant ID No. (061-00027), 4. Federal Employer ID No. (55-0688011), 5. Permit Application Type (Permit Renewal), 6. Type of Business Entity (Partnership), 7. Is the Applicant the: (Owner), 8. Number of onsite employees (47). Includes contact information for Dominion Cogen WV, Inc., Hickory Power LLC, and RCM Morgantown Power, Ltd.

9. Governmental Code:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Privately owned and operated; 0 | <input type="checkbox"/> County government owned and operated; 3 |
| <input type="checkbox"/> Federally owned and operated; 1 | <input type="checkbox"/> Municipality government owned and operated; 4 |
| <input type="checkbox"/> State government owned and operated; 2 | <input type="checkbox"/> District government owned and operated; 5 |

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? Yes No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY" guidance.

11. Mailing Address

Street or P.O. Box:

c/o Cathy Taylor	cc: c/o Jesse Locklar
5000 Dominion Boulevard	555 Beechurst Avenue
Glen Allen, VA 23060	Morgantown, WV 26505

City: Glen Allen	State: VA	Zip: 23060-3308
Telephone Number: (804) 273-2929	Fax Number: (804) 273-3410	

12. Facility Location

Street: 555 Beechurst Avenue	City: Morgantown	County: Monongalia County
UTM Easting: 589.20 km	UTM Northing: 4388.10 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18

Directions: From Charleston take Interstate 79 North to Exit 152. Bear right onto Fairmont Rd (US-19) approximately 1.9 miles. Turn right onto Holland Ave. (US-19) approximately 1.4 miles to University Avenue. Turn left on Beechurst Ave. Facility is located on the left approximately 0.8 miles.

Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Maryland, Pennsylvania
Is facility located within 100 km of a Class I Area ¹ ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).
If no, do emissions impact a Class I Area ¹ ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.

13. Contact Information		
Responsible Official: Jesse R. Locklar, Jr.		Title: Director, Fossil & Hydro
Street or P.O. Box: 555 Beechurst Avenue		
City: Morgantown	State: WV	Zip: 26505
Telephone Number: (304) 284-2500	Fax Number: (304) 284-2509	
E-mail address: Jesse.Locklar@dom.com		
Environmental Contact: Dayton Schneider		Title: Plant Engineer
Street or P.O. Box: 555 Beechurst Avenue		
City: Morgantown	State: WV	Zip: 26505-
Telephone Number: (304) 284-2531	Fax Number: (304) 284-2509	
E-mail address: Dayton.P.Schneider@dom.com		
Application Preparer: Elizabeth Willoughby		Title: Environmental Specialist
Company: Dominion		
Street or P.O. Box: 5000 Dominion Boulevard		
City: Glen Allen	State: VA	Zip: 23060
Telephone Number: (804) 273-3740	Fax Number: (804) 273-2964	
E-mail address: Elizabeth.A.Willoughby@dom.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Fossil fuel fired cogeneration facility	Electricity/Steam	221112	4911

Provide a general description of operations.

The Morgantown Energy Facility is a fossil fuel fired cogeneration facility and operates under Standard Industrial Classification (SIC) code 4911. The facility consists of two 375 mmBtu/hr waste coal and coal fired circulating fluidized bed (CFB) boilers and related facilities, including a steam transmission line and two 132 mmBtu/hr auxiliary natural gas fired boilers. Combined operation of the CFB and auxiliary boilers occurs occasionally. Typically, combined operation occurs when one CFB boiler is taken off-line for maintenance causing one or both auxiliary boilers to be brought on-line. Combined operation may also occur during periods of high steam demand from West Virginia University. When this occurs, combined operation consist of both CFBs being on-line as well as one or both auxiliary boilers. It is also occasionally necessary to take both CFBs off-line. The auxiliary boilers are brought on-line in this situation to meet the steam demand for West Virginia University. Other supporting operations include coal handling, limestone handling, and ash handing, as well as various tanks with insignificant emissions. The facility has the potential to operate seven days per week, twenty-four hours per day and fifty-two weeks per year.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or **construction permit** with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

Facility-wide applicable requirements are listed below by number and linked to detailed information contained in Table 20A commencing on the following page.

- FWAR-1
- FWAR-2
- FWAR-3
- FWAR-4
- FWAR-5
- FWAR-6
- FWAR-7
- FWAR-8
- FWAR-9
- FWAR-10
- FWAR-11

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Facility-wide monitoring / testing / recordkeeping / reporting requirements are listed below by number. The numbers are linked to detailed information contained in Table 20B. Monitoring / testing / recordkeeping / reporting requirements are also referenced for each applicable requirement from the last column of Table 20A (applicable requirements)

- FWTRR-1
- FWTRR-2
- FWTRR-3
- FWTRR-4
- FWTRR-5
- FWTRR-6
- FWTRR-7
- FWTRR-8
- FWTRR-9
- FWTRR-10
- FWTRR-11
- FWTRR-12
- FWTRR-13
- FWTRR-14
- FWTRR-15

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

20A. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

Link From General Form, Item 20	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary	Monitoring / Testing / Recordkeeping / Reporting Requirement Links
FWAR-1	45CSR§6-3.1	3.1.1	Open burning. The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.	None Required
FWAR-2	45CSR§6-3.2	3.1.2	Open burning exemptions. The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.	None Required
FWAR-3	40 C.F.R. 61	3.1.3	Asbestos. Thoroughly inspect the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150.	FWTRR-8
FWAR-4	45CSR§4-3.1 State-Enforceable only	3.1.4	Odor. No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.	FWTRR-4
FWAR-5	45CSR§13-10.5 State-Enforceable only	3.1.5	Permanent shutdown. A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.	None Required

20A. Facility-Wide Applicable Requirements				
List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.				
Link From General Form, Item 20	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary	Monitoring / Testing / Recordkeeping / Reporting Requirement Links
FWAR-6	45CSR§11-5.2	3.1.6	Standby plan for reducing emissions. Prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11 when requested by the Secretary.	None Required (not required for this facility)
FWAR-7	W.Va. Code § 22-5-4(a)(14)	3.1.7	Emission inventory. Submit, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.	FWTRR-3 FWTRR-6 FWTRR-8 FWTRR-9 FWTRR-10
FWAR-8	40 C.F.R. 82 Subpart F	3.1.8	Ozone-depleting substances. For those facilities performing maintenance, service, repair or disposal of appliances, comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B: <ul style="list-style-type: none"> a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156. b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158. c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161. 	None Required (All repairs, maintenance, disposal done by outside contractors)
FWAR-9	40 C.F.R. 68	3.1.9	Risk Management Plan. Should this stationary source, as defined in 40 CFR Part 68.3, become subject to Part 68, a risk management plan (RMP) must be submitted by the date specified in 40 CFR Part 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.	FWTRR-10 (not required for this facility)

20A. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

Link From General Form, Item 20	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary	Monitoring / Testing / Recordkeeping / Reporting Requirement Links
FWAR-10	45CSR§2-5	3.1.11	<p>Fugitive Particulate Matter Control. No person shall cause, suffer, allow, or permit any source of fugitive particulate matter to operate that is not equipped with a fugitive particulate matter control system. This system shall be operated and maintained in such a manner as to minimize the emission of fugitive particulate matter. Sources of fugitive particulate matter associated with fuel burning units shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> a. Stockpiling of ash or fuel either in the open or in enclosures such as silos; b. Transport of ash in vehicles or on conveying systems, to include spillage, tracking, or blowing of particulate matter from or by such vehicles or equipment; and c. Ash or fuel handling systems and ash disposal areas. 	FWTRR-5
FWAR-11	45CSR13/14-Permit No. R13-1085B/R14-7B Specific Requirement (A) (7)	3.1.12	All plant roads and haulways shall be paved and shall be kept clean by appropriate measurements to minimize the emission or entrainment of fugitive particulate matter.	FWTRR-5

20B. Facility-Wide Testing, Recordkeeping and Reporting Requirements

For all facility-wide applicable requirements listed above, provide monitoring /testing/recordkeeping/reporting which shall be used to demonstrate compliance. If method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Link from Table 20A	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary
FWTRR-1	WV Code § 22-5-4(a)(15) 45CSR13/14	3.2.1	<p>Monitoring - Stack testing. As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary.</p> <p>a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40C.F.R. Parts 60,61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved with effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4 or 45CSR§30-6.5 as applicable.</p> <p>b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.2.1a of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with 45CSR§30-6.4 or 45CSR§30-6.5 as applicable.</p> <p>c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.</p>

20B. Facility-Wide Testing, Recordkeeping and Reporting Requirements

For all facility-wide applicable requirements listed above, provide monitoring /testing/recordkeeping/reporting which shall be used to demonstrate compliance. If method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Link from Table 20A	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary
FWTRR-2	45CSR§30.5.1.c.2.A.	3.3.1	<p>Recordkeeping - Monitoring information. Maintain records of monitoring information that include the following:</p> <ul style="list-style-type: none"> a. The date, place as defined in this permit and time of sampling or measurements; b. The date(s) analyses were performed; c. The company or entity that performed the analyses; d. The analytical techniques or methods used; e. The results of the analyses; and f. The operating conditions existing at the time of sampling or measurement.
FWTRR-3	45CSR§30-5.1.c.2.B.	3.3.2	<p>Recordkeeping - Retention of records. Retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.</p>
FWTRR-4	45CSR§30-5.1.c. State-Enforceable only.	3.3.3	<p>Recordkeeping - Odors. For the purposes of 45CSR4, maintain a record of all odor complaints received. Such record shall contain an assessment of the validity of the complaints as well as any corrective actions taken.</p>

20B. Facility-Wide Testing, Recordkeeping and Reporting Requirements

For all facility-wide applicable requirements listed above, provide monitoring /testing/recordkeeping/reporting which shall be used to demonstrate compliance. If method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Link from Table 20A	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary		
FWTRR-5	45CSR§30-5.1.c.	3.3.4	Recordkeeping – Dust Control. Maintain daily records indicating the use of any dust suppressants or any other suitable dust control measures applied at the facility. Inspect all fugitive dust control systems weekly to ensure that they are operated and maintained in conformance with their designs. Maintain records of all scheduled and non-scheduled maintenance and record any maintenance or corrective actions taken as a result of the weekly inspections, the times the fugitive dust control system(s) were inoperable and any corrective actions taken.		
FWTRR-6	45CSR§§30-4.4. and 5.1.c.3.D.	3.4.1	Reporting - Responsible official. Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete		
FWTRR-7	45CSR§30-5.1.c.3.E.	3.4.2	Reporting - Confidential Information. Confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. may be requested pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.		
FWTRR-8	None	3.4.3	<p>Reporting – Delivery Addresses. All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>If to the DAQ:</p> <p>Director WVDEP Division of Air Quality 601 57th Street SE Charleston, WV 25304-2943 Phone: 304/926-0475 FAX: 304/926-0479</p> </td> <td style="width: 50%; vertical-align: top;"> <p>If to the US EPA:</p> <p>Associate Director Office of Enforcement and Permits Review (3AP10) U. S. Environmental Protection Agency Region III 1650 Arch Street Philadelphia, PA 19103-2029</p> </td> </tr> </table>	<p>If to the DAQ:</p> <p>Director WVDEP Division of Air Quality 601 57th Street SE Charleston, WV 25304-2943 Phone: 304/926-0475 FAX: 304/926-0479</p>	<p>If to the US EPA:</p> <p>Associate Director Office of Enforcement and Permits Review (3AP10) U. S. Environmental Protection Agency Region III 1650 Arch Street Philadelphia, PA 19103-2029</p>
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20B. Facility-Wide Testing, Recordkeeping and Reporting Requirements

For all facility-wide applicable requirements listed above, provide monitoring /testing/recordkeeping/reporting which shall be used to demonstrate compliance. If method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Link from Table 20A	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary
FWTRR-9	45CSR§30-8.	3.4.4	Reporting - Certified emissions statement. Submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
FWTRR-10	45CSR§30-5.3.e.	3.4.5	Reporting - Compliance certification. Annually certify compliance with the conditions of this permit on the forms provided by the DAQ. Submit certifications more frequently if required under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
FWTRR-11	45CSR§30-5.1.c.3.A.	3.4.6	Reporting - Semi-annual monitoring reports. Submit reports of any required monitoring on September 15 for the reporting period January 1 to June 30 and March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.

20B. Facility-Wide Testing, Recordkeeping and Reporting Requirements

For all facility-wide applicable requirements listed above, provide monitoring /testing/recordkeeping/reporting which shall be used to demonstrate compliance. If method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Link from Table 20A	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary
FWTRR-12	45CSR§30-5.7	3.4.7	<p>Recordkeeping and Reporting - Emergency. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.</p> <p>The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:</p> <ul style="list-style-type: none"> a. An emergency occurred and that the permittee can identify the cause(s) of the emergency; b. The permitted facility was at the time being properly operated; c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

20B. Facility-Wide Testing, Recordkeeping and Reporting Requirements

For all facility-wide applicable requirements listed above, provide monitoring /testing/recordkeeping/reporting which shall be used to demonstrate compliance. If method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Link from Table 20A	Applicable Requirement Citation	Permit Condition Number from Permit R30-06100027-2003	Requirement Summary
FWTRR-13	45CSR§30-5.1.c.3.C	3.4.8	<p>Reporting – Deviations In addition to monitoring reports required by this permit, promptly submit supplemental reports and notices in accordance with the following:</p> <ol style="list-style-type: none"> 1. Any deviation resulting from an emergency or upset condition, as defined 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation. 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation. 3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis. 4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken. <p>In the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. Every report submitted under this subsection shall be certified by a responsible official.</p>
FWTRR-14	45CSR§30-4.3.h.1.B	3.4.9	<p>New applicable requirements. If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.</p>
FWTRR-15	45CSR§30-5.6	3.5.1	<p>Permit Shield. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.</p>

21. Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R30-06100027-2003	10/07/2003	
NOx Budget Permit-CFB Boilers 1 & 2	02/01/2002	
R13-1085B/R14-7B	04/20/1993	
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	558
Nitrogen Oxides (NO _x)	1,314
Lead (Pb)	0.6
Particulate Matter (PM _{2.5}) ¹	**
Particulate Matter (PM ₁₀) ¹	**
Total Particulate Matter (TSP)	106.1
Sulfur Dioxide (SO ₂)	1,248
Volatile Organic Compounds (VOC)	32.8
Hazardous Air Pollutants ²	Potential Emissions
Manganese	0.0116
Mercury	0.092
Arsenic	0.009
Beryllium	0.001
Hydrochloric Acid	40.0
Hydrogen Fluoride	1.8
Radionuclides	0.004
Regulated Pollutants other than Criteria and HAP	Potential Emissions

¹PM_{2.5} and PM₁₀ are components of TSP.
²For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.
 **PM_{2.5} and PM₁₀ are included in Total Particulate Matter(TSP)

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input checked="" type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input checked="" type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input checked="" type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input type="checkbox"/>	19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO _x , SO ₂ , VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

24. Insignificant Activities (Check all that apply)

<input type="checkbox"/>	20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis: _____ _____ _____ _____
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input checked="" type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by

24. Insignificant Activities (Check all that apply)

	Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input checked="" type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input checked="" type="checkbox"/>	51. Steam cleaning operations.
<input checked="" type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input checked="" type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the Compliance Assurance Monitoring (CAM) Form(s) for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as ATTACHMENT H .

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Jesse R. Locklar, Jr.

Title: Director, Fossil & Hydro

Responsible official's signature:

Signature:

Signature Date:

3/4/08

(Must be signed and dated in blue ink)

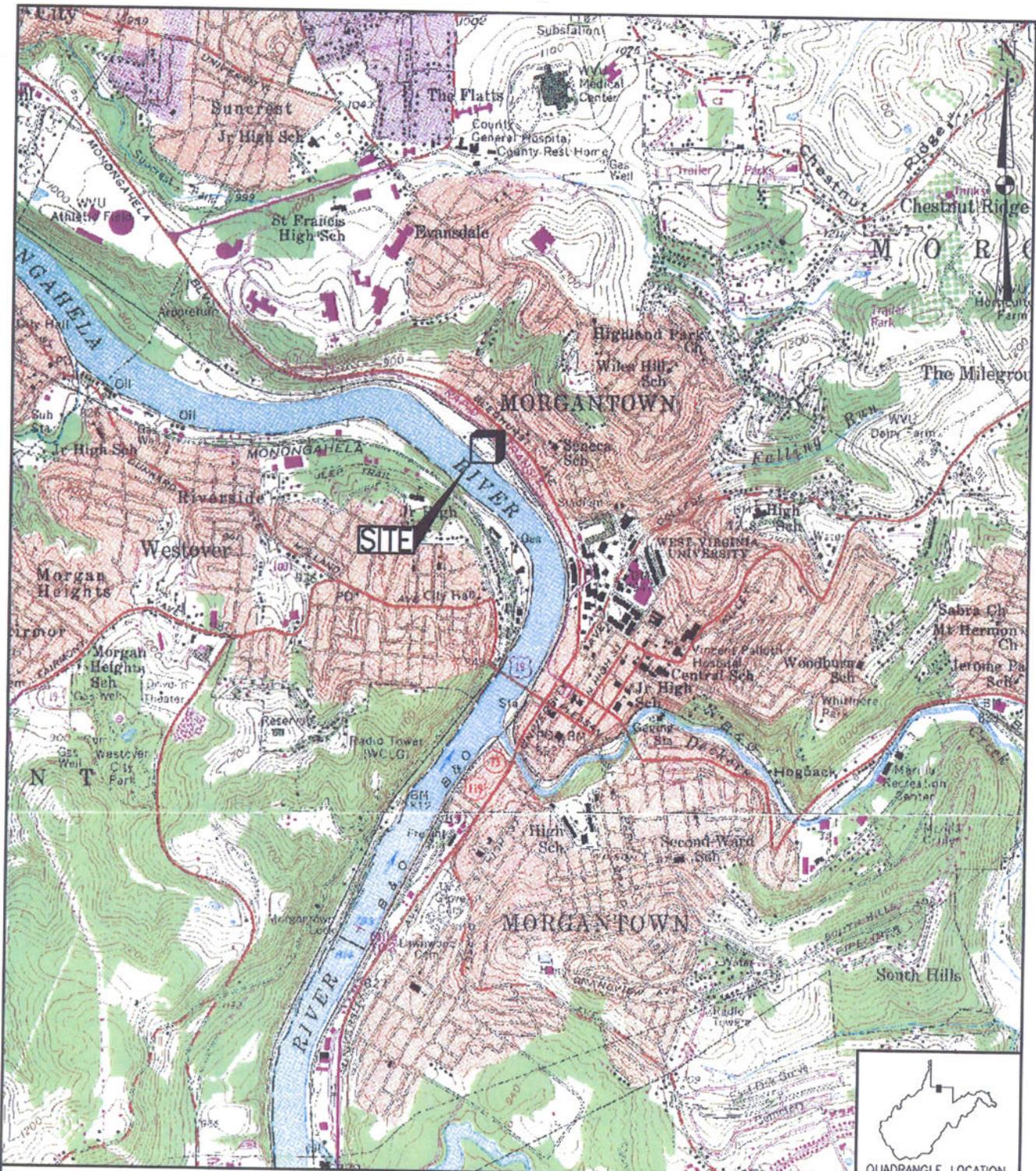
Note: Please check all applicable attachments included with this permit application:

- ATTACHMENT A: Area Map
- ATTACHMENT B: Plot Plan(s)
- ATTACHMENT C: Process Flow Diagram(s)
- ATTACHMENT D: Equipment Table
- ATTACHMENT E: Emission Unit Form(s)
- ATTACHMENT F: Schedule of Compliance Form(s)
- ATTACHMENT G: Air Pollution Control Device Form(s)
- ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.wvdep.org/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

ATTACHMENT A

AREA MAP



REFERENCE: USGS 7.5' QUADRANGLE MAP OF: MORGANTOWN NORTH, WEST VIRGINIA; DATED 1957, PHOTOREVISED 1976.

DRAWN BY	DJF
DATE	
CHECKED BY	
SET JOB NO.	207028
SET DWG FILE	MORGANTOWNm01.dwg
DRAWING SCALE	1"=2000'



98 Vanadium Road Bridgeville, PA 15017 (412) 221-1100

DOMINION GENERATION	
MORGANTOWN ENERGY ASSOCIATES	
MORGANTOWN, WEST VIRGINIA	
SITE LOCATION MAP	
DRAWING NO.	FIGURE 1
REV.	0

ATTACHMENT B

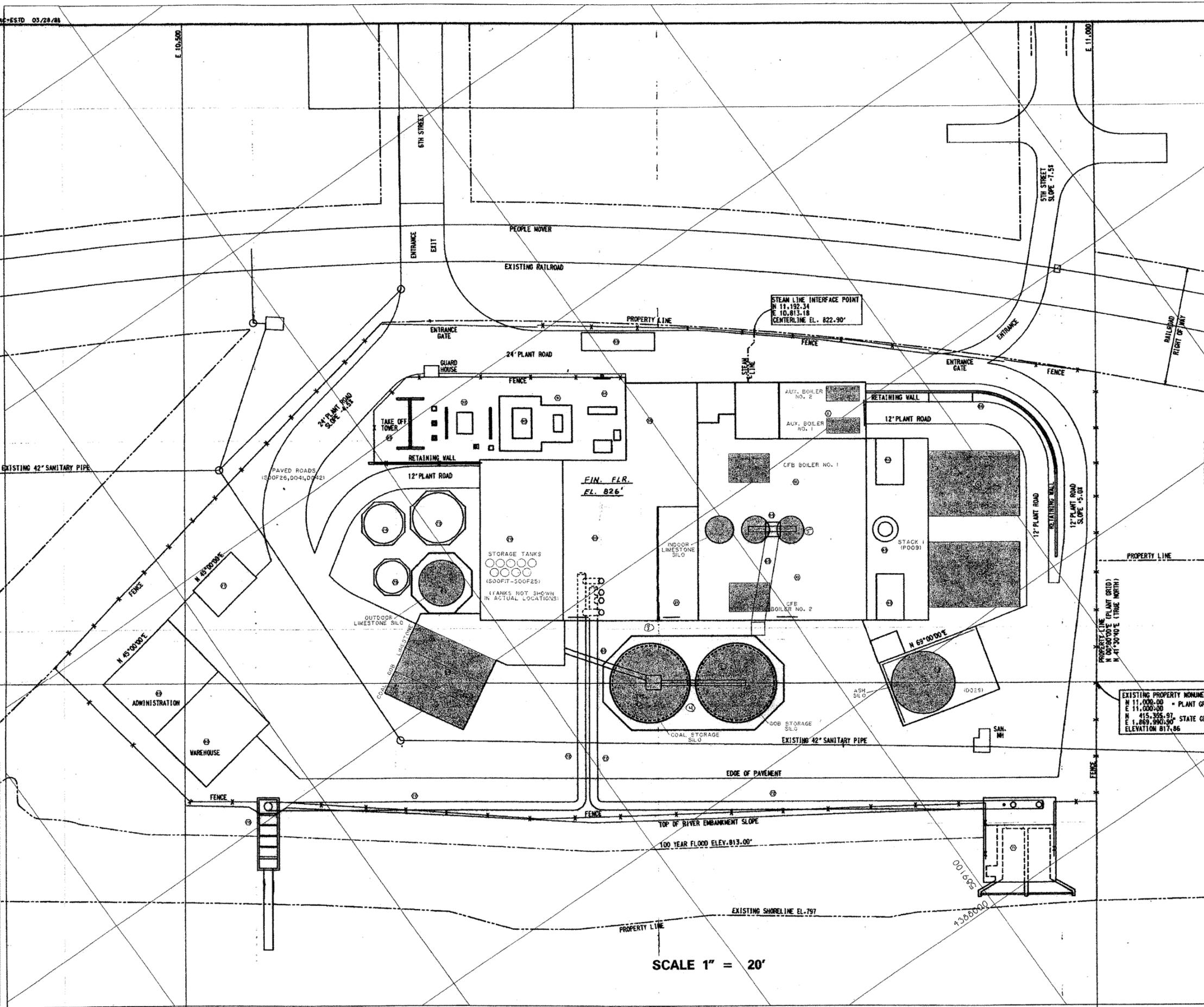
PLOT PLANS



CONTRIBUTING EMISSION SOURCE

UTM GRID (50 METERS)

NOTES:
 1. ABOVEGROUND STORAGE TANKS MAY NOT BE SPECIFICALLY LOCATED.
 2. PARTS CLEANERS MAY NOT BE SPECIFICALLY LOCATED.



LEGEND			
DESCRIPTION	COORDINATES		LOCATION
	NORTH	EAST	
10 BOILER BUILDING	11,036.00	10,784.25	COLUMN LINES 6 & 7
11 AUXILIARY BOILER BUILDING	-	-	-
20 TURBINE ROOM	-	-	-
21 HEATER & PUMP BAY	-	-	-
30 CONTROL BUILDING	-	-	-
40 I-D. FANS	-	-	-
41 BAGHOUSE	-	-	-
43 STACK	11,084.00	10,885.00	CENTERLINE
44 DUCT WORK	-	-	-
50 ASH STORAGE SILO	11,010.00	10,883.50	COLUMN LINES AT 8 & 9
60 TRUCK UNLOADING BUILDING	-	-	-
61 FUEL SILOS	11,000.17	10,756.25	CENTERLINE WEST SILO
62 LIMESTONE SILO	11,054.50	10,642.25	CENTERLINE
63 CONVEYOR	-	-	-
64 COAL STORAGE SILOS	-	-	-
65 SCALE	-	-	-
66 GAS METERING STATION	-	-	-
70 WATER TREATMENT BUILDING	-	-	-
71 CIRC. WATER INTAKE STRUCTURE	10,919.68	10,961.85	STRUCTURE & NORTH WALL
72 CIRCULATING WATER PIPES	SEE DRAWING C06 0108		-
73 CONDENSATE STORAGE TANK	11,090.50	10,640.25	CENTERLINE
74 CONDENSATE RETURN TANK	11,087.50	10,610.08	CENTERLINE
75 WASTE NEUTRALIZATION TANK	11,057.92	10,614.75	CENTERLINE
76 CIRC. WATER DISCHARGE CHUTE	10,932.54	10,546.00	STRUCTURE & PIPE
77 FIREWATER PUMP HOUSE	11,050.68	10,506.36	COLUMN LINES 6 & 7
80 OFFICE & WAREHOUSE	10,989.16	10,500.93	CENTERLINE BUILDING
90 MAIN TRANSFORMER	-	-	-
91 AUXILIARY TRANSFORMER	-	-	-
92 SWITCHYARD	-	-	-
93 138 KV TRANSMISSION LINE	-	-	-
94 CONSTR. POWER TRANSF. YARD	-	-	-

EXISTING PROPERTY MONUMENT
 N 11,000.00 - PLANT GRID
 N 11,000.00 - STATE GRID
 N 415,325.97 - STATE GRID
 E 1,889,990.30 - STATE GRID
 ELEVATION 817.86

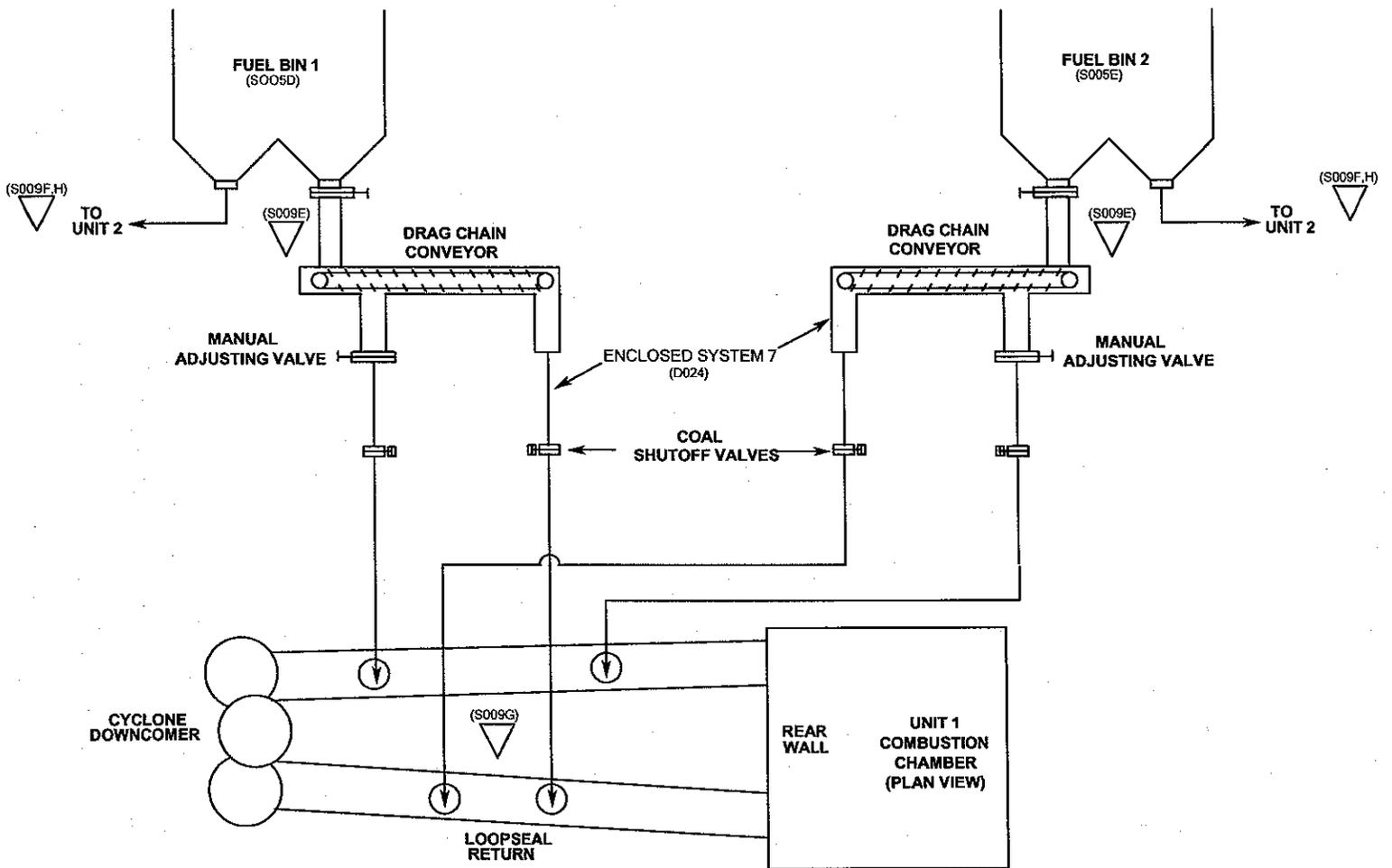
SCALE 1" = 20'

MORGANTOWN ENERGY ASSOCIATES
 MORGANTOWN ENERGY FACILITY
 MORGANTOWN, WEST VIRGINIA
 AREA PLAN

CONTRIBUTING EMISSION SOURCE /
 POLLUTION CONTROL DEVICE /
 EMISSION POINT
 PLANT LAYOUT

SCALE: AS NOTED
 DATE: AUGUST 11, 1995
 PREPARED BY: SE TECHNOLOGIES

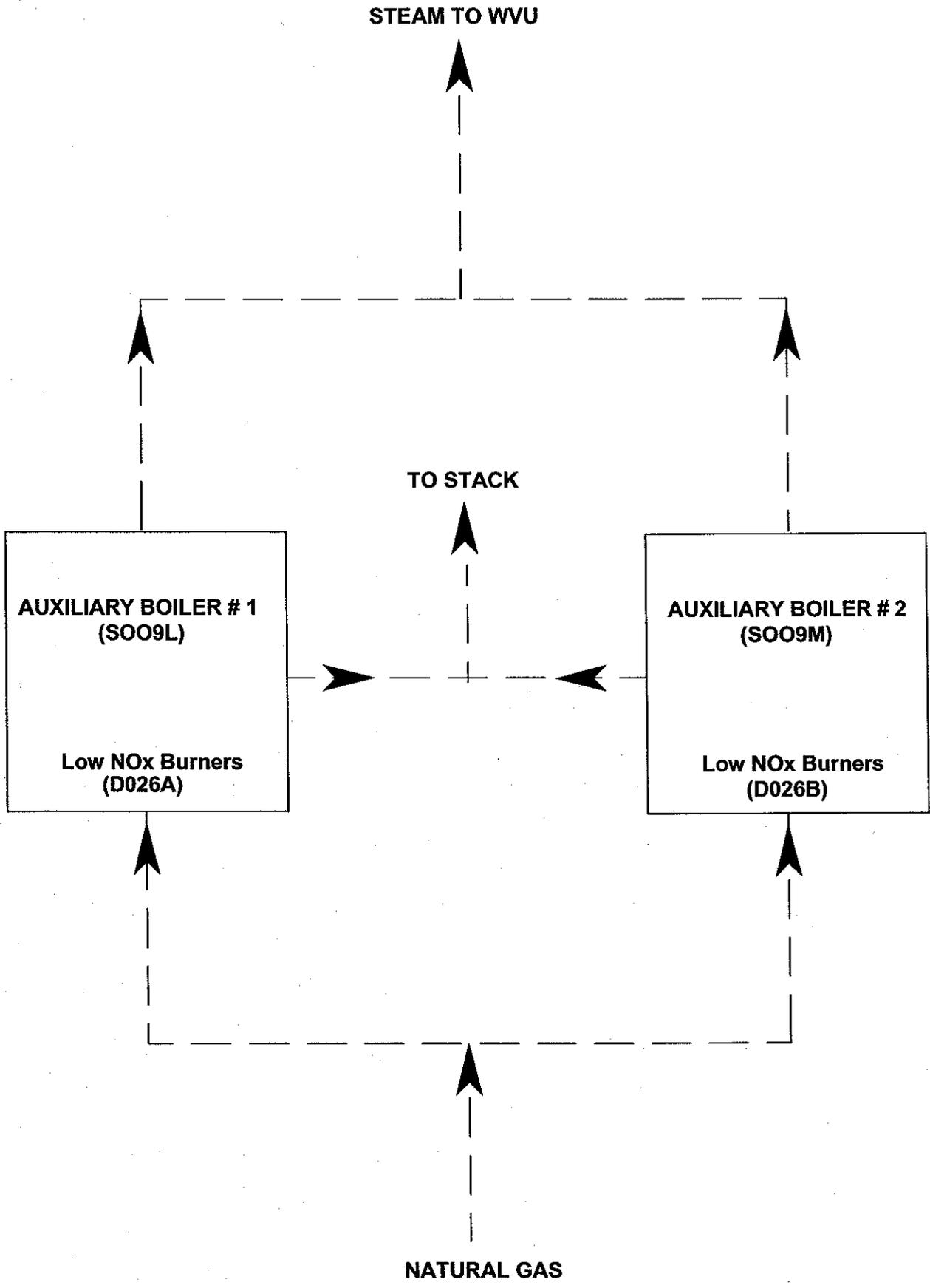
ATTACHMENT C
PROCESS FLOW DIAGRAM



**MORGANTOWN ENERGY ASSOCIATES
COAL FEED SYSTEM
EMISSION SOURCES**

SCALE: NONE

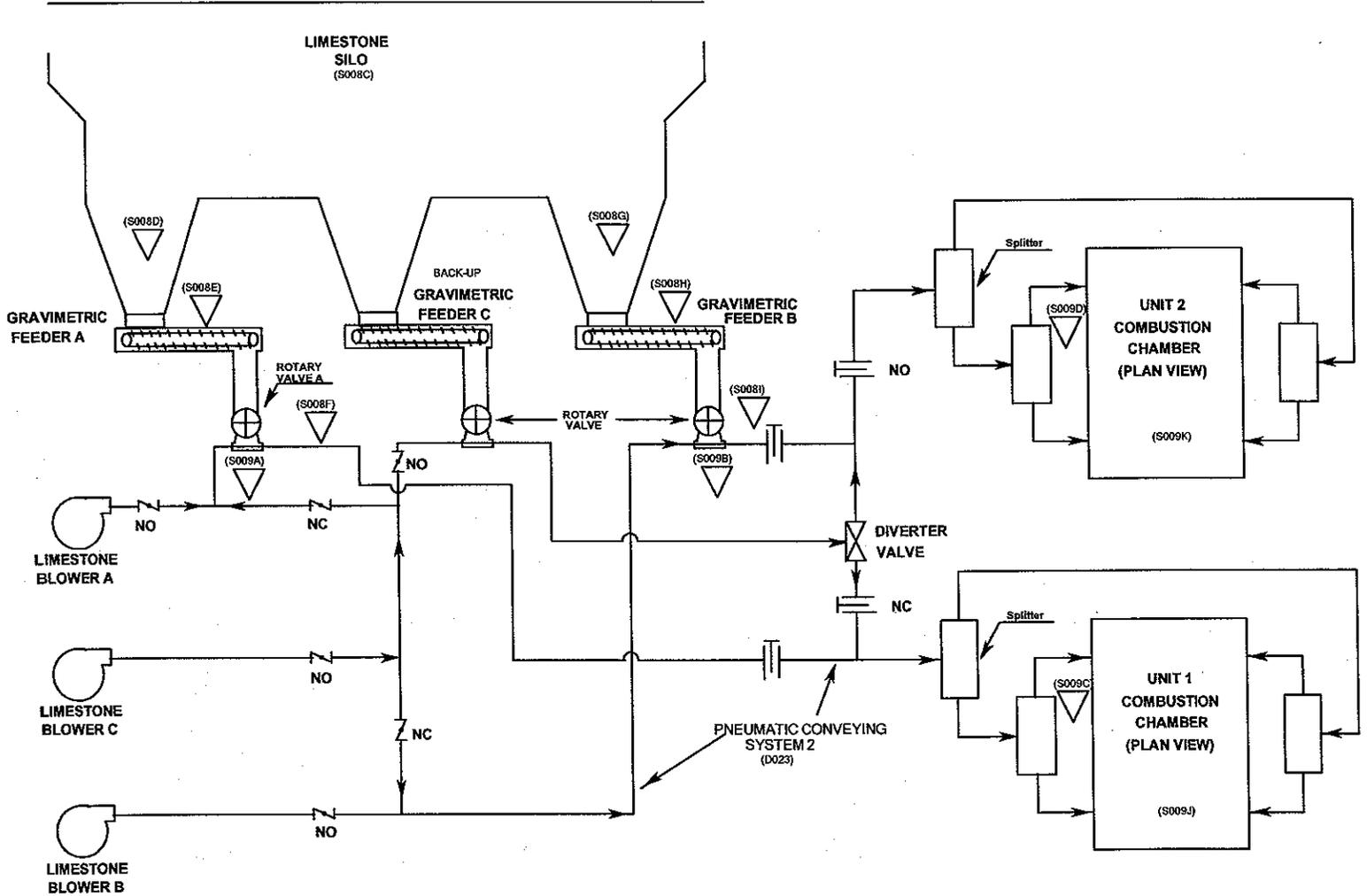
DATE: FEBRUARY 15, 2008



MORGANTOWN ENERGY ASSOCIATES
AUXILIARY BOILERS SYSTEM EMISSION SOURCES

SCALE: NONE

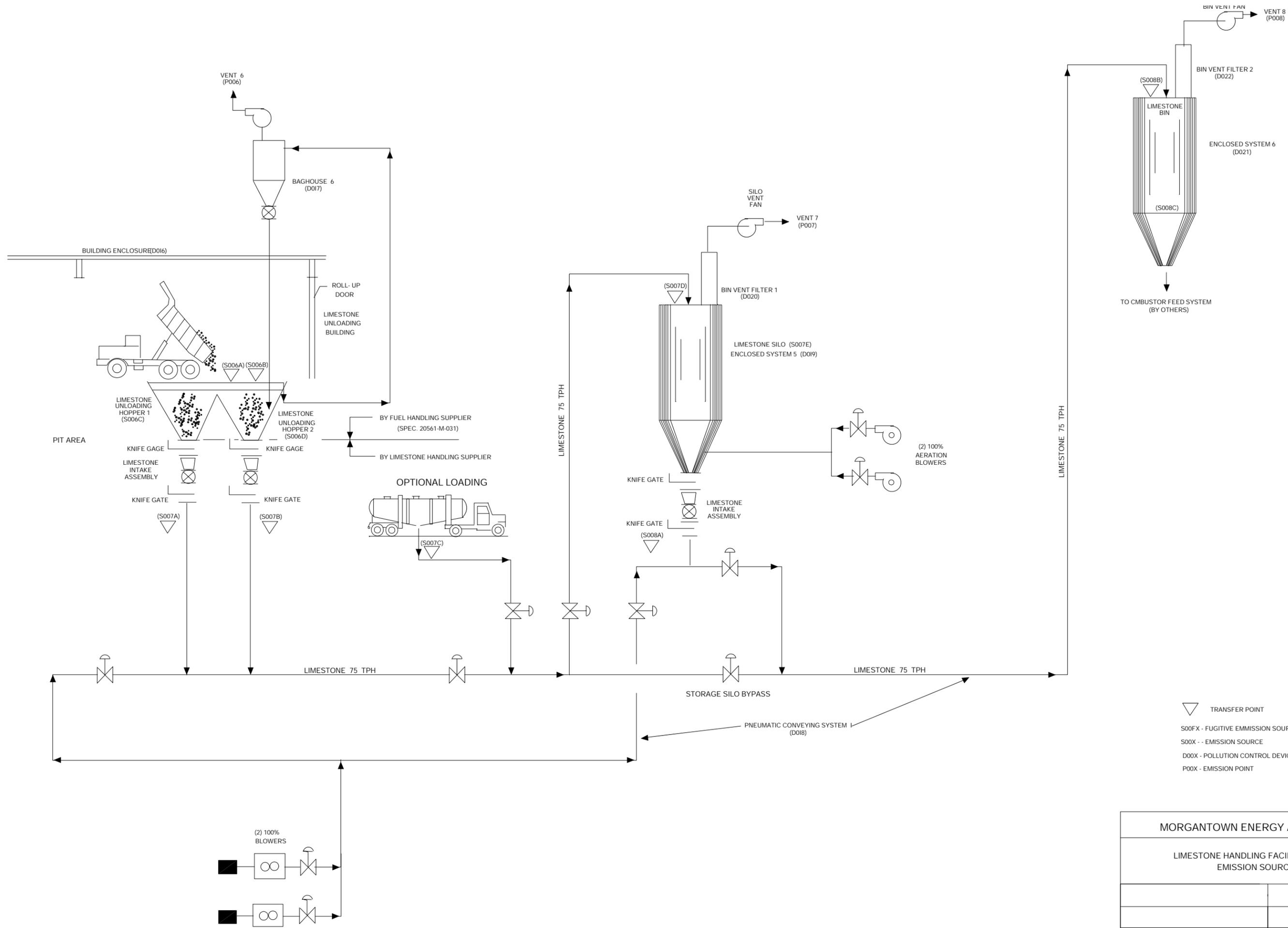
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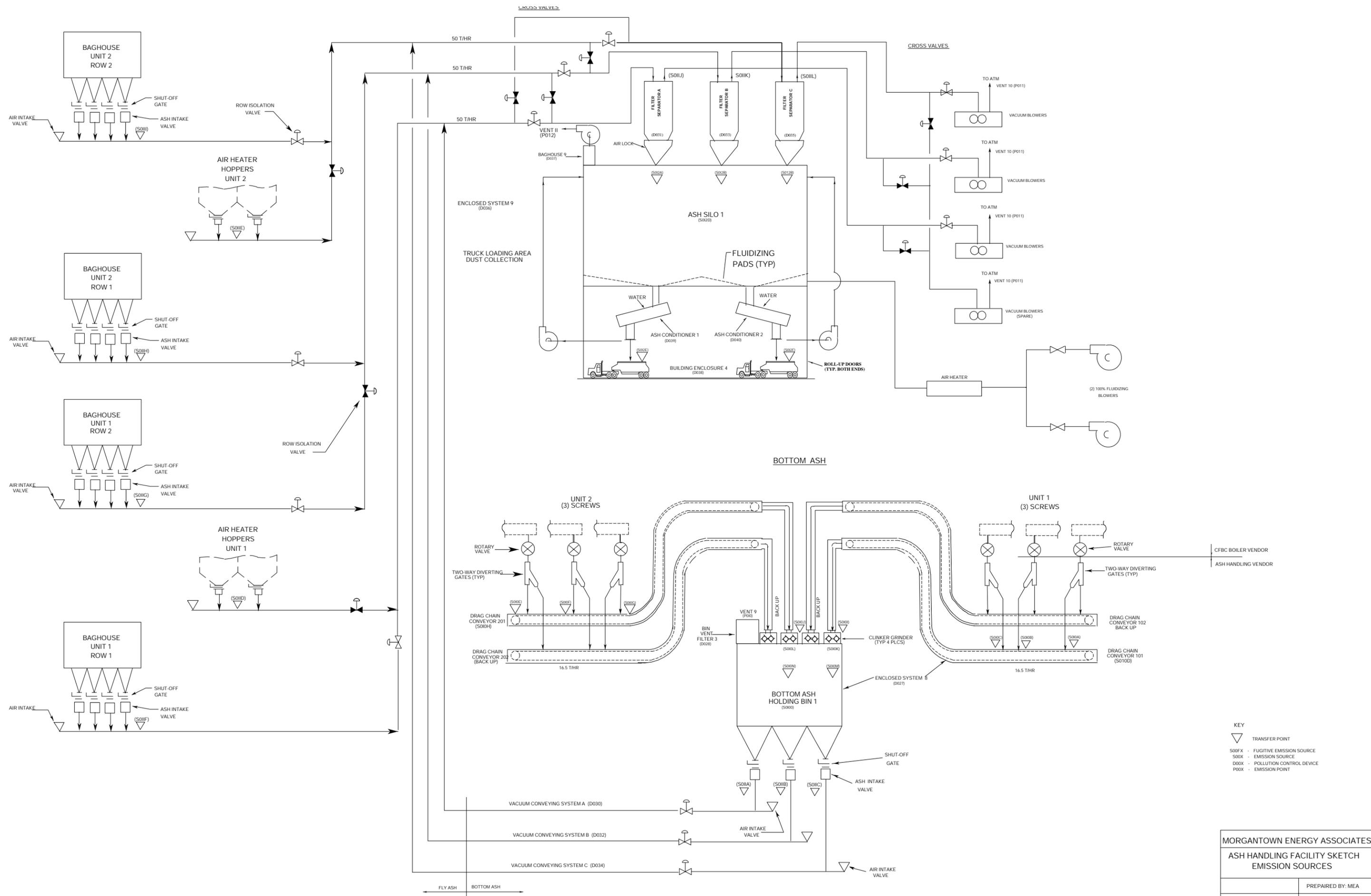
**MORGANTOWN ENERGY ASSOCIATES
LIMESTONE FEED SYSTEM
EMISSION SOURCES**

SCALE: NONE

DATE: FEBRUARY 15, 2008

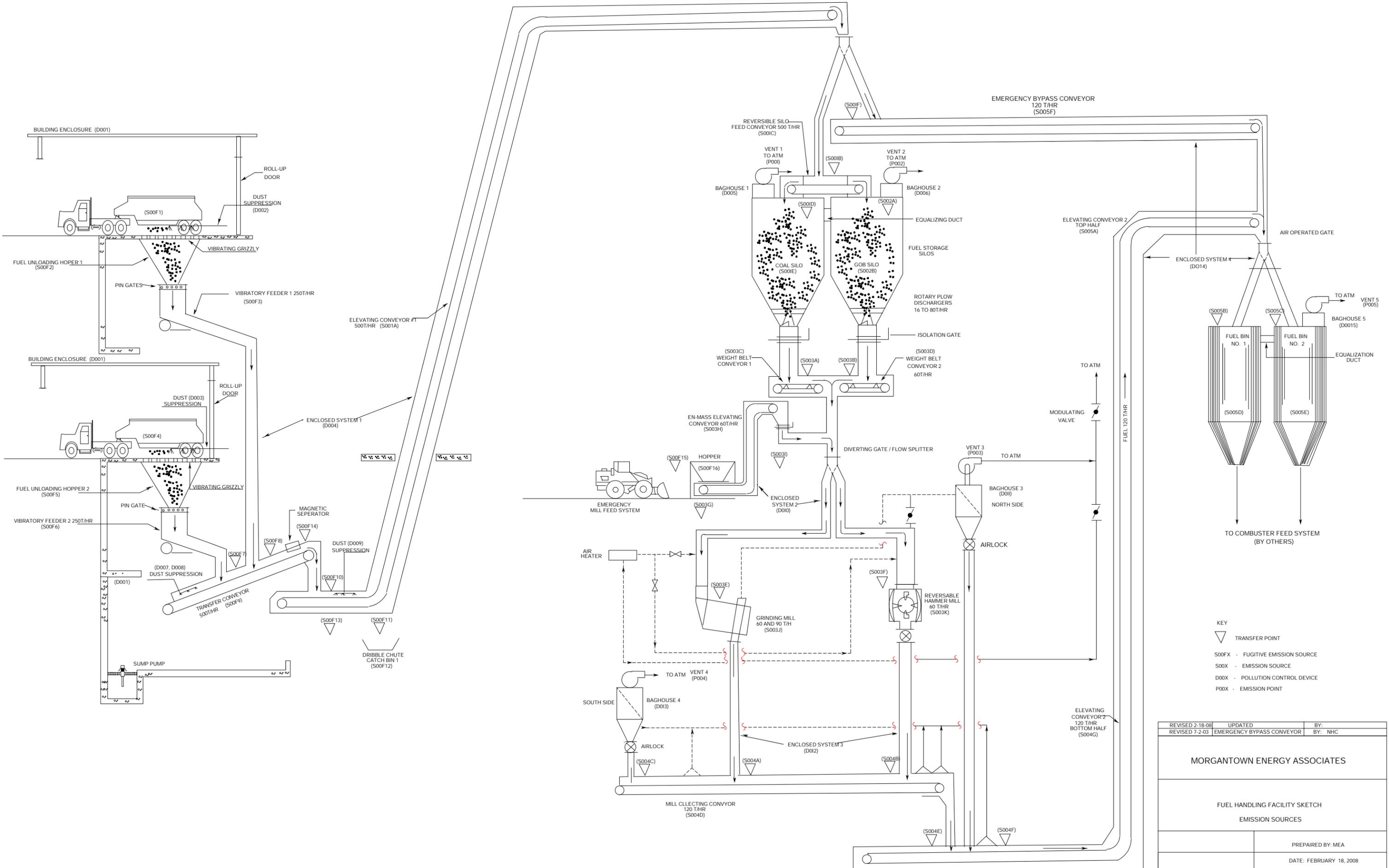


MORGANTOWN ENERGY ASSOCIATES	
LIMESTONE HANDLING FACILITY SKETCH EMISSION SOURCES	
	PREPARED BY: MEA
	DATE: 02/20/08



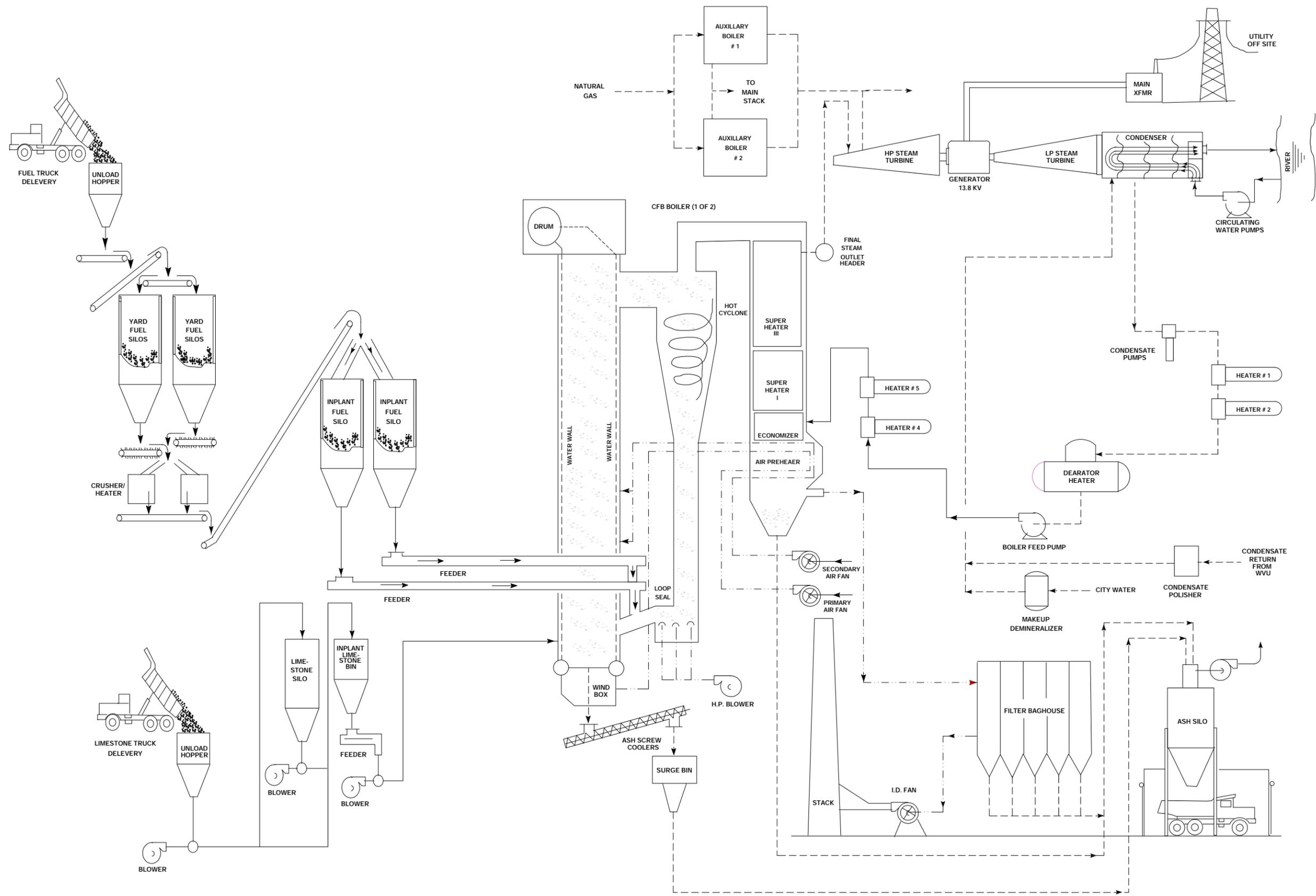
KEY

- ▽ TRANSFER POINT
- S00FX - FUGITIVE EMISSION SOURCE
- S00X - EMISSION SOURCE
- D00X - POLLUTION CONTROL DEVICE
- POOX - EMISSION POINT



KEY
 ▽ TRANSFER POINT
 S00FX - FUGITIVE EMISSION SOURCE
 S00X - EMISSION SOURCE
 D00X - POLLUTION CONTROL DEVICE
 P00X - EMISSION POINT

REVISED 2-18-08	UPDATED	BY:
REVISED 7-2-03	EMERGENCY BYPASS CONVEYOR	BY: NHC
MORGANTOWN ENERGY ASSOCIATES		
FUEL HANDLING FACILITY SKETCH EMISSION SOURCES		
PREPARED BY: MEA		
DATE: FEBRUARY 18, 2008		



MORGANTOWN ENERGY FACILITY

PROCESS FLOW SCHEMATIC

ATTACHMENT D
EQUIPMENT TABLE

ATTACHMENT D - Emission Units Table
(includes all emission units at the facility except those designated as
insignificant activities in Section 4, Item 24 of the General Forms)

Emission Unit ID ¹	Emission Point ID ¹	Emission Unit Description	Year Installed/ Modified	Design Capacity	Control Device ¹
S001A	Vents 1 & 2	Elevating Conveyor 1	1989	500 TPH	ES 1/ BH 1 & 2
S001B	Vents 1 & 2	TP001B - Elevating Conveyor 1 to Reversible Feed Conveyor 1	1989	500 TPH	ES 1/ BH 1 & 2
S001C	Vents 1 & 2	Reversible Feed Conveyor 1	1989	500 TPH	ES 1/ BH 1 & 2
S001D	Vent 1	TP001D - Reversible Feed Conveyor 1 to Coal Silo 1	1989	500 TPH	ES 1/ BH 1
S001E	Vent 1	Coal Silo 1	1989	2,200 Tons	ES 1/ BH 1
S001F	Vents 1 & 2	TP001F - Elevating Conveyor 1 to Emergency Bypass Conveyor	2001	120 TPH	ES 1/ BH 1 & 2
S002A	Vent 2	TP002A - Reversible Feed Conveyor 1 to Gob Storage Silo 1	1989	500 TPH	ES 1 / BH 2
S002B	Vent 2	Gob Storage Silo 1	2001	2,200 Tons	ES 1 / BH 2
S003A	Vent 3	TP003A - Coal Silo 1 to Weigh Belt Conveyor 1	1989	60 TPH	ES 2 / BH 3
S003B	Vent 3	TP003B - Gob Storage Silo 1 to Weigh Belt Conveyor 2	1989	60 TPH	ES 2 / BH 3
S003C	Vent 3	Weigh Belt Conveyor 1	1989	60 TPH	ES 2 / BH 3
S003D	Vent 3	Weigh Belt Conveyor 2	2001	60 TPH	ES 2 / BH 3
S003E	Vent 3	TP003E - Weigh Belt Conveyor 1 & 2 to Grinding Mill	1989	60 TPH	ES 2 / BH 3
S003F	Vent 3	TP003F - Weigh Belt Conveyor 1& 2 to Hammer Mill	1989	60 TPH	ES 2 / BH 3
S003G	Vent 3	TP003G - Emergency Mill Feed System Hopper 1 to En-mass Elevating Conveyor 1	1989	60 TPH	ES 2 / BH 3
S003H	Vent 3	En-mass Elevating Conveyor 1	1989	60 TPH	ES 2 / BH 3
S003I	Vent 3	TP003I - En-mass Elevating Conveyor 1 to Mill Inlet Chute System	1989	60 TPH	ES 2 / BH 3
S003J	Vent 3	Grinding Mill 1	1989	60 & 90 TPH	ES 2 / BH 3

S003K	Vent 3	Hammer Mill 1	1989	60 TPH	ES 2 / BH 3
S004A	Vent 4	TP004A - Grinding Mill 1 to Mill Collecting Conveyor 1	1989	60 & 90 TPH	ES 2 / BH 3
S004B	Vent 4	TP004B - Hammer Mill 1 to Mill Collecting Conveyor 1	1989	60 TPH	ES 3 / BH 4
S004C	Vent 4	TP004C - Baghouse 3 Dust Discharge to Mill Collecting Conveyor 1	1989	5 TPH (est.)	ES 3 / BH 4
S004D	Vent 4	Mill Collecting Conveyor 1	2001	120 TPH	ES 3 / BH 4
S004E	Vent 4	TP004E - Mill Collecting Conveyor 1 to Elevating Conveyor 2	1989	120 TPH	ES 3 / BH 4
S004F	Vent 4	TP004F - Baghouse 3 Dust Discharge to Elevating Conveyor 2	1989	12 TPH	ES 3 / BH 4
S004G	Vent 4	Elevating Conveyor 2 (Bottom Half)	2001	120 TPH	ES 3 / BH 4
S005A	Vent 5	Elevating Conveyor 2 (Top Half)	1989	120 TPH	ES 4 / BH 5
S005B	Vent 5	TP005B - Elevating Conveyor 2 to Fuel Bin 1	1989	120 TPH	ES 4 / BH 5
S005C	Vent 5	TP005C - Elevating Conveyor 2 to Fuel Bin 2	1989	120 TPH	ES 4 / BH 5
S005D	Vent 5	Fuel Bin 1	1989	375 Tons	ES 4 / BH 5
S005E	Vent 5	Fuel Bin 2	1989	375 Tons	ES 4 / BH 5
S005F	Vent 5	Emergency Bypass Conveyor	2001	120 TPH	ES 4 / BH 5
S006A	Vent 6	TP006A - Transfer from Truck to Limestone Unloading Hopper 1	1989	37.5 TPH	BE 2 / BH 6
S006B	Vent 6	TP006B - Transfer from Truck to Limestone Unloading Hopper 2	1989	37.5 TPH	BE 2 / BH 6
S006C	Vent 6	Limestone Unloading Hopper 1	1989	75 TPH	BE 2 / BH 6
S006D	Vent 6	Limestone Unloading Hopper 2	1989	75 TPH	BE 2 / BH 6
S007A	Vent 7 & 8	TP007A - Transfer from Limestone Unloading Hopper 1 to Pneumatic Conveying System 1	1989	75 TPH	PCS 1
S007B	Vent 7 & 8	TP007B - Transfer from Limestone Unloading Hopper 2 to Pneumatic Conveying System 1	1989	75 TPH	PCS 1
S007C	Vent 7 & 8	TP007C - Transfer from Truck to Pneumatic Conveying System 1	1989	75 TPH	PCS 1
S007D	Vent 7	TP007D - Transfer from Pneumatic Conveying System 1 to Limestone Silo 1	1989	75 TPH	ES 5 / BVF 1
S007E	Vent 7	Limestone Silo 1	1989	1,160 Tons	ES 5 / BVF 1

S008A	Vent 8	TP008A – Transfer from Limestone Silo 1 to Pneumatic Conveying System 1	1989	75 TPH	PCS 1
S008B	Vent 8	TP008B – Transfer from Pneumatic Conveying System 1 to Limestone Bin 1	1989	75 TPH	ES 6 / BVF 2
S008C	Vent 8	Limestone Bin 1	1989	250 Tons	ES 6 / BVF 2
S008D	Vent 8	TP008D– Limestone Bin 1 to Gravimetric Feeder/Conveyor A	1989	10 TPH	ES 6 / BVF 2
S008E	Vent 8	Gravimetric Feeder/Conveyor A	1989	10 TPH	ES 6 / BVF 2
S008F	Vent 8	TP008F– Gravimetric Feeder/Conveyor A to Rotary Valve A	1989	10 TPH	ES 6 / BVF 2
S008G	Vent 8	TP008G– Limestone Bin 1 to Gravimetric Feeder/Conveyor B	1989	10 TPH	ES 6 / BVF 2
S008H	Vent 8	Gravimetric Feeder/Conveyor B	1989	10 TPH	ES 6 / BVF 2
S008I	Vent 8	TP008I– Gravimetric Feeder/Conveyor B to Rotary Valve B	1989	10 TPH	ES 6 / BVF 2
S009A	STACK1	TP009A - Limestone Feeder Rotary Valve A to Pneumatic Conveying System 2	1989	10 TPH	PCS / BH 7 & 8
S009B	STACK1	TP009B - Limestone Feeder Rotary Valve B to Pneumatic Conveying System 2	1989	10 TPH	PCS / BH 7 & 8
S009C	STACK1	TP009C - Pneumatic Conveying System 2 to CFB Boiler 1	1989	10 TPH	PCS / BH 7 & 8
S009D	STACK1	TP009D - Pneumatic Conveying System 2 to CFB Boiler 2	1989	10 TPH	PCS / BH 7 & 8
S009E	STACK1	TP009E – Fuel Bin 1 to Enclosed Conveying System 7	1989	46 TPH	ES / BH 7 & 8
S009F	STACK1	TP009F – Fuel Bin 2 to Enclosed Conveying System 7	1989	46 TPH	ES / BH 7 & 8
S009G	STACK1	Enclosed Conveying System 7 to CFB Boiler 1	1989	46 TPH	ES / BH 7 & 8
S009H	STACK1	Enclosed Conveying System 7 to CFB Boiler 2	1989	46 TPH	ES / BH 7 & 8
S009J	STACK1	Ahlstrom Pyroflow CFB Boiler/Cyclone #1	1989	375 mmBtu/hr	Limestone Injection, BH 8
S009K	STACK1	Ahlstrom Pyroflow CFB Boiler/Cyclone #2	1989	375 mmBtu/hr	Limestone Injection, BH 7
S009L	STACK1	Zurn Auxiliary Boiler #1	1989	132 mmBtu/hr	LNB
S009M	STACK1	Zurn Auxiliary Boiler #2	1989	132 mmBtu/hr	LNB
S010A	Vent 9	TP010A – CFB Boiler 1 Bottom Ash Screw A to Drag Chain Conveyor 101	1989	16.5 TPH	ES 8 / BVF 3

S010B	Vent 9	TP010C – CFB Boiler 1 Bottom Ash Screw B to Drag Chain Conveyor 101	1989	16.5 TPH	ES 8 / BVF 3
S010C	Vent 9	TP010E – CFB Boiler 1 Bottom Ash Screw C to Drag Chain Conveyor 101	1989	16.5 TPH	ES 8 / BVF 3
S010D	Vent 9	Drag Chain Conveyor 101	1989	16.5 TPH	ES 8 / BVF 3
S010E	Vent 9	TP010I – CFB Boiler 2 Bottom Ash Screw A to Drag Chain Conveyor 201	1989	16.5 TPH	ES 8 / BVF 3
S010F	Vent 9	TP010K – CFB Boiler 2 Bottom Ash Screw B to Drag Chain Conveyor 201	1989	16.5 TPH	ES 8 / BVF 3
S010G	Vent 9	TP010M – CFB Boiler 2 Bottom Ash Screw C to Drag Chain Conveyor 201	1989	16.5 TPH	ES 8 / BVF 3
S010H	Vent 9	Drag Chain Conveyor 201	1989	16.5 TPH	ES 8 / BVF 3
S010I	Vent 9	TP010Q – Drag Chain Conveyor 101 to Clinker Grinder 1	1989	16.5 TPH	ES 8 / BVF 3
S010J	Vent 9	TP010S – Drag Chain Conveyor 201 to Clinker Grinder 3	1989	16.5 TPH	ES 8 / BVF 3
S010K	Vent 9	Clinker Grinder 1	1989	16.5 TPH	ES 8 / BVF 3
S010L	Vent 9	Clinker Grinder 3	1989	16.5 TPH	ES 8 / BVF 3
S010M	Vent 9	TP010Y – Clinker Grinder 1 to Bottom Ash Holding Bin 1	1989	16.5 TPH	ES 8 / BVF 3
S010N	Vent 9	TP010AA – Clinker Grinder 3 to Bottom Ash Holding Bin 1	1989	16.5 TPH	ES 8 / BVF 3
S010O	Vent 9	Bottom Ash Holding Bin	1989	76.5 Tons	ES 8 / BVF 3
S011A	Vent 10	TP011A – Bottom Ash Holding Bin Discharge A to Vacuum Conveying System A	1989	50 TPH	ES 3 / VCS A / FS A
S011B	Vent 10	TP011B – Bottom Ash Holding Bin Discharge B to Vacuum Conveying System B	1989	50 TPH	ES 3 / VCS B / FS B
S011C	Vent 10	TP011C – Bottom Ash Holding Bin Discharge C to Vacuum Conveying System C	1989	50 TPH	ES 3 / VCS C / FS C
S011D	Vent 10	TP011D – CFB No. 1 Air Heater Hopper to Vacuum Conveying System A	1989	50 TPH	ES 3 / VCS A / FS A
S011E	Vent 10	TP011E – CFB No. 2 Air Heater Hopper to Vacuum Conveying System C	1989	50 TPH	ES 3 / VCS C / FS C
S011F	Vent 10	TP011F – CFB No. 1 Baghouse Row 1 Discharge to Vacuum Conveying System A	1989	50 TPH	ES 3 / VCS A / FS A
S011G	Vent 10	TP011G – CFB No. 1 Baghouse Row 2 Discharge to Vacuum Conveying System B	1989	50 TPH	ES 3 / VCS B / FS B
S011H	Vent 10	TP011H – CFB No. 2 Baghouse Row 1 Discharge to Vacuum Conveying System B	1989	50 TPH	ES 3 / VCS B / FS B

S011I	Vent 10	TP011I – CFB No. 2 Baghouse Row 2 Discharge to Vacuum Conveying System C	1989	50 TPH	ES 3 / VCS C / FS C
S011J	Vent 10	Filter/Separator A Exhaust	1989	50 TPH	ES 3 / VCS A / ES A
S011K	Vent 10	Filter/Separator B Exhaust	1989	50 TPH	ES 3 / VCS B / ES B
S011L	Vent 10	Filter/Separator C Exhaust	1989	50 TPH	ES 3 / VCS C / ES C
S012A	Vent 11	TP012A – Filter/Separator A to Ash Silo1	1989	50 TPH	ES 9 / BH 9
S012B	Vent 11	TP012B – Filter/Separator B to Ash Silo1	1989	50 TPH	ES 9 / BH 9
S012C	Vent 11	TP012C – Filter/Separator A to Ash Silo1	1989	50 TPH	ES 9 / BH 9
S012D	Vent 11	Ash Silo1	1989	1,300 Tons	ES 9 / BH 9
S012E	Vent 11	TP012E – Ash Silo to Truck	1989	300 TPH	BH 9 / BE 4 / AC 1
S012F	Vent 11	TP012FE – Ash Silo to Truck	1989	300 TPH	BH 9 / BE 4 / AC 2
S00F1	Fugitive Emission 1	TP00F1 – Transfer from Truck to Fuel Unloading Hopper/Vibratory Feeder 1	1989	250 TPH	BE 1 / WS 1
S00F2	Fugitive Emission 2	Fuel Unloading Hopper 1	1989	250 TPH	BE 1 / WS 1
S00F3	Fugitive Emission 3	Vibratory Feeder 1	1989	250 TPH	BE 1 / ES 1
S00F4	Fugitive Emission 4	TP00F4 – Transfer from Truck to Fuel Unloading Hopper/Vibratory Feeder 2	1989	250 TPH	BE 1 / WS 2
S00F5	Fugitive Emission 5	Fuel Unloading Hopper 2	1989	250 TPH	BE 1 / WS 2
S00F6	Fugitive Emission 6	Vibratory Feeder 2	1989	250 TPH	BE 1 / ES 1
S00F7	Fugitive Emission 7	TP00F7 – Vibratory Feeder 2 to Transfer Conveyor 1	1989	250 TPH	BE 1 / ES 1 / WS 3
S00F8	Fugitive Emission 8	TP00F8 – Vibratory Feeder 1 to Transfer Conveyor 1	1989	250 TPH	BE 1 / ES 1 / WS 4
S00F9	Fugitive Emission 9	Transfer Conveyor 1	1989	500 TPH	BE 1 / ES 1
S00F10	Fugitive Emission 10	TP00F10 – Transfer Conveyor 1 to Elevating Conveyor 1	1989	500 TPH	BE 1 / ES 1 / WS 5
S00F11	Fugitive Emission 11	TP00F11 – Dribble Chute 1 to Dribble Chute Catch Bin 1	1989	N/A	BE 1
S00F12	Fugitive Emission 12	Dribble Chute Catch Bin 1	1989	N/A	BE 1

S00F13	Fugitive Emission 13	TP00F13 – Dribble Chute Catch Bin 1 to Dribble Chute Conveyor 1	1989	N/A	BE 1
S00F14	Fugitive Emission 14	TP00F14 – Dribble Chute Conveyor 1 to Transfer Conveyor 1	1989	N/A	BE 1
S00F15	Fugitive Emission 15	TP00F15 – Front End Loader to Emergency Mill Feed System Hopper 1	1989	60 TPH	N/A
S00F16	Fugitive Emission 16	Emergency Mill Feed System Hopper 1	1989	60 TPH	N/A
S00F17	Fugitive Emission 17	A.S.T. 01 Acid Tank	1989	5,800 Gallons	N/A
S00F18	Fugitive Emission 18	A.S.T. 02 Caustic Tank	1989	5,800 Gallons	N/A
S00F21	Fugitive Emission 21	A.S.T. 05 Turbine Oil Tank	1989	2,378 Gallons	N/A
S00F22	Fugitive Emission 22	A.S.T. 06 EHC Oil Storage Tank	1989	105 Gallons	N/A
S00F23	Fugitive Emission 23	A.S.T. 07 Water Treatment Phosphate Tank	1989	1,600 Gallons	N/A
S00F24	Fugitive Emission 24	A.S.T. 08 Water Treatment Corrosion Inhibitor Tank	1989	400 Gallons	N/A
S00F25	Fugitive Emission 25	A.S.T. 09 Water Treatment Oxygen Scavenger Tank	1989	400 Gallons	N/A
S00F26	Fugitive Emission 26	Plant Roadway	1989	N/A	Paved / Water Cleaning

¹For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E
EMISSION UNIT FORMS

**ATTACHMENT E – SOURCES FOR STACK 1
CFB #1 BOILER, CFB #2 BOILER
(S009J – S009K)**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S009J and S009K	Emission unit name: Sources for Stack 1: S009J is CFB #1 Boiler/Cyclone #1 S009K is CFB #2 Boiler/Cyclone #2	List any control devices associated with this emission unit: Baghouses 7 & 8
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The Emission Units S009J and S009K are the main boilers at the Morgantown Energy Facility. Each boiler is designed to combust a blend of coal and gob (waste coal), respectively 35% and 65%. Each boiler is designed on a heat input of 375 mmBtu/hr which will produce steam at a rate of 280,000 lbs./hr.

Manufacturer: Ahlstrom Pyropower	Model number: Pyroflow CFB	Serial number: CFB #1: National Board # is 26 CFB #2: National Board # is 27
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
S009J is designed to produce 280,000 lbs/hr of steam at 1500 psi and 950°F.
S009K is designed to produce 280,000 lbs/hr of steam at 1500 psi and 950°F.

Maximum Hourly Throughput: S009J - 280,000 lbs/hr of steam at 1500 psi and 950°F S009K - 280,000 lbs/hr of steam at 1500 psi and 950°F	Maximum Annual Throughput: S009J - 2,452,500,000 lbs/yr of steam S009K - 2,452,500,000 lbs/yr of steam	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: The maximum design heat input for each boiler is 375 mmBtu/hr.	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
The fuel for the CFBs is a blend of 65% gob (waste coal) and 35% coal. Each boiler consumes blended fuel at a maximum hourly rate of 23.35 TPH. Thus, each boiler would have a maximum annual fuel usage of 204,546 tons based on 8760 hours of operation in a year. Each CFB boiler also contains 3 natural gas fired burners; however, the burners are only used for start up purposes after the boiler comes out of an outage.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Blended Fuel	3.5%	51.7%	7775 Btu/lb

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	117.5	514.65
Nitrogen Oxides (NO _x)	300	1314
Lead (Pb)	0.13	0.57
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	22.5	98.55
Sulfur Dioxide (SO ₂)	285	124.83
Volatile Organic Compounds (VOC)	5.55	24.31
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Mercury	0.021	0.092
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Fluorides	0.4	1.752
Beryllium	0.0002	0.0009
Arsenic	0.002	0.009
Radionuclides	0.0009	0.0039
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>The above calculations are based on the following: TPY = current permit limits (lb/hr) x 8760 (hrs/year). For Actual Emissions see Attachment I.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Limitations and Standards

Visible Emissions from each stack shall not exceed ten (10) percent opacity based on a six minute block average.
[45CSR§2-3.1.] (Title V permit condition 4.1.1)

Compliance with the visible emission requirements of 45CSR2 section 3.1. shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems and as described in the approved monitoring plan. [*Permit R13-1085/R14-7B serves as the approved monitoring plan*]
[45CSR§2-3.2., 45CSR§2A-6] (Title V permit condition 4.1.2)

The addition of sulfur oxides to a combustion unit exit gas stream for the purpose of improving emissions control equipment is prohibited unless written approval for such addition is provided by the Secretary.
[45CSR§2-4.4.] ((Title V permit condition 4.1.3)

Compliance with the visible emission limit shall be demonstrated by periodic testing in accordance with 40 C.F.R. Part 60, Appendix A, Method 9, or a certified continuous opacity monitoring system, as approved by the Secretary. Compliance with the weight emission limit shall be demonstrated by periodic particulate matter stack testing, conducted in accordance with the appropriate test method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Secretary. Such testing shall be conducted at a frequency to be established by the Secretary.
[45CSR§2-8.1.a.] (Title V permit condition 4.1.4)

Compliance with the visible emissions limit shall be monitored as set forth in the approved monitoring plan for each emission unit. [*Permit R13-1085/R14-7B serves as the approved monitoring plan*]
[45CSR§2-8.2.a.] (Title V permit condition 4.1.5)

Records of monitored data established in the monitoring plan shall be maintained on site and shall be made available to the Secretary or his duly authorized representative upon request.
[45CSR§2-8.3.a.] (Title V permit condition 4.1.6)

A periodic exception report shall be submitted to the Secretary, in a manner and at a frequency to be established by the Secretary.
[45CSR§2-8.3.b.] ((Title V permit condition 4.1.7)

The visible emission standards of condition 4.1.1., shall apply at all times except in periods of start-ups, shutdowns and malfunctions.
[45CSR§2-9.1.] (Title V permit condition 4.1.8)

Any fuel burning unit(s) including associated air pollution control equipment, shall at all times, including periods of start-up, shutdowns, and malfunctions, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions.
[45CSR§2-9.2., 45CSR16, 40 C.F.R. § 60.11(d)] ((Title V permit condition 4.1.9)

The particulate matter reduction of potential combustion concentration from each of the two (2) circulating fluidized bed boilers shall be no less than 99%.
[45CSR16, 40 C.F.R. § 60.42a(2)] (Title V permit condition 4.1.10)

Compliance with the particulate matter emission limitation of 40 CFR 60.42a(a)(1) [0.03 lb/mmBtu for the two circulating fluidized bed boilers] constitutes compliance with the percent reduction requirement for particulate matter under 4.1.10.
[45CSR16, 40 C.F.R. § 60.46a(a)] (Title V permit condition 4.1.11)

The coal to be fired in CFB boilers 1 & 2 shall have a percent maximum sulfur content of 3.5 and a percent maximum ash content of 51.7.

[45CSR13/14- Permit No. R13-1085B/R14-7B Modification Application Volume 1 Section 5.0 "Affected Source Sheet" page 46 Item 2.A.(4)] (Title V permit condition 4.1.12)

Air pollutant emissions from the stack serving the two permitted circulating fluidized bed boilers shall not exceed any of the following limitations during which either or both of the subject boilers are in operation:

Pollutant	lbm/hr	lbm/mmBtu	Concentration
Particulate Matter	22.5	0.03	0.016 gr/dscf @ 3.5% O ₂
Sulfur Dioxide	285	0.40	215 ppmvd @ 3.0% O ₂ (24-hr average)
Nitrogen Oxides (NO ₂)	300	0.40	293 ppmvd @ 3.0% O ₂ (24-hr average)
Volatile Organic Compounds	5.55	0.0074	N/A
Carbon Monoxide	117.5	0.157	188 ppmvd @ 3.0% O ₂ (24-hr average)
Lead	0.13	N/A	N/A
Mercury	0.021	N/A	N/A
Fluorides	0.4	N/A	N/A
Beryllium	0.0002	N/A	N/A
Arsenic	0.002	N/A	N/A
Radionuclides	0.0009	N/A	N/A

Compliance with this streamlined PM limit assures compliance with 45CSR2. Compliance with these streamlined PM, and SO₂, limits assures compliance with 40 CFR 60 Subpart Da.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(1)] (Title V permit condition 4.1.13)

During periods when the steam demand for West Virginia University requires the combined operation of the circulating fluidized bed boilers and the auxiliary boilers, air pollutant emissions from the main stack venting those operations shall not exceed the following:

Pollutant	lbm/hr	lbm/mmBtu
Particulate Matter	22.5	0.022
Sulfur Dioxide*	285 (24-hr average)	0.40
Nitrogen Oxides (NO ₂)*	300 (24-hr average)	0.40
Volatile Organic Compounds	7.5	0.0074
Carbon Monoxide	127.5	0.1257
Lead	0.13	N/A
Mercury	0.021	N/A
Fluorides	0.4	N/A
Beryllium	0.0002	N/A
Arsenic	0.002	N/A
Radionuclides	0.0009	N/A

* Compliance shall be demonstrated via continuous emissions monitoring
*Compliance with these streamlined PM and SO₂ limits assures compliance with 45CSR2 and 45CSR10.
 Compliance with these streamlined PM, SO₂, and NO_x limits assures compliance with 40 CFR 60 Subpart Da and 40 CFR 60 Subpart Db.*

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(3)] (Title V permit condition 4.1.14)

The sulfur dioxide reduction efficiency from each of the two (2) circulating fluidized bed boilers shall be no less than 94.6%.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (Title V permit condition 4.1.16)]

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

NO_x Budget Trading Program. The permittee shall comply with the standard requirements set forth in the attached NO_x Budget Permit Application (see Appendix A) and the NO_x Budget Permit requirements set forth in 45CSR26 for each NO_x budget source. The complete NO_x Budget Permit Application shall be the NO_x Budget Permit portion of the Title V permit administered in accordance with 45CSR30.

[45CSR§26-6.1.b. and 20.1.]

- a. The NO_x Budget portion of this permit is deemed to incorporate automatically the definitions of terms under 45CSR§26-2 and, upon recordation by the Administrator under 45CSR§26-50 through 45CSR§26-57 or 45CSR§26-60 through 45CSR§26-62, every allocation, transfer or deduction of a NO_x allowance to or from the compliance accounts of the NO_x Budget units covered by the permit or the overdraft account of the NO_x budget source covered by the permit.

[45CSR§26-23.2.]

- b. Except as provided in 45CSR§26-23.2, the Secretary will revise the NO_x Budget portion of this permit, as necessary, in accordance with the operating permit revision requirements set forth in 45CSR30.

[45CSR§26-24.1.]

(Title V condition 3.1.10)

Monitoring Requirements

The owner or operator shall install, calibrate, certify, operate, maintain, and record the output of continuous monitoring systems that measure all Opacity, SO₂, NO_x, and O₂ or CO₂ emissions from emission point *Stack 1* as specified in 40 C.F.R. Part 60, Subpart Da for the CFB boilers and NO_x, as specified in 40 C.F.R. Part 60, Subpart Db for the auxiliary boilers.

Compliance with this streamlined provision assures compliance 45CSR13/14 - Permit No. R13-1085B/R14-7B "Other Requirement (B)(1)(d)".

[45CSR16, 40 C.F.R. § 60.47a, 40 C.F.R. § 60.48b, 40 C.F.R. § 60.13] (Title V permit condition 4.2.1)

Testing Requirements

Compliance with the particulate matter emission limitations under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] and 40 CFR 60.42a(a) shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46a, 40 CFR 60.48a and 45CSR2 Appendix - "Compliance Test Procedures for 45CSR2".

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(b)] (Title V permit condition 4.3.1)

Compliance with the sulfur dioxide emission limitation and sulfur dioxide reduction requirements under Provisions (A)(1) and (A)(6) of Permit No, R13-1085/R14-7B [conditions 4.1.13. and 4.1.16. of this permit] and as required by 40 CFR 60.43a(a) shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46a, 40 CFR 60.47a and 40 CFR 60.48a, except that compliance with the maximum SO₂ emission limitation shall be demonstrated for each and all fixed twenty-four hour periods.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(c)] (Title V permit condition 4.3.2)

Compliance with the nitrogen oxides emission limitation under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46a, 40 CFR 60.47a, and 40 CFR 60.48a.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(2)] (Title V permit condition 4.3.3)

Compliance with the nitrogen oxides emission limitations under Provision (A)(2) of Permit No, R13-1085/R14-7B [condition 4.1.14. of this permit] shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46b, 40 CFR 60.48b and 40 CFR 60.49b.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(3)] (Title V permit condition 4.3.4)

Compliance with the volatile organic compound emission limitation under Provisions (A)(1), (A)(2) and (A)(3) of Permit No, R13-1085/R14-7B [conditions 4.1.13., 4.1.14. and 4.1.15. of this permit] shall be demonstrated in accordance with 40 CFR 60, Appendix A - Method 25 or 25A.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(4)] (Title V permit condition 4.3.5)

Compliance with the carbon monoxide emission limitations under Provisions (A)(1), (A)(2) and (A)(3) of Permit No, R13-1085/R14-7B [conditions 4.1.13., 4.1.14. and 4.1.15. of this permit] shall be demonstrated in accordance with 40 CFR 60 Appendix A - Method 10.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(5)] (Title V permit condition 4.3.6)

The owner or operator shall conduct a test at least once every five (5) years to determine the compliance of the CFB Boilers 1 & 2 with the carbon monoxide (CO) limits of condition 4.1.13. Such tests shall be conducted in accordance with 40 CFR 60 Appendix A - Method 10. A compliance test shall be conducted no later than eighteen (18) months of the issuance date of this permit. An emission factor shall be determined from the test results and updated from the results of each subsequent test. The emission factor shall be used for compliance demonstration for periods between tests.

[45CSR§30-5.1.c.] (Title V permit condition 4.3.7)

Compliance with the emission limitation for lead under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 60 Appendix A - Method 12.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(6)] (Title V permit condition 4.3.8)

Compliance with the emission limitation for mercury under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 61 Appendix B - Method 101A.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(7)] (Title V permit condition 4.3.9)

Compliance with the emission limitation for fluorides under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 60, Appendix A - Method 13.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(8)] (Title V permit condition 4.3.10)

Compliance with the emission limitation for beryllium under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 61, Appendix B - Method 104.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(9)] (Title V permit condition 4.3.11)

The owner or operator shall conduct, or have conducted, tests to determine the compliance of CFB Boilers 1 & 2 with the particulate matter mass emission limitations. Such tests shall be conducted in accordance with the appropriate method set forth in 45CSR2 Appendix - Compliance Test Procedures for 45CSR2 or other equivalent EPA approved method approved by the Secretary. Such tests shall be conducted in accordance with the schedule set forth in the following table. The initial compliance test shall have been conducted by March 15, 2002.

Test	Test Results	Testing Frequency
Initial Baseline	≤50% of weight emission standard	Once/3 years
Initial Baseline	between 50% and 80 % of weight emission standard	Once/2 years
Initial Baseline	≥80% of weight emission standard	Annual
Annual	after three successive tests indicate mass emission rates ≤50% of weight emission standard	Once/3 years
Annual	after two successive tests indicate mass emission rates between 50% and 80 % of weight emission standard	Once/2 years
Annual	any tests indicates a mass emission rate ≥80% of weight emission standard	Annual
Once/2 years	after two successive tests indicate mass emission rates ≤50% of weight emission standard	Once/3 years
Once/2 years	any tests indicates a mass emission rate between 50% and 80 % of weight emission standard	Once/2 years

Once/2 years	any tests indicates a mass emission rate \geq 80% of weight emission standard	Annual
Once/3 years	any tests indicates a mass emission rate \leq 50% of weight emission standard	Once/3 years
Once/3 years	any test indicates mass emission rates between 50% and 80 % of weight emission standard	Once/2 years
Once/3 years	any test indicates a mass emission rate \geq 80% of weight emission standard	Annual

[45CSR§2-8.1., 45CSR§2A-5.2.] (Title V permit condition 4.3.12)

Recordkeeping Requirements

Records of the operating schedule and quantity and quality of fuel consumed shall be maintained on site for each fuel burning unit and made available to the Secretary or his duly authorized representative upon request. Such records shall include, but not be limited to the date and time of start-up and shutdown and for:

- a. *Pipeline quality natural gas*, - the quantity of fuel consumed on a monthly basis,
- b. *Coal*, - ash and BTU analysis for each shipment and the quantity of fuel consumed on a daily basis.

[45CSR§2-8.3.c., 45CSR§2A-7.1.a.] (Title V permit condition 4.4.1)

Reporting Requirements

The permittee shall comply with the reporting requirements under 40 CFR 60.49a except that all required reports shall be certified to the USEPA Administrator and to the Department of Environmental Protection, Division of Air Quality Director in accordance with 40 CFR 60.49a(i).

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(f)] (Title V permit condition 4.5.1)

Compliance with the periodic exception reporting of permit condition 4.1.7. shall be demonstrated by quarterly reports in accordance with 40 CFR 60.7.c.

[45CSR16, 40 CFR 60.7] (Title V permit condition 4.5.2)

Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Secretary:

- a. The excess opacity period does not exceed thirty (30) minutes within any twenty-four (24) hour period; and
- b. Excess opacity does not exceed forty percent (40%).

[45CSR§2-9.3.a.] (Title V permit condition 4.5.3)

Except as provided in permit condition 4.5.3. above, the owner or operator shall report to the Secretary by telephone, telefax, or e-mail any malfunction of CFB #1 or CFB #2 or their associated air pollution control equipment, which results in any excess particulate matter or excess opacity, by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Secretary within thirty (30) days providing the following information:

- a. A detailed explanation of the factors involved or causes of the malfunction;
- b. The date, and time of duration (with starting and ending times) of the period of excess emissions;
- c. An estimate of the mass of excess emissions discharged during the malfunction period;

- d. The maximum opacity measured or observed during the malfunction;
- e. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and
- f. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.

[45CSR§2-9.3.b.] (Title V permit condition 4.5.4)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

**ATTACHMENT E – SOURCES FOR STACK 1
AUXILIARY BOILER #1, AUXILIARY BOILER #2
(S009L – S009M)**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S009L and S009M	Emission unit name: Sources for Stack 1: S009L is Auxiliary Boiler #1 S009M is Auxiliary Boiler #2	List any control devices associated with this emission unit: Low NO _x Burners
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The Emissions Units S009L and S009K are the auxiliary boilers at the Morgantown Energy Facility. Each Boiler is designed to combust natural gas, and is equipped with a Low NO_x burner. Each Boiler is designed on a heat input of 132 mmBtu/hr which will produce steam at a rate of 85,000 lbs/hr. Normally, operation of the boilers only occurs when the CFBs are off line, during the start up of the CFBs, or for testing purposes.

Manufacturer: Zurn Industries	Model number: Keystone	Serial number: AUX #1: National Board # is 19482 AUX #2: National Board # is 19481
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
S009L is designed to produce 85,000 lbs/hr of steam at 300 psi and 500°F.
S009M is designed to produce 85,000 lbs/hr of steam at 300 psi and 500°F.

Maximum Hourly Throughput: S009L - 85,000 lbs/hr S009M - 85,000 lbs/hr	Maximum Annual Throughput: S009L - 744,600,000 lbs/yr S009M - 744,600,000 lbs/yr	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: The maximum design heat input for each boiler is 132 mmBtu/hr.	Type and Btu/hr rating of burners: One Coen DAF-32 burner per boiler with a rating of 132 mmBtu/hr. (Low NO _x Burner)
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
The fuel for the Auxiliary Boilers is Natural Gas. Each boiler can consume fuel at a maximum hourly rate of 132 MCF/hr. Thus, each boiler would have a maximum annual fuel usage of 1,156,320 MCF based on 8760 hours of operation in a year.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	1.71 grains/MCF	~0	1093 Btu/CF

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	10	10.95
Nitrogen Oxides (NO _x)	50	54.75
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	1.2	1.314
Sulfur Dioxide (SO ₂)	0.14	0.153
Volatile Organic Compounds (VOC)	1.95	2.135
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

The most continuous auxiliary boiler only operation that the Morgantown Energy Facility has had was 2190 hours, which occurred in 2001. Thus, the above calculations are based on the following: TPY = current permit limits (lb/hr) x 2190 (hrs).

For Actual Emissions see Attachment I.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Limitations and Standards

Visible Emissions from each stack shall not exceed ten (10) percent opacity based on a six minute block average.
[45CSR§2-3.1.] (Title V permit condition 4.1.1)

Compliance with the visible emission requirements of 45CSR2 section 3.1. shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems and as described in the approved monitoring plan. [Permit R13-1085/R14-7B serves as the approved monitoring plan]
[45CSR§2-3.2., 45CSR§2A-6] (Title V permit condition 4.1.2)

Compliance with the visible emissions limit shall be monitored as set forth in the approved monitoring plan for each emission unit. [Permit R13-1085/R14-7B serves as the approved monitoring plan]
[45CSR§2-8.2.a.] (Title V permit condition 4.1.5)

Records of monitored data established in the monitoring plan shall be maintained on site and shall be made available to the Secretary or his duly authorized representative upon request.
[45CSR§2-8.3.a.] (Title V permit condition 4.1.6)

A periodic exception report shall be submitted to the Secretary, in a manner and at a frequency to be established by the Secretary.
[45CSR§2-8.3.b.] ((Title V permit condition 4.1.7)

The visible emission standards of condition 4.1.1., shall apply at all times except in periods of start-ups, shutdowns and malfunctions.
[45CSR§2-9.1.] (Title V permit condition 4.1.8)

Any fuel burning unit(s) including associated air pollution control equipment, shall at all times, including periods of start-up, shutdowns, and malfunctions, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions.
[45CSR§2-9.2., 45CSR16, 40 C.F.R. § 60.11(d)] ((Title V permit condition 4.1.9)

During those periods when neither of the two fluidized bed boilers are in operation but steam demand for West Virginia University requires operation of either or both of the gas-fired auxiliary boilers, air pollutant emissions from the main stack venting the two natural gas-fired boilers shall not exceed the following:

Pollutant	lbm/hr	lbm/mmBtu
Particulate Matter	1.2	.0045
Sulfur Dioxide	.14	5.3 x10 ⁻⁴
Nitrogen Oxides	50.0	.189
Volatile Organic Compounds	1.95	.0074
Carbon Monoxide	10.0	.038

Compliance with these streamlined PM and SO₂ limits assures compliance with 45CSR2 and 45CSR10.
Compliance with this streamlined NO_x limits assures compliance with 40 CFR 60 Subpart Db.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(2)] (Title V permit condition 4.1.14)

During periods when the steam demand for West Virginia University requires the combined operation of the circulating fluidized bed boilers and the auxiliary boilers, air pollutant emissions from the main stack venting those operations shall not exceed the following:

Pollutant	lbm/hr	lbm/mmBtu
Particulate Matter	22.5	0.022
Sulfur Dioxide*	285 (24-hr average)	0.40
Nitrogen Oxides (NO ₂)*	300 (24-hr average)	0.40
Volatile Organic Compounds	7.5	0.0074
Carbon Monoxide	127.5	0.1257
Lead	0.13	N/A
Mercury	0.021	N/A
Fluorides	0.4	N/A
Beryllium	0.0002	N/A
Arsenic	0.002	N/A
Radionuclides	0.0009	N/A

* Compliance shall be demonstrated via continuous emissions monitoring
Compliance with these streamlined PM and SO₂ limits assures compliance with 45CSR2 and 45CSR10.
Compliance with these streamlined PM, SO₂, and NO_x limits assures compliance with 40 CFR 60 Subpart Da and 40 CFR 60 Subpart Db.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(3)] (Title V permit condition 4.1.15)

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring Requirements

The owner or operator shall install, calibrate, certify, operate, maintain, and record the output of continuous monitoring systems that measure all Opacity, SO₂, NO_x, and O₂ or CO₂ emissions from emission point *Stack 1* as specified in 40 C.F.R. Part 60, Subpart Da for the CFB boilers and NO_x, as specified in 40 C.F.R. Part 60, Subpart Db for the auxiliary boilers.

Compliance with this streamlined provision assures compliance 45CSR13/14 - Permit No. R13-1085B/R14-7B "Other Requirement (B)(1)(d)".

[45CSR16, 40 C.F.R. § 60.47a, 40 C.F.R. § 60.48b, 40 C.F.R. § 60.13] (Title V permit condition 4.2.1)

Testing Requirements

Compliance with the nitrogen oxides emission limitations under Provision (A)(2) of Permit No. R13-1085/R14-7B [condition 4.1.14. of this permit] shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46b, 40 CFR 60.48b and 40 CFR 60.49b.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(3)] (Title V permit condition 4.3.4)

Compliance with the volatile organic compound emission limitation under Provisions (A)(1), (A)(2) and (A)(3) of Permit No. R13-1085/R14-7B [conditions 4.1.13., 4.1.14. and 4.1.15. of this permit] shall be demonstrated in accordance with 40 CFR 60, Appendix A - Method 25 or 25A.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(4)] (Title V permit condition 4.3.5)

Compliance with the carbon monoxide emission limitations under Provisions (A)(1), (A)(2) and (A)(3) of Permit No. R13-1085/R14-7B [conditions 4.1.13., 4.1.14. and 4.1.15. of this permit] shall be demonstrated in accordance with 40 CFR 60 Appendix A - Method 10.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(5)] (Title V permit condition 4.3.6)

Recordkeeping Requirements

Records of the operating schedule and quantity and quality of fuel consumed shall be maintained on site for each fuel burning unit and made available to the Secretary or his duly authorized representative upon request. Such records shall include, but not be limited to the date and time of start-up and shutdown and for:

- a. *Pipeline quality natural gas*, - the quantity of fuel consumed on a monthly basis,
- b. *Coal*, - ash and BTU analysis for each shipment and the quantity of fuel consumed on a daily basis.

[45CSR§2-8.3.c., 45CSR§2A-7.1.a.] (Title V permit condition 4.4.1)

Reporting Requirements

The permittee shall comply with the reporting requirements under 40 CFR 60.49a except that all required reports shall be certified to the USEPA Administrator and to the Department of Environmental Protection, Division of Air Quality Director in accordance with 40 CFR 60.49a(i).

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(f)] (Title V permit condition 4.5.1)

Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Secretary:

- a. The excess opacity period does not exceed thirty (30) minutes within any twenty-four (24) hour period;
and
- b. Excess opacity does not exceed forty percent (40%).

[45CSR§2-9.3.a.] (Title V permit condition 4.5.3)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

**ATTACHMENT E – SOURCES FOR STACK 1
COMBINED OPERATION OF CFBS AND AUX BOILERS
(S009J, S009K, S009M AND S009L)**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S009J-K and S009L-M (Combined Operation of CFB and AUX Boilers)	Emission unit name: Sources for Stack 1: S009J is CFB #1 Boiler/Cyclone #1 S009K is CFB #2 Boiler/Cyclone #2 S009L is Auxiliary Boiler #1 S009M is Auxiliary Boiler #2	List any control devices associated with this emission unit: Baghouses 7 & 8 / Low NO _x Burners
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Occasionally, combined operation of the CFB and AUX Boilers would occur due to high steam flow demands from West Virginia University. Otherwise, combined operation only occurs during the start up of the CFB Boilers after they have been off line.
 See Attachment E for S009J-K for specific CFB Boiler information.
 See Attachment E for S009L-M for specific AUX Boiler information.

Manufacturer:	Model number:	Serial number:
Construction date: 1989	Installation date: 1989	Modification date(s):

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 See Attachment E for S009J-K for specific CFB Boiler information.
 See Attachment E for S009L-M for specific AUX Boiler information.

Maximum Hourly Throughput: See Attachment E for S009J-K for specific CFB Boiler information. See Attachment E for S009L-M for specific AUX Boiler information.	Maximum Annual Throughput: See Attachment E for S009J-K for specific CFB Boiler information. See Attachment E for S009L-M for specific AUX Boiler information.	Maximum Operating Schedule: 2364 hours (based on Federally Enforceable Limit of Combined Operation)
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: See Attachment E for S009J-K for specific CFB Boiler information. See Attachment E for S009L-M for specific AUX Boiler information	Type and Btu/hr rating of burners:
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 See Attachment E for S009J-K for specific CFB Boiler information.
 See Attachment E for S009L-M for specific AUX Boiler information.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Blended Fuel (CFBs)	3.5%	51.7%	7775 Btu/lb
Natural Gas (AUXs)	1.71 grains/MCF	~ 0	1093 Btu/CF

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	127.5	150.71
Nitrogen Oxides (NO _x)	300	354.6
Lead (Pb)	0.13	0.15
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	22.5	26.595
Sulfur Dioxide (SO ₂)	285	336.87
Volatile Organic Compounds (VOC)	7.5	8.87
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Mercury	0.021	0.024
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Fluorides	0.4	0.4728
Beryllium	0.0002	0.000236
Arsenic	0.002	0.00236
Radionuclides	0.0009	0.00106
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>During combined operation, we fall under a federally enforceable limit which allows the auxiliary boilers to contribute to no more than 10% of the total combined boiler heat input. The 10% limit would be reached at approximately 2364 hours of combined operation.</p> <p>Thus, the above calculations are based on the following: TPY = current permit limits (lb/hr) x 2364 (hrs).</p> <p>For Actual Emissions see Attachment I.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Limitations and Standards

Visible Emissions from each stack shall not exceed ten (10) percent opacity based on a six minute block average.

[45CSR§2-3.1.] (Title V permit condition 4.1.1)

Compliance with the visible emission requirements of 45CSR2 section 3.1. shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems and as described in the approved monitoring plan. [*Permit R13-1085/R14-7B serves as the approved monitoring plan*]

[45CSR§2-3.2., 45CSR§2A-6] (Title V permit condition 4.1.2)

The addition of sulfur oxides to a combustion unit exit gas stream for the purpose of improving emissions control equipment is prohibited unless written approval for such addition is provided by the Secretary.

[45CSR§2-4.4.] (Title V permit condition 4.1.3)

Compliance with the visible emission limit shall be demonstrated by periodic testing in accordance with 40 C.F.R. Part 60, Appendix A, Method 9, or a certified continuous opacity monitoring system, as approved by the Secretary. Compliance with the weight emission limit shall be demonstrated by periodic particulate matter stack testing, conducted in accordance with the appropriate test method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Secretary. Such testing shall be conducted at a frequency to be established by the Secretary.

[45CSR§2-8.1.a.] (Title V permit condition 4.1.4)

Compliance with the visible emissions limit shall be monitored as set forth in the approved monitoring plan for each emission unit. [*Permit R13-1085/R14-7B serves as the approved monitoring plan*]

[45CSR§2-8.2.a.] (Title V permit condition 4.1.5)

Records of monitored data established in the monitoring plan shall be maintained on site and shall be made available to the Secretary or his duly authorized representative upon request.

[45CSR§2-8.3.a.] (Title V permit condition 4.1.6)

A periodic exception report shall be submitted to the Secretary, in a manner and at a frequency to be established by the Secretary.

[45CSR§2-8.3.b.] (Title V permit condition 4.1.7)

The visible emission standards of condition 4.1.1., shall apply at all times except in periods of start-ups, shutdowns and malfunctions.

[45CSR§2-9.1.] (Title V permit condition 4.1.8)

Any fuel burning unit(s) including associated air pollution control equipment, shall at all times, including periods of start-up, shutdowns, and malfunctions, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions.

[45CSR§2-9.2., 45CSR16, 40 C.F.R. § 60.11(d)] (Title V permit condition 4.1.9)

The particulate matter reduction of potential combustion concentration from each of the two (2) circulating fluidized bed boilers shall be no less than 99%.

[45CSR16, 40 C.F.R. § 60.42a(2)] (Title V permit condition 4.1.10)

Compliance with the particulate matter emission limitation of 40 CFR 60.42a(a)(1) [0.03 lb/mmBtu for the two circulating fluidized bed boilers] constitutes compliance with the percent reduction requirement for particulate matter under 4.1.10.

[45CSR16, 40 C.F.R. § 60.46a(a)] (Title V permit condition 4.1.11)

Rule 13/14 Permit

The coal to be fired in CFB boilers 1 & 2 shall have a percent maximum sulfur content of 3.5 and a percent maximum ash content of 51.7.

[45CSR13/14- Permit No. R13-1085B/R14-7B Modification Application Volume 1 Section 5.0 "Affected Source Sheet" page 46 Item 2.A.(4)] (Title V permit condition 4.1.12)

During periods when the steam demand for West Virginia University requires the combined operation of the circulating fluidized bed boilers and the auxiliary boilers, air pollutant emissions from the main stack venting those operations shall not exceed the following:

Pollutant	lbm/hr	lbm/mmBtu
Particulate Matter	22.5	0.022
Sulfur Dioxide*	285 (24-hr average)	0.40
Nitrogen Oxides (NO ₂)*	300 (24-hr average)	0.40
Volatile Organic Compounds	7.5	0.0074
Carbon Monoxide	127.5	0.1257
Lead	0.13	N/A
Mercury	0.021	N/A
Fluorides	0.4	N/A
Beryllium	0.0002	N/A
Arsenic	0.002	N/A
Radionuclides	0.0009	N/A

* Compliance shall be demonstrated via continuous emissions monitoring
Compliance with these streamlined PM and SO₂ limits assures compliance with 45CSR2 and 45CSR10.
Compliance with these streamlined PM, SO₂, and NO_x limits assures compliance with 40 CFR 60 Subpart Da and 40 CFR 60 Subpart Db.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(3)] (Title V permit condition 4.1.15)

The sulfur dioxide reduction efficiency from each of the two (2) circulating fluidized bed boilers shall be no less than 94.6%.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (Title V permit condition 4.1.16)]

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring Requirements

The owner or operator shall install, calibrate, certify, operate, maintain, and record the output of continuous monitoring systems that measure all Opacity, SO₂, NO_x, and O₂ or CO₂ emissions from emission point *Stack 1* as specified in 40 C.F.R. Part 60, Subpart Da for the CFB boilers and NO_x, as specified in 40 C.F.R. Part 60, Subpart Db for the auxiliary boilers.

Compliance with this streamlined provision assures compliance 45CSR13/14 - Permit No. R13-1085B/R14-7B "Other Requirement (B)(1)(d)".

[45CSR16, 40 C.F.R. § 60.47a, 40 C.F.R. § 60.48b, 40 C.F.R. § 60.13] (Title V permit condition 4.2.1)

Testing Requirements

Compliance with the particulate matter emission limitations under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] and 40 CFR 60.42a(a) shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46a, 40 CFR 60.48a and 45CSR2 Appendix - "Compliance Test Procedures for 45CSR2".

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(b)] (Title V permit condition 4.3.1)

Compliance with the sulfur dioxide emission limitation and sulfur dioxide reduction requirements under Provisions (A)(1) and (A)(6) of Permit No, R13-1085/R14-7B [conditions 4.1.13. and 4.1.16. of this permit] and as required by 40 CFR 60.43a(a) shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46a, 40 CFR 60.47a and 40 CFR 60.48a, except that compliance with the maximum SO₂ emission limitation shall be demonstrated for each and all fixed twenty-four hour periods.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(c)] (Title V permit condition 4.3.2)

Compliance with the nitrogen oxides emission limitation under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46a, 40 CFR 60.47a, and 40 CFR 60.48a.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(2)] (Title V permit condition 4.3.3)

Compliance with the nitrogen oxides emission limitations under Provision (A)(2) of Permit No, R13-1085/R14-7B [condition 4.1.14. of this permit] shall be demonstrated in accordance with 40 CFR 60.8, 40 CFR 60.46b, 40 CFR 60.48b and 40 CFR 60.49b.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(3)] (Title V permit condition 4.3.4)

Compliance with the volatile organic compound emission limitation under Provisions (A)(1), (A)(2) and (A)(3) of Permit No, R13-1085/R14-7B [conditions 4.1.13., 4.1.14. and 4.1.15. of this permit] shall be demonstrated in accordance with 40 CFR 60, Appendix A - Method 25 or 25A.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(4)] (Title V permit condition 4.3.5)

Compliance with the carbon monoxide emission limitations under Provisions (A)(1), (A)(2) and (A)(3) of Permit No, R13-1085/R14-7B [conditions 4.1.13., 4.1.14. and 4.1.15. of this permit] shall be demonstrated in accordance with 40 CFR 60 Appendix A - Method 10.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(5)] (Title V permit condition 4.3.6)

The owner or operator shall conduct a test at least once every five (5) years to determine the compliance of the CFB Boilers 1 & 2 with the carbon monoxide (CO) limits of condition 4.1.13. Such tests shall be conducted in accordance with 40 CFR 60 Appendix A - Method 10. A compliance test shall be conducted no later than eighteen (18) months of the issuance date of this permit. An emission factor shall be determined from the test results and updated from the results of each subsequent test. The emission factor shall be used for compliance demonstration for periods between tests.

[45CSR§30-5.1.c.] (Title V permit condition 4.3.7)

Compliance with the emission limitation for lead under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 60 Appendix A - Method 12.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(6)] (Title V permit condition 4.3.8)

Compliance with the emission limitation for mercury under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 61 Appendix B - Method 101A.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(7)] (Title V permit condition 4.3.9)

Compliance with the emission limitation for fluorides under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 60, Appendix A - Method 13.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(8)] (Title V permit condition 4.3.10)

Compliance with the emission limitation for beryllium under Provision (A)(1) of Permit No, R13-1085/R14-7B [condition 4.1.13. of this permit] shall be demonstrated in accordance with 40 CFR 61, Appendix B - Method 104.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(9)] (Title V permit condition 4.3.11)

The owner or operator shall conduct, or have conducted, tests to determine the compliance of CFB Boilers 1 & 2 with the particulate matter mass emission limitations. Such tests shall be conducted in accordance with the appropriate method set forth in 45CSR2 Appendix - Compliance Test Procedures for 45CSR2 or other equivalent EPA approved method approved by the Secretary. Such tests shall be conducted in accordance with the schedule set forth in the following table. The initial compliance test shall have been conducted by March 15, 2002.

Test	Test Results	Testing Frequency
Initial Baseline	≤50% of weight emission standard	Once/3 years
Initial Baseline	between 50% and 80 % of weight emission standard	Once/2 years
Initial Baseline	≥80% of weight emission standard	Annual
Annual	after three successive tests indicate mass emission rates ≤50% of weight emission standard	Once/3 years
Annual	after two successive tests indicate mass emission rates between 50% and 80 % of weight emission standard	Once/2 years
Annual	any tests indicates a mass emission rate ≥80% of weight emission standard	Annual
Once/2 years	after two successive tests indicate mass emission rates ≤50% of weight emission standard	Once/3 years
Once/2 years	any tests indicates a mass emission rate between 50% and 80 % of weight emission standard	Once/2 years
Once/2 years	any tests indicates a mass emission rate ≥80% of weight emission standard	Annual
Once/3 years	any tests indicates a mass emission rate ≤50% of weight emission standard	Once/3 years
Once/3 years	any test indicates mass emission rates between 50% and 80 % of weight emission standard	Once/2 years
Once/3 years	any test indicates a mass emission rate ≥80% of weight emission standard	Annual

[45CSR§2-8.1., 45CSR§2A-5.2.] (Title V permit condition 4.3.12)

Recordkeeping Requirements

Records of the operating schedule and quantity and quality of fuel consumed shall be maintained on site for each fuel burning unit and made available to the Secretary or his duly authorized representative upon request. Such records shall include, but not be limited to the date and time of start-up and shutdown and for:

- a. *Pipeline quality natural gas*, - the quantity of fuel consumed on a monthly basis,
- b. *Coal*, - ash and BTU analysis for each shipment and the quantity of fuel consumed on a daily basis.

[45CSR§2-8.3.c., 45CSR§2A-7.1.a.] (Title V permit condition 4.4.1)

Reporting Requirements

The permittee shall comply with the reporting requirements under 40 CFR 60.49a except that all required reports shall be certified to the USEPA Administrator and to the Department of Environmental Protection, Division of Air Quality Director in accordance with 40 CFR 60.49a(i).

[45CSR13/14 - Permit No. R13-1085B/R14-7B Other Requirement (B)(1)(f)] (Title V permit condition 4.5.1)

Compliance with the periodic exception reporting of permit condition 4.1.7. shall be demonstrated by quarterly reports in accordance with 40 CFR 60.7.c.

[45CSR16, 40 CFR 60.7] (Title V permit condition 4.5.2)

Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Secretary:

- a. The excess opacity period does not exceed thirty (30) minutes within any twenty-four (24) hour period; and
- b. Excess opacity does not exceed forty percent (40%).

[45CSR§2-9.3.a.] (Title V permit condition 4.5.3)

Except as provided in permit condition 4.5.3. above, the owner or operator shall report to the Secretary by telephone, telefax, or e-mail any malfunction of CFB #1 or CFB #2 or their associated air pollution control equipment, which results in any excess particulate matter or excess opacity, by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Secretary within thirty (30) days providing the following information:

- a. A detailed explanation of the factors involved or causes of the malfunction;
- b. The date, and time of duration (with starting and ending times) of the period of excess emissions;
- c. An estimate of the mass of excess emissions discharged during the malfunction period;
- d. The maximum opacity measured or observed during the malfunction;
- e. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and
- f. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.

[45CSR§2-9.3.b.] (Title V permit condition 4.5.4)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

**ATTACHMENT E – SOURCES FOR STACK 1
UNITS PROVIDE FUEL AND LIMESTONE TO THE CFBS
(S009A – S009H)**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S009A thru S009H	Emission unit name: Sources for Stack 1 (The units provide Fuel and Limestone to the CFBs)	List any control devices associated with this emission unit: Pneumatic Conveying System 2/ Baghouses 7 & 8/ Enclosed System 7
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S009A thru S009D pneumatically conveys limestone to CFB #1 and CFB #2 for injection. The limestone is used to control SO₂ emissions. The Emission Units S009E thru S009H conveys blended fuel to CFB #1 and CFB #2 for combustion.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

S009A-D have a design capacity of 10 TPH/unit
 S009E-H have a design capacity of 46 TPH/unit

Maximum Hourly Throughput: S009A-D - 10 TPH/unit S009E-H - 46 TPH/unit	Maximum Annual Throughput: S009A-D - 87,600 TPY S009E-H - 402,960 TPY	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.175	0.73
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

No emissions unit-specific applicable requirements for this source.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

No emissions unit-specific testing, recordkeeping, reporting requirements for this source.

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR FUGITIVE EMISSIONS
(S00F1 – S00F14)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:

S00F1 thru S00F14

Emission unit name:

Sources for Fugitive Emissions 1 thru 14

List any control devices associated with this emission unit:

Building Enclosure 1/ Enclosed System 1/ Water Spray 1, 2, 3, 4, & 5

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Emission Units S00F1 thru S00F3 transfers coal or gob from the truck to the Fuel Unloading Hopper 1 (S00F2) and Vibratory Feeder 1 (S00F3). The Emission Units S00F4 thru S00F6 transfers coal or gob (waste coal) from the truck to the Fuel Unloading Hopper 2 (S00F5) and Vibratory Feeder 2 (S00F6). The Emission Units S00F8 thru S00F10 transfers coal or gob from Vibratory Feeders 1 & 2 to the Transfer Conveyor 1 (S00F9) which transfers coal or gob to Elevating Conveyor 1 (S00F10). The Emission Units S00F11 thru S00F14 catches coal/gob transfer spillage, [via the Dribble Chute 1 (S00F11), the Dribble Chute Catch Bin (S00F12), and the Dribble Chute Conveyor(S00F13-14)], and returns the spilled coal/gob to Transfer Conveyor 1.

Manufacturer:

Model number:

Serial number:

Construction date:

1989

Installation date:

1989

Modification date(s):

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

S00F1-8 have a design capacity of 250 TPH/unit
S00F9-10 have a design capacity of 500 TPH/unit
S00F11-14 a design capacity for these units in N/A

Maximum Hourly Throughput:

S00F1-8 - 250 TPH/unit
S00F9-10 - 500 TPH/unit
S00F11-14 - N/A

Maximum Annual Throughput:

S00F1-8 - 2,190,000 TPY
S00F9-10 - 4,380,000 TPY
S00F11-14 - N/A

Maximum Operating Schedule:

8760 hours

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes x No

If yes, is it?

___ Indirect Fired ___ Direct Fired

Maximum design heat input and/or maximum horsepower rating:

N/A

Type and Btu/hr rating of burners:

N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.0009	0.0039
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)] (Title V condition 5.1.1)

At all times, including periods of startup, shutdown, and malfunction, any affected facility [coal handling equipment as defined in 40 CFR Subpart Y] including associated air pollution control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. Determination that acceptable operating and maintenance procedures are being used, will be based on information available to the Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 C.F.R. § 60.11(d)] (Title V condition 5.1.3)

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

No emissions unit-specific testing, recordkeeping, reporting requirements for this source.

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR FUGITIVE EMISSIONS
(S00F15 – S00F16)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S00F15 and S00F16	Emission unit name: Sources for Fugitive Emissions 15 & 16	List any control devices associated with this emission unit: N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The Emission Units S00F15 and S00F16 handle the transfer of pre-blended fuel from a Front End Loader to the Emergency Mill Feed System Hopper (S00F16). These units are not intended for use unless there is an emergency situation.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
S00F15-16 have a design capacity of 60 TPH/unit

Maximum Hourly Throughput: S00F15-16 – 60 TPH/unit	Maximum Annual Throughput: S00F15-16 – 525,600 TPY	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0	0
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Emission Calculations in Attachment I

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)]

At all times, including periods of startup, shutdown, and malfunction, any affected facility [coal handling equipment as defined in 40 CFR Subpart Y] including associated air pollution control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. Determination that acceptable operating and maintenance procedures are being used, will be based on information available to the Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 C.F.R. § 60.11(d)] (Title V condition 5.1.3)

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

No emission unit-specific testing, recordkeeping, reporting requirements for this source.

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR FUGITIVE EMISSIONS
(S00F17 – S00F18, S00F21-S00F25)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S00F17 thru S00F18 and S00F21 thru S00F25 Note: S00F19-20 are no longer used.	Emission unit name: Sources for Fugitive Emissions 17, 18, and 21 thru 25	List any control devices associated with this emission unit: N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S00F17 and S00F18 are the Acid and Caustic Storage Tanks which are used for Water Treatment in the Demineralizer Trains. The Emission Units S00F21 and S00F22 are the Turbine Oil and EHC Oil Storage Tanks used for the Turbine Generator. The Emission Units S00F23 thru S00F25 water treatment tanks that contain Phosphate, Corrosion Inhibitor, and Oxygen Scavenger.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 S00F17-18 have a design capacity of 5800 gal./unit
 S00F21 has a design capacity of 2378 gal.
 S00F22 has a design capacity of 105 gal.
 S00F23 has a design capacity of 1600 gal.
 S00F24-25 have a design capacity of 400 gal./unit

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: N/A	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> x </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

No emissions unit-specific applicable requirements for this source.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

No emissions unit-specific testing, recordkeeping, reporting requirements for this source.

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR FUGITIVE EMISSIONS
(S00F26)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S00F26	Emission unit name: Source for Fugitive Emissions 26	List any control devices associated with this emission unit: Paved/Water Cleaning
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The Emission Unit S00F26 is the paved roadways areas around the facility and are maintained by water cleaning.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
S00F26 design capacity is N/A

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: N/A	Maximum Operating Schedule: 4848 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> x </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.015	0.069
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

All plant roads and haulways shall be paved and shall be kept clean by appropriate measures to minimize the emission or entrainment of fugitive particulate matter.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(7)] (Title V condition 3.1.12)

All trucks delivering coal or coal refuse and trucks removing ash from the plant shall be fully covered or enclosed.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(9)] (Title V condition 5.1.6)

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

There are no emissions unit-specific monitoring, testing, recordkeeping or reporting requirements for this emissions unit.

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 1 & VENT 2
(S001A – S002B)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S001A thru S002B	Emission unit name: Sources for Vent 1 & Vent 2	List any control devices associated with this emission unit: Enclosed System 1/Baghouse 1 & 2
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S001A thru S002B moves coal and gob to the respective silos with the exception of S001F. In and emergency situation, S001A (Elevating Conveyor #1) can transfer pre-sized and pre-blended fuel directly to S001F (Emergency Bypass Conveyor). Each conveyor in this set of emission units is enclosed.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s): 2001 for S001F
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 S001A-D & S002A have a design capacity of 500 TPH/unit
 S001F has a design capacity of 120 TPH/unit
 S001E & S002B have a design capacity of 2100 tons each

Maximum Hourly Throughput: S001A-D & S002A – 500 TPH/unit S001F – 120 TPH/unit S001E & S002B – 2100 tons each	Maximum Annual Throughput: S001A-D & S002A – 4,380,000 TPY S001F – 1,051,200 TPY S001E & S002B – 4,380,000 TPY	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.0002	0.0002
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Limitations and Standards

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)] (Title V condition 5.1.1)

Visible Emissions from coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal (*Vents 1-5*) shall not exceed twenty (20) percent opacity except during periods of startup, shutdown, malfunction.

[45CSR16, 40 C.F.R. § 60.11(c), 40 C.F.R. § 60.252(c), 40 C.F.R. § 60.254(b)(2)] (Title V condition 5.1.2)

At all times, including periods of startup, shutdown, and malfunction, any affected facility [*coal handling equipment as defined in 40 CFR Subpart Y*] including associated air pollution control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. Determination that acceptable operating and maintenance procedures are being used, will be based on information available to the Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 C.F.R. § 60.11(d)] (Title V condition 5.1.3)

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall conduct visible emission evaluations as follows for "affected facility" *Baghouse Vents (Vents 1-5)*:

- a. An initial visible emissions evaluation in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be performed within ninety (90) days of permit issuance for each affected facility with a visible emissions requirement in this permit, unless such evaluation was performed within the consecutive 12-month period preceding permit issuance. This initial evaluation shall consist of three 6-minute averages during one consecutive 60 minute period. The initial evaluation shall be conducted at each affected facility during the period of maximum expected visible emissions under normal unit and facility operations. A visible emissions evaluation shall be conducted for each affected facility at least once every consecutive 12-month period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. This annual evaluation shall consist of a minimum of 24 consecutive observations for each affected facility.
- b. Each emissions unit with a visible emissions limit contained in this permit section shall be observed visually by a trained Method 22 observer at least each calendar week during periods of normal facility operation for a sufficient time interval to determine if the unit has any visible emissions. If visible emissions from any of the emissions units are observed during these weekly observations, or at any other time, that appear to exceed 50 percent of the allowable visible emission requirement for the emission unit, visible emissions evaluations in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be conducted as soon as practicable, but no later than one (1) month from the time of the observation. A Method 9 evaluation shall not be required under this sub-section (5.2.1.b.) if the visible emissions condition is corrected within 24 hours; the emissions unit is operating at normal operating conditions; and, the cause and corrective measures taken are recorded.
- c. If the initial, or any subsequent, visible emissions evaluation indicates visible emissions in excess of 50 percent of the allowable visible emissions requirement for a given emission unit, a visible emissions evaluation shall be performed for that unit at least once every consecutive 14-day period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. If subsequent visible emissions evaluations indicate visible emissions less than or equal to 50 percent of the allowable visible emissions requirement for the emission unit for 3 consecutive evaluation periods, the emission unit may comply with the visible emissions testing requirements of sub-section 5.2.1.b. above, in lieu of those established in this condition.

[45CSR§30-5.1.c.] (Title V condition 5.2.1)

Note: The term "Affected Facility" used in this permit means any of the following (NSPS or non-NSPS):

- (1) Coal Processing and conveying equipment (including breakers and crushers)
- (2) Coal Storage Systems.
- (3) Coal Transfer and Loading Systems.

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E
SOURCES FOR VENT 3
(S003A– S003K)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S003A thru S003K	Emission unit name: Sources for Vent 3	List any control devices associated with this emission unit: Enclosed System 2 / Baghouse 3
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S003A-F and S003J-K move coal and gob from their respective silos to in proper proportions to either the Grinding Mill (S003J) or the Hammer Mill (S003K) to create blended fuel. In an emergency situation, Emission Units S003G-I will allow us to move pre-blended fuel directly to the Grinding Mill (S003J) or the Hammer Mill (S003K) for sizing. All items in this set of emissions units are enclosed except for S003G (Emergency Mill Feed System Hopper 1 to En-mass Elevating Conveyor 1).

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 S003A-I and S003K have a design capacity of 60 TPH/unit
 S003J has design capacity of 60 TPH or 90 TPH

Maximum Hourly Throughput: S003A-I & S003K – 60 TPH/unit S003J – 60 TPH or 90 TPH	Maximum Annual Throughput: S003A-I & S003K – 525,600 TPY S003J – 525,600 TPY, 788,400 TPY	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.099	0.41
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)] (Title V condition 5.1.1)

Visible Emissions from coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal (*Vents 1-5*) shall not exceed twenty (20) percent opacity except during periods of startup, shutdown, malfunction.

[45CSR16, 40 C.F.R. § 60.11(c), 40 C.F.R. § 60.252(c), 40 C.F.R. § 60.254(b)(2)] (Title V condition 5.1.2)

At all times, including periods of startup, shutdown, and malfunction, any affected facility [*coal handling equipment as defined in 40 CFR Subpart Y*] including associated air pollution control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. Determination that acceptable operating and maintenance procedures are being used, will be based on information available to the Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 C.F.R. § 60.11(d)] (Title V condition 5.1.3)

_____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall

be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall conduct visible emission evaluations as follows for "affected facility" *Baghouse Vents (Vents 1-5)*:

- a. An initial visible emissions evaluation in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be performed within ninety (90) days of permit issuance for each affected facility with a visible emissions requirement in this permit, unless such evaluation was performed within the consecutive 12-month period preceding permit issuance. This initial evaluation shall consist of three 6-minute averages during one consecutive 60 minute period. The initial evaluation shall be conducted at each affected facility during the period of maximum expected visible emissions under normal unit and facility operations. A visible emissions evaluation shall be conducted for each affected facility at least once every consecutive 12-month period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. This annual evaluation shall consist of a minimum of 24 consecutive observations for each affected facility.
- b. Each emissions unit with a visible emissions limit contained in this permit section shall be observed visually by a trained Method 22 observer at least each calendar week during periods of normal facility operation for a sufficient time interval to determine if the unit has any visible emissions. If visible emissions from any of the emissions units are observed during these weekly observations, or at any other time, that appear to exceed 50 percent of the allowable visible emission requirement for the emission unit, visible emissions evaluations in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be conducted as soon as practicable, but no later than one (1) month from the time of the observation. A Method 9 evaluation shall not be required under this sub-section (5.2.1.b.) if the visible emissions condition is corrected within 24 hours; the emissions unit is operating at normal operating conditions; and, the cause and corrective measures taken are recorded.
- c. If the initial, or any subsequent, visible emissions evaluation indicates visible emissions in excess of 50 percent of the allowable visible emissions requirement for a given emission unit, a visible emissions evaluation shall be performed for that unit at least once every consecutive 14-day period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. If subsequent visible emissions evaluations indicate visible emissions less than or equal to 50 percent of the allowable visible emissions requirement for the emission unit for 3 consecutive evaluation periods, the emission unit may comply with the visible emissions testing requirements of sub-section 5.2.1.b. above, in lieu of those established in this condition.

[45CSR§30-5.1.c.] (Title V condition 5.2.1)

Note: The term "Affected Facility" used in this permit means any of the following (NSPS or non-NSPS):

- (1) Coal Processing and conveying equipment (including breakers and crushers)
- (2) Coal Storage Systems.
- (3) Coal Transfer and Loading Systems.

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 4
(S004A– S004G)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S004A thru S004G	Emission unit name: Sources for Vent 4	List any control devices associated with this emission unit: Enclosed System 3/Baghouse 4
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Emission Units S001A-B and S004D-E move blended fuel to S004G (Elevating Conveyor #2—Bottom Half). Emission Unit S004C transfers Baghouse 4 dust to the Mill Collecting Conveyor (S004D), and Emission Unit S004F transfers Baghouse 3 dust to Elevating Conveyor #2—Bottom Half (S004G). Each conveyor in this set of emissions units is enclosed.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s): 2001 for S004D & S004G
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

S004A has a design capacity of 60 TPH or 90 TPH
S004B has a design capacity of 60 TPH
S004C has an estimated design capacity of 5 TPH
S004D-E and S004G have a design capacity of 120 TPH/unit
S004F has a design capacity of 12 TPH

Maximum Hourly Throughput: S004A – 60 TPH, 90 TPH S004B – 60 TPH S004C - 5 TPH S004D-E & S004G - 120 TPH/unit S004F - TPH	Maximum Annual Throughput: S004A – 525,600 tpy, 788,400 tpy S004B – 525,600 tpy S004C - 43,800 tpy S004D-E, S004G – 1,051,200 tpy S004F – 105,120 tpy	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.0002	0.00083
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)] (Title V condition 5.1.1)

Visible Emissions from coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal (*Vents 1-5*) shall not exceed twenty (20) percent opacity except during periods of startup, shutdown, malfunction.

[45CSR16, 40 C.F.R. § 60.11(c), 40 C.F.R. § 60.252(c), 40 C.F.R. § 60.254(b)(2)] (Title V condition 5.1.2)

At all times, including periods of startup, shutdown, and malfunction, any affected facility [*coal handling equipment as defined in 40 CFR Subpart Y*] including associated air pollution control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. Determination that acceptable operating and maintenance procedures are being used, will be based on information available to the Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 C.F.R. § 60.11(d)] (Title V condition 5.1.3) (Title V condition 5.1.3)

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall conduct visible emission evaluations as follows for "affected facility" *Baghouse Vents (Vents 1-5)*:

- a. An initial visible emissions evaluation in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be performed within ninety (90) days of permit issuance for each affected facility with a visible emissions requirement in this permit, unless such evaluation was performed within the consecutive 12-month period preceding permit issuance. This initial evaluation shall consist of three 6-minute averages during one consecutive 60 minute period. The initial evaluation shall be conducted at each affected facility during the period of maximum expected visible emissions under normal unit and facility operations. A visible emissions evaluation shall be conducted for each affected facility at least once every consecutive 12-month period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. This annual evaluation shall consist of a minimum of 24 consecutive observations for each affected facility.
- b. Each emissions unit with a visible emissions limit contained in this permit section shall be observed visually by a trained Method 22 observer at least each calendar week during periods of normal facility operation for a sufficient time interval to determine if the unit has any visible emissions. If visible emissions from any of the emissions units are observed during these weekly observations, or at any other time, that appear to exceed 50 percent of the allowable visible emission requirement for the emission unit, visible emissions evaluations in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be conducted as soon as practicable, but no later than one (1) month from the time of the observation. A Method 9 evaluation shall not be required under this sub-section (5.2.1.b.) if the visible emissions condition is corrected within 24 hours; the emissions unit is operating at normal operating conditions; and, the cause and corrective measures taken are recorded.
- c. If the initial, or any subsequent, visible emissions evaluation indicates visible emissions in excess of 50 percent of the allowable visible emissions requirement for a given emission unit, a visible emissions evaluation shall be performed for that unit at least once every consecutive 14-day period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. If subsequent visible emissions evaluations indicate visible emissions less than or equal to 50 percent of the allowable visible emissions requirement for the emission unit for 3 consecutive evaluation periods, the emission unit may comply with the visible emissions testing requirements of sub-section 5.2.1.b. above, in lieu of those established in this condition.

[45CSR§30-5.1.c.] (Title V condition 5.2.1)

Note: The term "Affected Facility" used in this permit means any of the following (NSPS or non-NSPS):

- (1) Coal Processing and conveying equipment (including breakers and crushers)
- (2) Coal Storage Systems.
- (3) Coal Transfer and Loading Systems.

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 5
(S005A– S005F)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S005A thru S005F	Emission unit name: Sources for Vent 5	List any control devices associated with this emission unit: Enclosed System 4/Baghouse 5
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The Emission Units in this group transfer blended fuel to indoor Fuel Bin 1 or Fuel Bin 2 (S005D/S005E). Each conveyor in this set of emissions units is enclosed.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s): 2001 for S005F
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
S005A-C and S005F have a design capacity of 120 TPH/unit
S005D-E have a design capacity of 375 tons each

Maximum Hourly Throughput: S005A-C & S005F - 120 TPH/unit S005D-E - 375 tpy	Maximum Annual Throughput: S005A-C & S005F - 1,051,200 TPY S005D-E - 3,285,000 TPY	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.0002	0.0008
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)] (Title V condition 5.1.1)

Visible Emissions from coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal (*Vents 1-5*) shall not exceed twenty (20) percent opacity except during periods of startup, shutdown, malfunction.

[45CSR16, 40 C.F.R. § 60.11(c), 40 C.F.R. § 60.252(e), 40 C.F.R. § 60.254(b)(2)] (Title V condition 5.1.2)

At all times, including periods of startup, shutdown, and malfunction, any affected facility [*coal handling equipment as defined in 40 CFR Subpart Y*] including associated air pollution control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. Determination that acceptable operating and maintenance procedures are being used, will be based on information available to the Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[40 C.F.R. § 60.11(d)] (Title V condition 5.1.3)

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall conduct visible emission evaluations as follows for "affected facility" *Baghouse Vents (Vents 1-5)*:

- a. An initial visible emissions evaluation in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be performed within ninety (90) days of permit issuance for each affected facility with a visible emissions requirement in this permit, unless such evaluation was performed within the consecutive 12-month period preceding permit issuance. This initial evaluation shall consist of three 6-minute averages during one consecutive 60 minute period. The initial evaluation shall be conducted at each affected facility during the period of maximum expected visible emissions under normal unit and facility operations. A visible emissions evaluation shall be conducted for each affected facility at least once every consecutive 12-month period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. This annual evaluation shall consist of a minimum of 24 consecutive observations for each affected facility.
- b. Each emissions unit with a visible emissions limit contained in this permit section shall be observed visually by a trained Method 22 observer at least each calendar week during periods of normal facility operation for a sufficient time interval to determine if the unit has any visible emissions. If visible emissions from any of the emissions units are observed during these weekly observations, or at any other time, that appear to exceed 50 percent of the allowable visible emission requirement for the emission unit, visible emissions evaluations in accordance with 40 C.F.R. Part 60 Appendix A, Method 9 shall be conducted as soon as practicable, but no later than one (1) month from the time of the observation. A Method 9 evaluation shall not be required under this sub-section (5.2.1.b.) if the visible emissions condition is corrected within 24 hours; the emissions unit is operating at normal operating conditions; and, the cause and corrective measures taken are recorded.
- c. If the initial, or any subsequent, visible emissions evaluation indicates visible emissions in excess of 50 percent of the allowable visible emissions requirement for a given emission unit, a visible emissions evaluation shall be performed for that unit at least once every consecutive 14-day period in accordance with 40 C.F.R. Part 60 Appendix A, Method 9. If subsequent visible emissions evaluations indicate visible emissions less than or equal to 50 percent of the allowable visible emissions requirement for the emission unit for 3 consecutive evaluation periods, the emission unit may comply with the visible emissions testing requirements of sub-section 5.2.1.b. above, in lieu of those established in this condition.

[45CSR§30-5.1.c.] (Title V condition 5.2.1)

Note: The term "Affected Facility" used in this permit means any of the following (NSPS or non-NSPS):

- (1) Coal Processing and conveying equipment (including breakers and crushers)
- (2) Coal Storage Systems.
- (3) Coal Transfer and Loading Systems.

Recordkeeping Requirements

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E
SOURCES FOR VENT 6
(S006A– S006D)

ATTACHMENT E - Emission Unit Form

Emission Unit Description			
Emission unit ID number: S006A thru S006D	Emission unit name: Sources for Vent 6	List any control devices associated with this emission unit: Building Enclosure 2/Baghouse 6	
Provide a description of the emission unit (type, method of operation, design parameters, etc.): The Emission Units S006A thru S006D handles transfer of limestone from the trucks to Unloading Hopper 1 (S006D) and Unloading Hopper 2 (S006D).			
Manufacturer:	Model number:	Serial number:	
Construction date: 1989	Installation date: 1989	Modification date(s):	
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): S006A-B have a design capacity of 37.5 TPH/unit S006C-D have a design capacity of 75 TPH/unit			
Maximum Hourly Throughput: S006A-B – 37.5 TPH/unit S006C-D – 75 TPY/unit	Maximum Annual Throughput: S006A-B – 328,500 TPY S006C-D – 657,000 TPY	Maximum Operating Schedule: 8760 hours	
Fuel Usage Data (fill out all applicable fields)			
Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired	
Maximum design heat input and/or maximum horsepower rating: N/A		Type and Btu/hr rating of burners: N/A	
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A			
Describe each fuel expected to be used during the term of the permit.			
Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.027	0.11
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSRI3/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)] (Title V condition 5.1.1)

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Recordkeeping Requirements

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 7 & VENT 8
(S007A- S008I)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:

S007A thru S008I

Emission unit name:

Sources for Vent 7 & Vent 8

List any control devices associated with this emission unit:

Pneumatic Conveying System 1/
Enclosed System 5 & 6/ Bin Vent
Filter 1 & 5

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Emission Units S007A thru S008C transfers limestone from the unloading hoppers to the Limestone Silo (S007E), the Limestone Bin (S008C), or from the Limestone Silo to the Limestone Bin. The Emission Units S008D thru S008I transfers limestone from the Limestone Bin (S008C) to the Gravimetric Feeders/Conveyors A & B (S008E & S008H) and their respective Rotary Valves.

Manufacturer:

Model number:

Serial number:

Construction date:

1989

Installation date:

1989

Modification date(s):

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

S007A-D & S008A-B have a design capacity of 75 TPH/unit
S007E and S008C have design capacities of 1160 tons and 250 tons respectively
S008D-I have a design capacity of 10 TPH/unit

Maximum Hourly Throughput:

S007A-D & S008A-B - 75 TPH/unit
S007E & S008C - 1160 tons & 250
tons
S008D - 10 TPH/unit

Maximum Annual Throughput:

S007A-D & S008A-B -
657,000 TPY
S007E & S008C - 657,000 TPY
S008D - 87,600 TPY

Maximum Operating Schedule:

8760 hours

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes No

If yes, is it?

___ Indirect Fired ___ Direct Fired

Maximum design heat input and/or maximum horsepower rating:

N/A

Type and Btu/hr rating of burners:

N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.019	0.08
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Coal/coal refuse and limestone handling/storage facilities shall consist of the following and particulate emissions shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Coal/Gob Receiving Hoppers (Truck)	Enclosure and Water/Chemical Dust Suppression System	
Coal/Gob Receiving Hopper (Emergency Use)	Minimize Drop Height	
Elevating Transfer Conveyor No. 1, Two Fuel Silos, Reversible Silo Feed Conveyor, Hopper Transfer Conveyor, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Elevating (Tripper) Conveyor No. 2 (top), Two Fuel Day Bins, and Transfer Points	Enclosure and Evacuation to Baghouse	.0002
Mill Collecting Conveyor, Elevating Conveyor No. 2 base	Enclosure and Evacuation to Baghouse	.0002
Two Coal/Gob Crushers (Grinding Mill, Hammer Mill), Emergency Fuel Feed Conveyor, Weigh Belt Conveyor	Enclosure and Evacuation to Baghouse	.099
One 1,160 Ton Limestone Storage Silo	Baghouse	.014
Limestone Truck Unloading Hopper	Enclosure and Evacuation to Baghouse	.027
One Limestone Day Bin	Baghouse	.005

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(4)](Title V condition 5.1.1)

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 9
(S010A- S010O)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S010A thru S010O	Emission unit name: Sources for Vent 9	List any control devices associated with this emission unit: Enclosed System 8/Bin Vent Filter 3
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S010A-C (Unit 1 Ash Screws A-C) transfer CFB #1 Bottom Ash to Drag Chain Conveyor 101 (S010D). The Emission Units S010E-G (Unit 2 Ash Screws A-C) transfer CFB #2 Bottom Ash to Drag Chain Conveyor 201 (S010H). Drag Chain 101 and 201 transfer ash to Clinker Grinder 1 (S010K) and Clinker Grinder 3 (S010L) respectively. The Clinker Grinders crush the bottom ash and transfer it to the Bottom Ash Holding Bin (S010O). All emission units are enclosed.

Manufacturer:	Model number:	Serial number:
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Construction date: 1989	Installation date: 1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 S010A-N have a design capacity of 16.5 TPH/unit
 S010O has a design capacity of 76.5 tons

Maximum Hourly Throughput: S010A-N – 16.5 TPH/unit S010O – 76.5 tons	Maximum Annual Throughput: S010A-N – 144,540 TPY S010O – 670,140 TPY	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.028	0.12
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or **construction permit** with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Ash transfer, storage and loading facilities shall consist of the following and particulate emissions from the entire system shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Pneumatic System for Collected Flyash and Bottom Ash Handling, One 1300 Ton Ash Silo, Vacuum Blowers	Enclosure and Evacuation to Baghouse	0.028
Fully Sealed Mechanical System for Bottom Ash/Cooler Rejects, One 85 Ton Bottom Ash Silo	Baghouse	.028
Flyash Transport (Silo Vent)	Baghouse	.184
Wet Ash Loadout (Flyash and Bottom Ash)	Rotary dustless (wet) unloaders shall thoroughly wet ash prior to loading and handling. Ash loadout(s) shall be fully enclosed and evacuated to an ash silo baghouse during all ash loading.	

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(5)] (Title V condition 5.1.4)

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 10
(S011A– S011L)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S011A thru S011L	Emission unit name: Sources for Vent 10	List any control devices associated with this emission unit: Building Enclosure 3/ Vacuum Conveying System A, B, & C/ Filter Separator A, B, & C
---	---	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S011A-C discharge bottom ash from the holding bin to Vacuum Conveying Systems A-C. The Emission Units S011D-E transfer fly ash from CFB #1 and CFB #2 Air Heater Hoppers to Vacuum Conveying System A and C respectively. The Emission Units S011F-I transfer fly ash from CFB #1 and CFB #2 Baghouses to Vacuum Conveying Systems A, B, and C. The Emission Units S011J-L are the Filter/Separators A, B, and C for the respective Vacuum Conveying Systems A, B, and C. All emissions units are enclosed.

Manufacturer:	Model number:	Serial number:
Construction date: 1989	Installation date: 1989	Modification date(s):

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 S011A-L have a design capacity of 50 TPH/unit

Maximum Hourly Throughput: S011A thru S011L – 50 TPH/unit	Maximum Annual Throughput: S011A thru S011L – 438,000 TPY	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.028	0.12
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or **construction permit** with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Ash transfer, storage and loading facilities shall consist of the following and particulate emissions from the entire system shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Pneumatic System for Collected Flyash and Bottom Ash Handling, One 1300 Ton Ash Silo, Vacuum Blowers	Enclosure and Evacuation to Baghouse	0.028
Fully Sealed Mechanical System for Bottom Ash/Cooler Rejects, One 85 Ton Bottom Ash Silo	Baghouse	.028
Flyash Transport (Silo Vent)	Baghouse	.184
Wet Ash Loadout (Flyash and Bottom Ash)	Rotary dustless (wet) unloaders shall thoroughly wet ash prior to loading and handling. Ash loadout(s) shall be fully enclosed and evacuated to an ash silo baghouse during all ash loading.	

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(5)] (Title V condition 5.1.4)

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E
SOURCES FOR VENT 11
(S012A– S012E)

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: S012A thru S012E	Emission unit name: Sources for Vent 11	List any control devices associated with this emission unit: Enclosed System 9/ Baghouse 9/ Ash Conditioner 1 & 2
---	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Emission Units S012A-C transfer ash from Filter/Separators A, B, and C to the Ash Silo (S012D). The Emission Units S012E-F transfer ash from the Ash Silo, thru Ash Conditioners 1 or 2 (S012E or S012F) where it is mixed with approximately 15% water by weight), to trucks for disposal.

Manufacturer:	Model number:	Serial number:
----------------------	----------------------	-----------------------

Construction date: 1989	Installation date: 1989	Modification date(s):
-----------------------------------	-----------------------------------	------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 S012A-C have a design capacity of 50 TPH/unit
 S012D has a design capacity of 1300 tons
 S012E-F have a design capacity of 300 TPH/unit

Maximum Hourly Throughput: S012A-C 50 TPH/unit S012D - 1300 tons S012E-F - 300 TPH/unit	Maximum Annual Throughput: S012A-C - 438,000 TPY S012D - 2,628,000 TPY S012E-F - 2,628,000 TPY	Maximum Operating Schedule: 8760 hours
---	--	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.184	0.77
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Emission Calculations in Attachment I</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Ash transfer, storage and loading facilities shall consist of the following and particulate emissions from the entire system shall be controlled as specified with maximum particulate emissions not to exceed the following:

	Type/Identity of Particulate Matter Control Equipment	Particulate Emission Limitation for Control Equipment Discharge lb/hr
Pneumatic System for Collected Flyash and Bottom Ash Handling, One 1300 Ton Ash Silo, Vacuum Blowers	Enclosure and Evacuation to Baghouse	0.028
Fully Sealed Mechanical System for Bottom Ash/Cooler Rejects, One 85 Ton Bottom Ash Silo	Baghouse	.028
Flyash Transport (Silo Vent)	Baghouse	.184
Wet Ash Loadout (Flyash and Bottom Ash)	Rotary dustless (wet) unloaders shall thoroughly wet ash prior to loading and handling. Ash loadout(s) shall be fully enclosed and evacuated to an ash silo baghouse during all ash loading.	

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(5)] (Title V condition 5.1.4)

All trucks delivering coal or coal refuse and trucks removing ash from the plant shall be fully covered or enclosed.

[45CSR13/14 - Permit No. R13-1085B/R14-7B Specific Requirement (A)(9)] (Title V condition 5.1.6)

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

A record of each visible emissions observation shall be maintained on site, including any data required by 40 C.F.R. Part 60 Appendix A, Method 9. The record shall include, at a minimum, the date, time, name of the emission unit, the applicable visible emissions requirement, the results of the observation, and the name of the observer. Records shall state any maintenance or corrective actions taken as a result of the weekly inspections, and the times the fugitive dust control system(s) are inoperable and any corrective actions taken.

[45CSR§30-5.1.c.] (Title V condition 5.3.1)

Are you in compliance with all applicable requirements for this emission unit? Yes

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT G

AIR POLLUTION CONTROL DEVICE FORMS

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
D005—Baghouse #1

List all emission units associated with this control device.
S001A through S001F

Manufacturer:
W.W. SLY Inc.

Model number:
"PC-100" Pactecon

Installation date:
1989

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #1 is designed to capture particulate matter from coal receiving operations (EC #1 to Coal Silo). There are five modules in the baghouse, and each module contains six bags. The bags are made out of 16 ounce polyester material, and provide a total cloth area of 666 ft². The baghouse operates at ambient temperature and is designed for flow rate of 4000 CFM. Thus, the Air to Cloth ratio is 6:1. The baghouse cleaning cycle is based on differential pressure across the entire baghouse. When the differential pressure set point is reached, a single module isolates and pulse cleans. This sequence continues through the rest of the modules.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
D006—Baghouse #2

List all emission units associated with this control device.
S001A-C, S001F, and S002A-B

Manufacturer:
W.W. SLY Inc.

Model number:
"PC-100" Pactecon

Installation date:
Original in 1989/Replaced in 2001

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #2 is designed to capture particulate matter from gob (waste coal) receiving operations (EC #1 to Gob Silo). There are five modules in the baghouse, and each module contains six bags. The bags are made out of 16 ounce polyester material, and provide a total cloth area of 666 ft². The baghouse operates at ambient temperature and is designed for flow rate of 4000 CFM. Thus, the Air to Cloth ratio is 6:1. The baghouse cleaning cycle is based on differential pressure across the entire baghouse. When the differential pressure set point is reached, a single module isolates and pulse cleans. This sequence continues through the rest of the modules.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
D011—Baghouse #3

List all emission units associated with this control device.
S003A through S003K

Manufacturer:
AMEREX

Model number:
RP-12-504 D4

Installation date:
Original in 1989/Replaced in 2001

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #3 captures raw fuel fugitives from the silo's feed to weigh belts, through either the grinding mill or hammermill and also includes fugitives from the emergency feed system and en-mass elevating conveyor. There are 504 14 oz. polypropylene bags, each 4 5/8" x 145.75". The baghouse is designed to operate at 180 deg. F, with an air flow of 37000 CFM, and a cloth area of 7596 ft² giving a 5:1 air to cloth ratio. Maximum DP is 20" WC. The on-line pulse cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D013—Baghouse #4	List all emission units associated with this control device. S004A through S004G
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Manufacturer: AMEREX	Model number: RP-12-110 D4	Installation date: Original in 1989/Replaced in 2001
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Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #4 captures fugitives from the discharge of the grinding mill or the hammermill, the mill collecting conveyor and the bottom half of elevating conveyor #2. There are 110 14 oz. polypropylene bags, each 4 5/8" x 145.75". The baghouse is designed to operate at 180 deg. F, with an air flow of 8300 CFM, and a cloth area of 1658 ft² giving a 5:1 air to cloth ratio. Maximum DP is 20" WC. The on-line pulse cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
D015—Baghouse #5

List all emission units associated with this control device.
S005A through S005F

Manufacturer:
W.W. SLY Inc.

Model number:
"PC-100" Pactecon

Installation date:
1998

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #5 is designed to capture particulate matter from blended fuel operations (Top Half of EC #2 to Fuel Day Bins, and Emergency Bypass Conveyor). There are five modules in the baghouse, and each module contains six bags. The bags are made out of 16 ounce polyester material, and provide a total cloth area of 666 ft². The baghouse operates at ambient temperature and is designed for flow rate of 4000 CFM. Thus, the Air to Cloth ratio is 6:1. The baghouse cleaning cycle is based on differential pressure across the entire baghouse. When the differential pressure set point is reached, a single module isolates and pulse cleans. This sequence continues through the rest of the modules.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D017—Baghouse #6	List all emission units associated with this control device. S006A through S006D
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Manufacturer: Flex-Kleen Corporation	Model number: 120 WMWC 495 III	Installation date: 1998
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Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #6 is designed to capture particulate matter from limestone receiving operations (Truck to Unloading Hoppers). The baghouse contains a total of 495 bags. The bags are made out of 16 ounce polyester material, and each bag is 5.75" x 145.75". This provides an approximate total cloth area of 9035 ft². The baghouse operates at ambient temperature and is designed for flow rate of 30000 CFM. Thus, the Air to Cloth ratio is 3.32:1. The on-line cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during NOx Ozone Season, and monthly outside of NOx Ozone Season during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
D025—Baghouse #7

List all emission units associated with this control device.
S009A through S009H and S009K

Manufacturer:
Brandt Environmental Corporation

Model number:

Installation date:
1998

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Baghouse #7 (for CFB #2) removes fugitives (fly ash) from the gas created by burning fuel in CFB #2. The baghouse consists of 8 compartments each containing 256 Gortex Sureflex bags for a total of 2048 bags. Each bag is 6" x 16', which provides a total cloth area of 51,472 ft². The average 2006 flow through the baghouse was 87,660 SCFM which yields an air to cloth ratio of 1.7:1. The baghouse operates in a temperature range of 425 to 450 deg. F and has an upset temperature of 550 deg. F. A cleaning cycle begins when a DP reaches a set point. Cleaning then proceeds automatically by pulsing rows of bags in each compartment until the DP drops to a set point.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emissions are continuously monitored by a certified Continuous Opacity Monitoring System (COMS). There is a preventive maintenance plan procedure that is performed on the baghouse on a quarterly basis.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D026—Baghouse #8	List all emission units associated with this control device. S009A through S009J	
Manufacturer: Brandt Environmental Corporation	Model number:	Installation date: 1998
Type of Air Pollution Control Device: <input checked="" type="checkbox"/> Baghouse/Fabric Filter <input type="checkbox"/> Venturi Scrubber <input type="checkbox"/> Multiclone <input type="checkbox"/> Carbon Bed Adsorber <input type="checkbox"/> Packed Tower Scrubber <input type="checkbox"/> Single Cyclone <input type="checkbox"/> Carbon Drum(s) <input type="checkbox"/> Other Wet Scrubber <input type="checkbox"/> Cyclone Bank <input type="checkbox"/> Catalytic Incinerator <input type="checkbox"/> Condenser <input type="checkbox"/> Settling Chamber <input type="checkbox"/> Thermal Incinerator <input type="checkbox"/> Flare <input type="checkbox"/> Other (describe) _____ <input type="checkbox"/> Wet Plate Electrostatic Precipitator <input type="checkbox"/> Dry Plate Electrostatic Precipitator		
List the pollutants for which this device is intended to control and the capture and control efficiencies.		
Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %
Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.). Baghouse #8 (for CFB #1) removes fugitives (fly ash) from the gas created by burning fuel in CFB #1. The baghouse consists of 8 compartments each containing 256 Gortex Sureflex bags for a total of 2048 bags. Each bag is 6" x 16", which provides a total cloth area of 51,472 ft ² . The average 2006 flow through the baghouse was 87,660 SCFM which yields an air to cloth ratio of 1.7:1. The baghouse operates in a temperature range of 425 to 450 deg. F and has an upset temperature of 550 deg. F. A cleaning cycle begins when a DP reaches a set point. Cleaning then proceeds automatically by pulsing rows of bags in each compartment until the DP drops to a set point.		
Is this device subject to the CAM requirements of 40 C.F.R. 64? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Complete ATTACHMENT H If No, Provide justification.		
Describe the parameters monitored and/or methods used to indicate performance of this control device. Visible emissions are continuously monitored by a certified Continuous Opacity Monitoring System (COMS). There is a preventive maintenance plan procedure that is performed on the baghouse on a quarterly basis.		

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D037—Baghouse #9	List all emission units associated with this control device. S012A through S012F
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Manufacturer: United Conveyor Corporation	Model number: 1965-10-20 TRH	Installation date: 1998
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Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
 Baghouse #9 is designed to handle fugitives from ash truck loading and bottom and fly ash fugitives from the filter/separators. There are 196 16 oz. HCE polyester bags, each measuring 4 5/8" x 124". The baghouse is designed to operate at 210 deg. F with a max DP of -20" WC. It is designed to have a flow of 7755 CFM with a cloth area of 2309 ft² yielding an air to cloth ratio of 3.36:1. The on-line pulse cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during NOx Ozone Season, and monthly outside of NOx Ozone Season during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D020—Bin Vent Filter #1	List all emission units associated with this control device. S007D through S007E
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Manufacturer: Flex-Kleen Corporation	Model number: 100 WSBS 121 IIG	Installation date: 1998
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Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Bin Vent Filter #1 is designed to capture particulate matter from limestone conveying operations (Limestone Pneumatic Conveying System 1 to Limestone Silo). The bin vent filter bags are made out of 16 ounce polyester material, each 5.75" x 103", and the bin vent filter contains a total of 121 bags. This provides a total cloth area of 1537 ft². The bin vent filter operates at ambient temperature and is designed for flow rate of 6700 CFM. Thus, the Air to Cloth ratio is 4.36:1. The on-line cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during NOx Ozone Season, and monthly outside of NOx Ozone Season during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D022—Bin Vent Filter #2	List all emission units associated with this control device. S008B through S008I
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Manufacturer: Flex-Kleen Corporation	Model number: #30-PSTL-81 IIG	Installation date: 1998
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Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
 Bin Vent Filter #2 is designed to capture particulate matter from limestone conveying operations (Limestone Pneumatic Conveying System 1 to Limestone Bin to Gravimetric Feeders). The bin vent filter consists of pleated filter bags, and the bin vent filter contains a total of 81 bags. This provides a total cloth area of 2430 ft². The bin vent filter operates at ambient temperature and is designed for flow rate of 6200 CFM. Thus, the Air to Cloth ratio is 2.6:1. The bin vent filter operates under negative pressure, and the on-line pulse cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during NOx Ozone Season, and monthly outside of NOx Ozone Season during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D028—Bin Vent Filter #3	List all emission units associated with this control device. S010A through S010O
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Manufacturer: Mikropul Environmental Systems	Model number: Type BB, Model 8BV	Installation date: 1998
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Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator		<input type="checkbox"/> Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Bin Vent Filter #3 is designed to handle fugitives from the discharge of the two clinker grinders and two backup clinker grinders into the Bottom Ash Holding Bin 1. The bin vent filter contains nine 16 oz. HCE Nomex bags, each bag is 4 5/8" x approx 8'. This provides a cloth area of 85 ft². It is designed to operate at 400 deg. F and a pressure of 30" WC. The on-line cleaning cycle is initiated by a timing card when the ash removal system is in service.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Visible emission checks are performed weekly during NO_x Ozone Season, and monthly outside of NO_x Ozone Season during periods of normal facility operation.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: D031, D033, D035—Filter/Separator A, B, C	List all emission units associated with this control device. S011A thru S011L	
Manufacturer: United Conveyor Corporation	Model number: 126-B-82	Installation date: 1998

Type of Air Pollution Control Device:

<input checked="" type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	100 %	> 99 %

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Ash Filter/Separators capture the bottom ash and fly ash from the vacuum conveying systems and discharge the resultant ash mixture into Ash Silo 1. The filter /separators consist of three units each containing 126 14 oz. NOMEX bags, each 5 3/4" x 83 1/2". Each filter/separator is designed to operate at 425 deg F with a DP of 20" WC. Each filter /separator has a cloth area of 1249 ft². The on-line pulse cleaning cycle is initiated by differential pressure.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Filter Separator A, B, C vent to Baghouse 9. Baghouse 9 has visible emission checks that are performed weekly during NOx Ozone Season, and monthly outside of NOx Ozone Season during periods of normal facility operation.

ATTACHMENT H

COMPLIANCE ASSURANCE MONITORING (CAM) FORMS

ATTACHMENT H – CAM PLAN
CFB #1 BOILER
(S009J)

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at <http://www.epa.gov/ttn/emc/cam.html>

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): YES NO

- a. The PSEU is located at a major source that is required to obtain a Title V permit;
- b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is **NOT** exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
 - Stratospheric Ozone Protection Requirements.
 - Acid Rain Program Requirements.
 - Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
 - An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).
- c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;
 - d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND
 - e. The PSEU is **NOT** an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has **NOT** yet been approved need to be addressed in this CAM plan submittal.

INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, **Only** address the appropriate monitoring requirements affected by the significant modification.

3) ^a BACKGROUND DATA AND INFORMATION

Complete the following table for all PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU in order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.

PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	^b EMISSION LIMITATION or STANDARD	^c MONITORING REQUIREMENT
S009J	Ahlstrom Pyroflow CFB Boiler/Cyclone #1	PM	Baghouse	45CSR13/14-Permit no. R13-1085B/R-147B Specific requirement (A)(1); 45CSR§2-3.1; 0.03 lbm/mmBtu	Stack testing per the schedule set forth in Title V permit condition 4.3.12
S009K	Ahlstrom Pyroflow CFB Boiler/Cyclone #2	PM	Baghouse	45CSR13/14-Permit no. R13-1085B/R-147B Specific requirement (A)(1); 45CSR§2-3.1; 0.03 lbm/mmBtu	Stack testing per the schedule set forth in Title V permit condition 4.3.12
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone. Weekly inspection of multiclone

^a If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

^b Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

^c Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA

Complete this section for EACH PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. If more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.

4a) PSEU Designation: S009J	4b) Pollutant: PM	4c) ^a Indicator No. 1: Opacity	4d) ^a Indicator No. 2:
5a) GENERAL CRITERIA Describe the <u>MONITORING APPROACH</u> used to measure the indicators:		Opacity is measured and recorded by a certified Opacity monitoring system. There is a single stack and a single opacity monitor that service both units at Morgantown.	
^b Establish the appropriate <u>INDICATOR RANGE</u> or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		Opacity is continuously monitored. These continuous values are reduced to six-minute block averages. An excursion of opacity is defined as any six-minute period during any one-hour period that exceeds 10% opacity.	
5b) PERFORMANCE CRITERIA Provide the <u>SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA</u> , such as detector location, installation specifications, and minimum acceptable accuracy:		These units are subject to the federal New Source Performance Standard (NSPS) for electric utility steam generating units. As such, opacity monitoring is required and the location of the monitors is specified in 40 CFR 60, Appendix B, Performance Specification 1 (PS-1). The COMS was installed in accordance with PS-1.	
^c For new or modified monitoring equipment, provide <u>VERIFICATION PROCEDURES</u> , including manufacturer's recommendations, <u>TO CONFIRM THE OPERATIONAL STATUS</u> of the monitoring:		This provision of the CAM program applies to facilities that are proposing monitoring methods that are not otherwise required. Since the operation of the COMS is otherwise required, this provision is not applicable.	
Provide <u>QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES</u> that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The CAM program requires "quality assurance and control practices that are adequate to ensure the continuing validity of the data." This COMS was installed and evaluated in accordance with PS-1. Zero and span drift are checked daily and filter audits are performed in accordance with PS-1.	
^d Provide the <u>MONITORING FREQUENCY</u> :		The monitoring frequency is continuous.	

Provide the <u>DATA COLLECTION PROCEDURES</u> that will be used:	The data are collected by a computerized data acquisition and handling system (DAHS). This system collects and retains all relevant opacity data.	
Provide the <u>DATA AVERAGING PERIOD</u> for the purpose of determining whether an excursion or exceedance has occurred:	The averaging period is on a six-minute block basis.	

- ^a Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.
- ^b Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.
- ^c The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.
- ^d Emission units with post-control PTE \geq 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for EACH PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:
S009J

6b) Regulated Air Pollutant:
PM

7) **INDICATORS AND THE MONITORING APPROACH:** Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Because the units at Morgantown use baghouses to comply with PM limits (opacity limits), failures of the baghouses to control PM emissions will be immediately obvious in terms of opacity. The existing permits for Morgantown contain requirements for opacity that are significantly more stringent than the applicable New Source Performance Standard (NSPS) for this facility category. Therefore Morgantown Energy Associates proposes that the permitted opacity limit of 10% with no more than one six-minute block average an appropriate indicator that the units are operating in compliance with their associated PM limits. Continuous opacity monitoring and appropriate responses to deviations recorded by the COMS will provide a reasonable assurance of ongoing compliance with the PM limits for this facility and meet the intent of the CAM program.

There are special criteria in the CAM program for the use of continuous monitoring systems, including COMs.

First if the use of a COMS is required pursuant to other authority under the Act, then the use of a COMS is required to satisfy CAM. In this case, the use of a COMS is required by the applicable NSPS, as discussed above and is therefore required as an element of the CAM program.

Second, the use of COMs that are installed in accordance with NSPS requirements is automatically "deemed to satisfy the general design criteria" of the CAM program. (§64.3(d)(2)(ii)) This provision of the regulations also notes that a COMS may be subject to additional requirements to ensure that the selected indicator ranges are relevant. This additional testing is not believed to be necessary for this facility. Because the 10% opacity limit for this facility is so stringent, it would serve no useful purpose to demonstrate that compliance with the PM limits can still be achieved at some level other than 10% opacity. In fact, with baghouses such as these it would be very difficult to purposely raise the opacity to conduct such testing. Therefore, we believe that the 10% opacity limit reflects the correct and appropriate indicator range without additional testing.

Third, the monitoring system must allow for the reporting of excursions consistent with any period for reporting of exceedances in an underlying requirement. (§64.3(d)(3)(i)) Historically, there has been no "periodic" reporting of exceedances of PM emissions: these were based solely on stack tests, and failures were (and continue to be) immediately reportable in accordance with regulatory requirements. However, there are procedures for reporting excess opacity, and these procedures should remain acceptable for CAM purposes.

8) **INDICATOR RANGES:** Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how EACH indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.
- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.
- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The CAM plan is required to provide reasonable assurance that the PM emissions are meeting the specified emission limit.

Stack testing in the past has demonstrated an ample margin of compliance with PM emission limits. In 2002 and 2005 both units were tested for PM. The results were as follows:

2002 stack test: Particulate Matter Sampling Results: 0.0083 lb/mmBtu
2005 stack test: Particulate Matter Sampling Results: 0.003 lb/mmBtu
(Stack testing for 2008 will take place in March)

The PM results for both units were less than and did not exceed the most restrictive emission limit of 0.03 lbm/mmBtu when either or both of the boilers are in operation. CAM is designed to provide data that "provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations" at an emissions unit. Because the tested emissions from this facility are within the respective emission limits, Morgantown Energy Associates proposes that opacity measured by the continuous opacity monitoring system (COMS) will be adequate to meet the requirements of CAM for PM.

The most important criteria from §64.3(a) are contained in paragraph (2). This paragraph requires that operation of the facility within the selected ranges of the indicators provides a "reasonable assurance of ongoing compliance with emission limitations... for the anticipated range of operating conditions." The proposed range of indicators is the opacity limit for this facility; i.e., continuous operation between 0% and 10% opacity per hour, with no six-minute period over 10% opacity. These units are controlled by baghouses, and malfunctions that lead to excess particulate emissions should be immediately obvious from an opacity standpoint. Therefore, operation of the facility in compliance with its opacity standard will represent a reasonable assurance of ongoing compliance with emission limitations for the anticipated range of operating conditions. Stack testing events were conducted at or near the unit's maximum capacities and represent the worst cases for PM emissions from each unit. The CAM rule does not require that testing be conducted over the entire range of operating conditions, but emissions units should be tested at conditions that are representative of maximum emissions. (§64.4(c)(1)) Since past tests were conducted at the operating rates that represent maximum emissions (i.e., at least 90% of maximum capacity), this provision of the regulations is met.

This range is appropriate as a reasonable assurance of compliance with the PM mass emissions limits because past testing demonstrated a margin of compliance with the limits and the opacity is averaged on a much shorter period (six minutes vs. average of three one-hour test runs). In other words, even if there is a spike in opacity, it is not necessarily indicative of an exceedance of the particulate limits. Morgantown Energy Associates proposes that the continuous opacity monitoring and appropriate responses to excursions provide a reasonable assurance of compliance with the PM limits.

There have been no changes that have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance tests were conducted. These baghouses are maintained on a continuous basis. The baghouses go through a continuous cleaning cycle, and bags are changed as needed. There is a preventive maintenance plan procedure that is performed on the baghouse on a quarterly basis.

**ATTACHMENT H – CAM PLAN
CFB #2 BOILER
(S009K)**

CAM MONITORING APPROACH CRITERIA

Complete this section for EACH PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. If more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.

4a) PSEU Designation: S009K	4b) Pollutant: PM	4c) ^a Indicator No. 1: Opacity	4d) ^a Indicator No. 2:
5a) GENERAL CRITERIA Describe the <u>MONITORING APPROACH</u> used to measure the indicators:		Opacity is measured and recorded by a certified Opacity monitoring system. There is a single stack and a single opacity monitor that service both units at Morgantown.	
^b Establish the appropriate <u>INDICATOR RANGE</u> or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		Opacity is continuously monitored. These continuous values are reduced to six-minute block averages. An excursion of opacity is defined as any six-minute period during any one-hour period that exceeds 10% opacity.	
5b) PERFORMANCE CRITERIA Provide the <u>SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA</u> , such as detector location, installation specifications, and minimum acceptable accuracy:		These units are subject to the federal New Source Performance Standard (NSPS) for electric utility steam generating units. As such, opacity monitoring is required and the location of the monitors is specified in 40 CFR 60, Appendix B, Performance Specification 1 (PS-1). The COMS was installed in accordance with PS-1.	
^c For new or modified monitoring equipment, provide <u>VERIFICATION PROCEDURES</u> , including manufacturer's recommendations, <u>TO CONFIRM THE OPERATIONAL STATUS</u> of the monitoring:		This provision of the CAM program applies to facilities that are proposing monitoring methods that are not otherwise required. Since the operation of the COMS is otherwise required, this provision is not applicable.	
Provide <u>QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES</u> that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		The CAM program requires "quality assurance and control practices that are adequate to ensure the continuing validity of the data." This COMS was installed and evaluated in accordance with PS-1. Zero and span drift are checked daily and filter audits are performed in accordance with PS-1.	
^d Provide the <u>MONITORING FREQUENCY</u> :		The monitoring frequency is continuous.	

Provide the <u>DATA COLLECTION PROCEDURES</u> that will be used:	The data are collected by a computerized data acquisition and handling system (DAHS). This system collects and retains all relevant opacity data.	
Provide the <u>DATA AVERAGING PERIOD</u> for the purpose of determining whether an excursion or exceedance has occurred:	The averaging period is on a six-minute block basis.	

- ^a Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.
- ^b Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.
- ^c The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.
- ^d Emission units with post-control PTE \geq 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of **EACH** indicator and monitoring approach and **EACH** indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:
S009J

6b) Regulated Air Pollutant:
PM

7) INDICATORS AND THE MONITORING APPROACH: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

Because the units at Morgantown use baghouses to comply with PM limits (opacity limits), failures of the baghouses to control PM emissions will be immediately obvious in terms of opacity. The existing permits for Morgantown contain requirements for opacity that are significantly more stringent than the applicable New Source Performance Standard (NSPS) for this facility category. Therefore Morgantown Energy Associates proposes that the permitted opacity limit of 10% with no more than one six-minute block average an appropriate indicator that the units are operating in compliance with their associated PM limits. Continuous opacity monitoring and appropriate responses to deviations recorded by the COMS will provide a reasonable assurance of ongoing compliance with the PM limits for this facility and meet the intent of the CAM program.

There are special criteria in the CAM program for the use of continuous monitoring systems, including COMs.

First if the use of a COMS is required pursuant to other authority under the Act, then the use of a COMS is required to satisfy CAM. In this case, the use of a COMS is required by the applicable NSPS, as discussed above and is therefore required as an element of the CAM program.

Second, the use of COMs that are installed in accordance with NSPS requirements is automatically "deemed to satisfy the general design criteria" of the CAM program. (§64.3(d)(2)(ii)) This provision of the regulations also notes that a COMS may be subject to additional requirements to ensure that the selected indicator ranges are relevant. This additional testing is not believed to be necessary for this facility. Because the 10% opacity limit for this facility is so stringent, it would serve no useful purpose to demonstrate that compliance with the PM limits can still be achieved at some level other than 10% opacity. In fact, with baghouses such as these it would be very difficult to purposely raise the opacity to conduct such testing. Therefore, we believe that the 10% opacity limit reflects the correct and appropriate indicator range without additional testing.

Third, the monitoring system must allow for the reporting of excursions consistent with any period for reporting of exceedances in an underlying requirement. (§64.3(d)(3)(i)) Historically, there has been no "periodic" reporting of exceedances of PM emissions: these were based solely on stack tests, and failures were (and continue to be) immediately reportable in accordance with regulatory requirements. However, there are procedures for reporting excess opacity, and these procedures should remain acceptable for CAM purposes.

8) INDICATOR RANGES: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a **COMPLIANCE OR PERFORMANCE TEST**, a **TEST PLAN AND SCHEDULE**, or by **ENGINEERING ASSESSMENTS**. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- **COMPLIANCE OR PERFORMANCE TEST** (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall **INCLUDE** a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.
- **TEST PLAN AND SCHEDULE** (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall **INCLUDE** the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.
- **ENGINEERING ASSESSMENTS** (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall **INCLUDE** documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The CAM plan is required to provide reasonable assurance that the PM emissions are meeting the specified emission limit.

Stack testing in the past has demonstrated an ample margin of compliance with PM emission limits. In 2002 and 2005 both units were tested for PM. The results were as follows:

2002 stack test: Particulate Matter Sampling Results: 0.0083 lb/mmBtu

2005 stack test: Particulate Matter Sampling Results: 0.003 lb/mmBtu

(Stack testing for 2008 will take place in March)

The PM results for both units were less than and did not exceed the most restrictive emission limit of 0.03 lbm/mmBtu when either or both of the boilers are in operation. CAM is designed to provide data that "provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations" at an emissions unit. Because the tested emissions from this facility are within the respective emission limits, Morgantown Energy Associates proposes that opacity measured by the continuous opacity monitoring system (COMS) will be adequate to meet the requirements of CAM for PM.

The most important criteria from §64.3(a) are contained in paragraph (2). This paragraph requires that operation of the facility within the selected ranges of the indicators provides a "reasonable assurance of ongoing compliance with emission limitations... for the anticipated range of operating conditions." The proposed range of indicators is the opacity limit for this facility; i.e., continuous operation between 0% and 10% opacity per hour, with no six-minute period over 10% opacity. These units are controlled by baghouses, and malfunctions that lead to excess particulate emissions should be immediately obvious from an opacity standpoint. Therefore, operation of the facility in compliance with its opacity standard will represent a reasonable assurance of ongoing compliance with emission limitations for the anticipated range of operating conditions. Stack testing events were conducted at or near the unit's maximum capacities and represent the worst cases for PM emissions from each unit. The CAM rule does not require that testing be conducted over the entire range of operating conditions, but emissions units should be tested at conditions that are representative of maximum emissions. (§64.4(c)(1)) Since past tests were conducted at the operating rates that represent maximum emissions (i.e., at least 90% of maximum capacity), this provision of the regulations is met.

This range is appropriate as a reasonable assurance of compliance with the PM mass emissions limits because past testing demonstrated a margin of compliance with the limits and the opacity is averaged on a much shorter period (six minutes vs. average of three one-hour test runs). In other words, even if there is a spike in opacity, it is not necessarily indicative of an exceedance of the particulate limits. Morgantown Energy Associates proposes that the continuous opacity monitoring and appropriate responses to excursions provide a reasonable assurance of compliance with the PM limits.

There have been no changes that have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance tests were conducted. These baghouses are maintained on a continuous basis. The baghouses go through a continuous cleaning cycle, and bags are changed as needed. There is a preventive maintenance plan procedure that is performed on the baghouse on a quarterly basis.

ATTACHMENT I

EMISSION CALCULATIONS

Morgantown Energy Associates
Emissions Calculations for Vents 1 and 2

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P001/P002	Vents 1 & 2	D004/ D005/ D006	Enclosed System 1 / Baghouses 1 & 2	S001A	Elevating Conveyor 1	46.7	8322	8760	6	0	0.998	0		0.00000		0		0
P001/P002	Vents 1 & 2	D004/ D005/ D006	Enclosed System 1 / Baghouses 1 & 2	S001B	TP001B--Elevating Conbeyor 1 to Reversible Feed Conveyor 1	46.7	8322	8760	6	0.000673	0.998	0.0002616		0.03143		50		0.0001
P001/P002	Vents 1 & 2	D004/ D005/ D006	Enclosed System 1 / Baghouses 1 & 2	S001C	Reversible Feed Conveyor 1	46.7	8322	8760	6	0	0.998	0		0.00000		0		0
P001	Vent 1	D004/ D005	Enclosed System 1 / Baghouse 1	S001D	TP001D--Reversible Feed Conveyor 1 to Coal Silo 1	16.3	8322	8760	6	0.000673	0.998	0.00009		0.01097		17.5		0.000035
P001	Vent1	D004/ D005	Enclosed System 1 / Baghouse 1	S001E	Coal Silo 1	16.3	8322	8760	6	0	0.998	0		0.00000		0		0
P002	Vent 2	D004/ D006	Enclosed System 1 / Baghouse 2	S002A	TP002A--Reversible Feed Conveyor 1 to Gob Storage Silo 1	30.4	8322	8760	6	0.000673	0.998	0.0001703		0.02046		32.5		0.000065
P002	Vent 2	D004/ D006	Enclosed System 1 / Baghouse 2	S002B	Gob Storage Silo 1	30.4	8322	8760	6	0	0.998	0		0.00000		0		0
Group Total													0.00052		0.06286		0.0002	

Typical Annual Emissions PM, tpy	0.0008
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Morgantown Energy Associates
Emission Calculations for Vent 3

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003A	TP003A--Coal Silo 1 to Weigh Belt Conveyor 1	16.3	8322	8760	6	0.000673	0.997	0.0001369		0.01097		0.7		0.000693
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003B	TP003B--Gob Storage Silo 1 to Weigh Belt Conveyor 2	30.4	8322	8760	6	0.000673	0.997	0.0002554		0.02046		1.3		0.001287
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003C	Weigh Belt Conveyor 1	16.3	8322	8760	6	0	0.997	0		0.00000		0		0
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003D	Weigh Belt Conveyor 2	30.4	8322	8760	6	0	0.997	0		0.00000		0		0
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003E	TP003E--Weigh Belt Conveyors 1 & 2 to Grinding Mill	46.7	6241.5	8760	6	0.000673	0.997	0.0002942		0.03143		1.50		0.001485
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003F	TP003F--Weigh Belt Conveyors 1 & 2 to Hammer Mill	46.7	2080.5	8760	6	0.000673	0.997	0.00010		0.03143		0.50		0.000495
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003G	TP003G--Emergency Mill Feed System Hopper 1 to En-mass Elevating Conveyor 1	46.7	0	8760	6	0.000673	0.997	0		0.00000		0		0
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003H	En-mass Elevating Conveyor 1	46.7	0	8760	6	0	0.997	0		0.00000		0		0
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003I	TP003I--En-mass Elevating Conveyor 1 to Mill Inlet Chute System	46.7	0	8760	6	0.000673	0.997	0		0.00000		0		0
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003J	Grinding Mill 1	46.7	6241.5	8760	6	0.0315	0.997	0		1.47105		71.93		0.07120575
P003	Vent 3	D010/D011	Enclosed System 2 / Baghouse 3	S003K	Hammer Mill 1	46.7	2080.5	8760	6	0.0315	0.997	0		1.47105		23.98		0.02373525
Group Total													0.00078	3.03639	0.099			

Typical Annual Emissions PM, tpy

0.41

Morgantown Energy Associates
Emission Calculations for Vent 4

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004A	TP004A--Grinding Mill 1 to Mill Collecting Conveyor 1	46.7	6241.5	8760	6	0.000673	0.998	0.00020		0.03143		37.5		0.000075
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004B	TP004B--Hammer Mill 1 to Mill Collecting Conveyor 1	46.7	2080.5	8760	6	0.000673	0.998	0.00007		0.03143		12.5		0.000025
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004C	TP004C--Baghouse 4 Dust Discharge to Mill Collecting Conveyor 1	0.0000499	8322	8760	6	0.000673	0.998	0.00000		0.00000		0		0
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004D	Mill Collecting Conveyor 1	46.7	8322	8760	6	0	0.998	0.00000		0.00000		0		0
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004E	TP004E--Mill Collecting Conveyor 1 to Elevating Conveyor 2	46.7	8322	8760	6	0.000673	0.998	0.00026		0.03143		50		0.0001
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004F	TP004F--Baghouse 3 Dust Discharge to Elevating Conveyor 2	0.016451	8322	8760	6	0.000673	0.998	0.00000		0.00001		0		0
P004	Vent 4	D012/D013	Enclosed System 3 / Baghouse 4	S004G	Elevating Conveyor 2 (Bottom Half)	46.7	8322	8760	6	0	0.998	0.00000		0.00000		0		0
Group Total													0.00052		0.09429841		0.0002	

Typical Annual Emissions PM, tpy	0.00083
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Morgantown Energy Associates
Emission Calculations for Vent 5

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P005	Vent 5	D014/D015	Enclosed System 4 / Baghouse 5	S005A	Elevating Conveyor 2 (Top Half)	76.7	8322	8760	6	0	0.998	0		0		0		0
P005	Vent 5	D014/D015	Enclosed System 4 / Baghouse 5	S005B	TP005B--Elevating Conveyor 2 to Fuel Bin 1	23.35	8322	8760	6	0.000673	0.998	0.0001308		0.01571		50		0.0001
P005	Vent 5	D014/D015	Enclosed System 4 / Baghouse 5	S005C	TP005C--Elevating Conveyor 2 to Fuel Bin 2	23.35	8322	8760	6	0.000673	0.998	0.0001308		0.01571		50		0.0001
P005	Vent 5	D014/D015	Enclosed System 4 / Baghouse 5	S005D	Fuel Bin 1	23.35	8322	8760	6	0	0.998	0		0		0		0
P005	Vent 5	D014/D015	Enclosed System 4 / Baghouse 5	S005E	Fuel Bin 2	23.35	8322	8760	6	0	0.998	0		0		0		0
Group Total													0.00026		0.03143		0.0002	

Typical Annual Emissions PM, tpy	0.0008
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Morgantown Energy Associates
Emission Calculations for Vent 6

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Group Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P006	Vent 6	D016/D017	Building Enclosure 2 / Baghouse 6	S006A	TP006A--Transfer from Truck to Limestone Unloading Hopper 1	6.8	8322	8760	1	0.008266	0.998	0.0004678		0.05621		50		0.0135
P006	Vent 6	D016/D017	Building Enclosure 2 / Baghouse 6	S006B	TP006B--Transfer from Truck to Limestone Unloading Hopper 2	6.8	8322	8760	1	0.008266	0.998	0.0004678		0.05621		50		0.0135
P006	Vent 6	D016/D017	Building Enclosure 2 / Baghouse 6	S006C	Limestone Unloading Hopper 1	6.8	8322	8760	1	0	0.998	0		0		0		0
P006	Vent 6	D016/D017	Building Enclosure 2 / Baghouse 6	S006D	Limestone Unloading Hopper 2	6.8	8322	8760	1	0	0.998	0		0		0		0
Group Total													0.00094		0.11242		0.027	

Typical Annual Emissions PM, tpy	0.11
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Morgantown Energy Associates
Emission Calculations for Vents 7 and 8

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Group Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P007 / P008	Vents 7 & 8	D018	Pneumatic Conveying System 1	S007A	TP007A--Transfer from Limestone Unloading Hopper 1 to Pneumatic Conveying System 1	6.8	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P007 / P008	Vents 7 & 8	D018	Pneumatic Conveying System 1	S007B	TP007B--Transfer from Limestone Unloading Hopper 2 to Pneumatic Conveying System 1	6.8	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P007 / P008	Vents 7 & 8	D018	Pneumatic Conveying System 1	S007C	TP007C--Pneumatic Transfer from Truck to Pneumatic Conveying System 1	0.007	0	8760	1	0	0.999	0.00000		0.00000		0		0
P007	Vent 7	D019/ D020	Enclosed System 5 / Bin Vent Filter 1	S007D	TP007D--Transfer from Pneumatic Conveying System 1 to Limestone Silo 1	13.60	8322.00	8760	1	0.008266	0.999	0.00047		0.11242		100		0.014
P007	Vent 7	D019/ D020	Enclosed System 5 / Bin Vent Filter 1	S007E	Limestone Silo 1	13.6	8322	8760	1	0	0.999	0.00000		0.00000		0	0.014	0
P008	Vent 8	D018	Pneumatic Conveying System 1	S008A	TP008A--Transfer from Limestone Silo 1 to Pneumatic Conveying System 1	13.6	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008B	TP008B--Transfer from Pneumatic Conveying System 1 to Limestone Bin 1	13.6	8322	8760	1	0.008266	0.999	0.00047		0.11242		50		0.0025
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008C	Limestone Bin 1	13.6	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008D	TP008D--Limestone Bin 1 Gravimetric Feeder/Conveyor A	6.8	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008E	Gravimetric Feeder/Conveyor A	6.8	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008F	TP008F--Gravimetric Feeder/Conveyor A to Rotary Valve A	6.8	8322	8760	1	0.008266	0.999	0.00023		0.05621		25		0.00125
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008G	TP008G--Limestone Bin 1 Gravimetric Feeder/Conveyor B	6.8	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008H	Gravimetric Feeder/Conveyor B	6.8	8322	8760	1	0	0.999	0.00000		0.00000		0		0
P008	Vent 8	D021/ D022	Enclosed System 6 / Bin Vent Filter 2	S008I	TP008I--Gravimetric Feeder/Conveyor B to Rotary Valve B	6.8	8322	8760	1	0.008266	0.999	0.00023		0.05621		25	0.005	0.00125
Group Total													0.00140		0.33725		0.019	

Typical Annual Emissions PM, tpy	0.08
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Morgantown Energy Associates
Emission Calculations for Vent 9

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010A	TP010A--CFB Boiler 1 Bottom Ash Screw A to Drag Chain Conveyor 101	2.7	8322	8760	0.1	0.2076	0.998	0.00466485		0.56052		5.2		0.00147
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010B	TP010C--CFB Boiler 1 Bottom Ash Screw B to Drag Chain Conveyor 101	2.7	8322	8760	0.1	0.2076	0.998	0.00466465		0.56052		5.2		0.00147
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010C	TP010E--CFB Boiler 1 Bottom Ash Screw C to Drag Chain Conveyor 101	2.7	8322	8760	0.1	0.2076	0.998	0.00466465		0.56052		5.2		0.00147
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010D	Drag Chain Conveyor 101	8.2	8322	8760	0.1	0	0.998	0		0		0.0		0
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010E	TP010I--CFB Boiler 2 Bottom Ash Screw A to Drag Chain Conveyor 201	2.7	8322	8760	0.1	0.2076	0.998	0.00466465		0.56052		5.2		0.00147
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010F	TP010K--CFB Boiler 2 Bottom Ash Screw B to Drag Chain Conveyor 201	2.7	8322	8760	0.1	0.2076	0.998	0.00466465		0.56052		5.2		0.00147
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010G	TP010M--CFB Boiler 2 Bottom Ash Screw C to Drag Chain Conveyor 201	2.7	8322	8760	0.1	0.2076	0.998	0.00466465		0.56052		5.2		0.00147
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010H	Drag Chain Conveyor 201	8.2	8322	8760	0.1	0	0.998	0		0		0.0		0
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010I	TP010Q--Drag Chain Conveyor 101 to Clinker Grinder 1	8.2	8322	8760	0.1	0.2076	0.998	0.01416671		1.70232		15.9		0.00446
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010J	TP010S--Drag Chain Conveyor 201 to Clinker Grinder 3	8.2	8322	8760	0.1	0.2076	0.998	0.01416671		1.70232		15.9		0.00446
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010K	Cylinder Grinder 1	8.2	8322	8760	0.1	0.0315	0.998	0.00214957		0.2583		2.4		0.00068
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010L	Cylinder Grinder 3	8.2	8322	8760	0.1	0.0315	0.998	0.00214957		0.2583		2.4		0.00068
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010M	TP010Y--Clinker Grinder 1 to Bottom Ash Holding Bin 1	8.2	8322	8760	0.1	0.2076	0.998	0.01416671		1.70232		15.9		0.00446
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010N	TP010AA--Clinker Grinder 3 to Bottom Ash Holding Bin 1	8.2	8322	8760	0.1	0.2076	0.998	0.01416671		1.70232		15.9		0.00446
P010	Vent 9	D027/D028	Enclosed System 8 / Bin Vent Filter 3	S010O	Bottom Ash Holding Bin	16.5	8322	8760	0.1	0	0.998	0		0		0.0		0
Group Total													0.091		10.69		0.028	

Typical Annual Emissions PM, tpy	0.12
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Morgantown Energy Associates
Emission Calculations for Vent 10

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P011	Vent 10	D029/ D030/ D031	Building Enclosure 3 / Vacuum Conveying System A / Filter Sperator A	S011A	TP011A--Bottom Ash Holding Bin Discharge A to Vacuum Conveying System A	11	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D032/ D033	Building Enclosure 3 / Vacuum Conveying System B / Filter Sperator B	S011B	TP011B--Bottom Ash Holding Bin Discharge B to Vacuum Conveying System B	11	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D034/ D035	Building Enclosure 3 / Vacuum Conveying System C / Filter Sperator C	S011C	TP011C--Bottom Ash Holding Bin Discharge C to Vacuum Conveying System C	11	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D030/ D031	Building Enclosure 3 / Vacuum Conveying System A / Filter Sperator A	S011D	TP011D--CFB #1 Air Heater Hopper to Vacuum Conveying System A	5.5	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D034/ D035	Building Enclosure 3 / Vacuum Conveying System C / Filter Sperator C	S011E	TP011E--CFB #2 Air Heater Hopper to Vacuum Conveying System C	5.5	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D030/ D031	Building Enclosure 3 / Vacuum Conveying System A / Filter Sperator A	S011F	TP011F--CFB #1 Baghouse Row 1 Discharge to Vacuum Conveying System A	5.5	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D032/ D033	Building Enclosure 3 / Vacuum Conveying System B / Filter Sperator B	S011G	TP011G--CFB #1 Baghouse Row 2 Discharge to Vacuum Conveying System B	5.5	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D032/ D033	Building Enclosure 3 / Vacuum Conveying System B / Filter Sperator B	S011H	TP011H--CFB #2 Baghouse Row 1 Discharge to Vacuum Conveying System B	5.5	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D034/ D035	Building Enclosure 3 / Vacuum Conveying System C / Filter Sperator C	S011I	TP011I--CFB #2 Baghouse Row 2 Discharge to Vacuum Conveying System C	5.5	8322	8760	0.1	0	0.999	0		0		0		0
P011	Vent 10	D029/ D030/ D031	Building Enclosure 3 / Vacuum Conveying System A / Filter Sperator A	S011J	Filter/Separator A Exhaust	11	8322	8760	0.1		0.999	0		0		33.3		0.00932
P011	Vent 10	D029/ D032/ D033	Building Enclosure 3 / Vacuum Conveying System B / Filter Sperator B	S011K	Filter/Separator B Exhaust	11	8322	8760	0.1		0.999	0		0		33.3		0.00932
P011	Vent 10	D029/ D034/ D035	Building Enclosure 3 / Vacuum Conveying System C / Filter Sperator C	S011L	Filter/Separator C Exhaust	11	8322	8760	0.1		0.999	0		0		33.3		0.00932
Group Total													0		0		0.028	

Typical Annual Emissions PM, tpy	0.12
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Morgantown Energy Associates
Emission Calculations for Vent 11

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P012	Vent 11	D036/D037	Enclosed System 9 / Baghouse 9	S012A	TP012A--Filter/Seperator A to Ash Silo 1	11	8322	8760	0.1	0.2076	0.998	0.01900		2.28360		33.3		0.06127
P012	Vent 11	D036/D037	Enclosed System 9 / Baghouse 9	S012B	TP012B--Filter/Seperator B to Ash Silo 1	11	8322	8760	0.1	0.2076	0.998	0.01900		2.28360		33.3		0.06127
P012	Vent 11	D036/D037	Enclosed System 9 / Baghouse 9	S012C	TP012C--Filter/Seperator C to Ash Silo 1	11	8322	8760	0.1	0.2076	0.998	0.01900		2.28360		33.3		0.06127
P012	Vent 11	D036/D037	Enclosed System 9 / Baghouse 9	S012D	Ash Silo 1	33	8322	8760	0.1	0	0.998	0		0		0.0		0
P012	Vent 11	D037/D038/D039	Baghouse 9 / Building Enclosure 4 / Ash Conditioner 1	S012E	TP012E--Ash Silo to Truck	19	8322	8760	15	0.000187	0.998	0.00003		0.00355		0.1		0.00010
P012	Vent 11	D037/D038/D040	Baghouse 9 / Building Enclosure 4 / Ash Conditioner 2	S012F	TP012F--Ash Silo to Truck	19	8322	8760	15	0.000187	0.998	0.00003		0.00355		0.1		0.00010
Group Total													0.06		6.86		0.184	

Typical Annual Emissions PM, tpy	0.77
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Morgantown Energy Associates
Emission Calculations for Stack 1
Limestone and Fuel Feed to CFBs

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Group Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P009	Stack 1	D023/ D025/ D026	Pneumatic Conveying System 2 / Baghouse 7 / Baghouse 8	S009A	TP009A--Limestone Feeder Rotary Valve A to Pneumatic Conveying System 2	6.8	8322	8760	1	0		0.00		0.00000				
P009	Stack 1	D023/ D025/ D026	Pneumatic Conveying System 2 / Baghouse 7 / Baghouse 8	S009B	TP009B--Limestone Feeder Rotary Valve B to Pneumatic Conveying System 2	6.8	8322	8760	1	0		0.00		0.00000				
P009	Stack 1	D023/ D025/ D026	Pneumatic Conveying System 2 / Baghouse 7 / Baghouse 8	S009C	TP009C--Pneumatic Conveying System 2 to CFB Boiler 1	6.8	8322	8760	1	0.008266		0.23		0.05621				
P009	Stack 1	D023/ D025/ D026	Pneumatic Conveying System 2 / Baghouse 7 / Baghouse 8	S009D	TP009D--Pneumatic Conveying System 2 to CFB Boiler 2	6.8	8322	8760	1	0.008266		0.23		0.05621				
P009	Stack 1	D024/ D025/ D026	Enclosed System 7 / Baghouse 7 / Baghouse 8	S009E	TP009E--Fuel Bin 1 ton Enclosed Conveying System 6	23.35	8322	8760	6	0.000673		0.065		0.01571				
P009	Stack 1	D024/ D025/ D026	Enclosed System 7 / Baghouse 7 / Baghouse 8	S009F	TP009F--Fuel Bin 2 to Enclosed Conveying System 6	23.35	8322	8760	6	0.000673		0.065		0.01571				
P009	Stack 1	D024/ D025/ D026	Enclosed System 7 / Baghouse 7 / Baghouse 8	S009G	TP009G--Enclosed Conveying System 7 to CFB Boiler 1	23.35	8322	8760	6	0.000673		0.065		0.01571				
P009	Stack 1	D024/ D025/ D026	Enclosed System 7 / Baghouse 7 / Baghouse 8	S009H	TP009H--Enclosed Conveying System 7 to CFB Boiler 2	23.35	8322	8760	6	0.000673		0.065		0.01571				
Group Total													0.73		0.17528			

Typical Annual Emissions PM, tpy	0.73
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Morgantown Energy Associates
Emission Calculations for Stack 1
CFB #1 CFB #2 Operation

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/hr)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Group Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, PM	46.7	8322	8760		2.46		10.2					22.5	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, SO ₂	46.7	8322	8760		249.5		1038.2					285	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, NO _x	46.7	8322	8760		206.1		857.6					300	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, VOC	46.7	8322	8760		1.6		6.7					5.55	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, CO	46.7	8322	8760		35.529		148					117.5	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, Lead	46.7	8322	8760		0.00257		0.011					0.13	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, Mercury	46.7	8322	8760		0.021		0.087					0.021	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, Fluorides	46.7	8322	8760		0.24		1.00					0.4	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, Beryllium	46.7	8322	8760		0.000032		0.00013					0.0002	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, Arsenic	46.7	8322	8760		0.000158		0.00066					0.002	
P009	Stack 1	D025/D026	Baghouse 7 & Baghouse 8	S009J/S009K	CFB Boiler 1 & 2 Exhaust, Radionuclides	46.7	8322	8760		0.0009		0.004					0.0009	

Morgantown Energy Associates
Emission Calculations for Stack 1
AUX #1 AUX #2 Operation

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/hr)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Group Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P009	Stack 1	D026A/ D026B	Low NO _x Burners	S009L/S009M	Auxiliary Boiler 1 & 2 Exhaust, PM		244	8760		0.33		0.040					1.2	
P009	Stack 1	D026A/ D026B	Low NO _x Burners	S009L/S009M	Auxiliary Boiler 1 & 2 Exhaust, SO ₂		244	8760		1.8		0.2196					0.14	
P009	Stack 1	D026A/ D026B	Low NO _x Burners	S009L/S009M	Auxiliary Boiler 1 & 2 Exhaust, NO _x		244	8760		12.1		1.48					50	
P009	Stack 1	D026A/ D026B	Low NO _x Burners	S009L/S009M	Auxiliary Boiler 1 & 2 Exhaust, VOC		244	8760		0.87		0.106					1.95	
P009	Stack 1	D026A/ D026B	Low NO _x Burners	S009L/S009M	Auxiliary Boiler 1 & 2 Exhaust, CO		244	8760		1.05		0.13					10	

Morgantown Energy Associates
Emission Calculations for Stack 1
Combined Operation of CFBs and AUXs

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/hr)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Group Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, PM		45	8760		2.79		0.06					22.5	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, SO ₂		45	8760		251.3		5.65					285	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, NO _x		45	8760		218.2		4.9					300	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, VOC		45	8760		2.47		0.06					7.5	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, CO		45	8760		36.58		0.82					127.5	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, Lead		45	8760		0.00257		0.00006					0.13	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, Mercury		45	8760		0.021		0.0005					0.021	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, Fluorides		45	8760		0.24		0.005					0.4	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, Beryllium		45	8760		0.000032		0.0000007					0.0002	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, Arsenic		45	8760		0.00015		0.000003					0.002	
P009	Stack 1	D025/ D026/ D026A/ D026B	Baghouse 7 & Baghouse 8/ Low NO _x Burners	S009J/S009K/ S009L/S009M	CFB Boilers 1 &2 and Auxiliary Boilers 1 & 2 Exhaust, Radionuclides		45	8760		0.0009		0.00002					0.0009	

Morgantown Energy Associates
Emission Calculations for Fugitive Emission Sources 1 thru 14

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
F001	Fugitive Emission 1	D001/D002	Building Enclosure 1 / Water Spray 1	S00F1	TP00F1--Transfer from Truck to Fuel Unloading Hopper/Vibratory Feeder 1	23.35	8322	8760	6	0.000673	0.99	0.00065		0.01571		16.7		N/A
F002	Fugitive Emission 2	D001/D002	Building Enclosure 1 / Water Spray 1	S00F2	Fuel Unloading Hopper 1	23.35	8322	8760	6	0	0.99	0.00000		0.00000		0.0		N/A
F003	Fugitive Emission 3	D001/D004	Building Enclosure 1 / Enclosed System 1	S00F3	Vibratory Feeder 1	23.35	8322	8760	6	0	0.99	0.00000		0.00000		0.0		N/A
F004	Fugitive Emission 4	D001/D003	Building Enclosure 1 / Water Spray 2	S00F4	TP00F4--Transfer from Truck to Fuel Unloading Hopper/Vibratory Feeder 2	23.35	8322	8760	6	0.000673	0.99	0.00065		0.01571		16.7		N/A
F005	Fugitive Emission 5	D001/D003	Building Enclosure 1 / Water Spray 2	S00F5	Fuel Unloading Hopper 2	23.35	8322	8760	6	0	0.99	0.00000		0.00000		0.0		N/A
F006	Fugitive Emission 6	D001/D004	Building Enclosure 1 / Enclosed System 1	S00F6	Vibratory Feeder 2	23.35	8322	8760	6	0	0.99	0.00000		0.00000		0.0		N/A
F007	Fugitive Emission 7	D001/D004/D007	Building Enclosure 1 / Enclosed System 1 / Water Spray 3	S00F7	TP00F7--Vibratory Feeder 2 to Transfer Conveyor 1	23.35	8322	8760	6	0.000673	0.99	0.00065		0.01571		16.7		N/A
F008	Fugitive Emission 8	D001/D004/D008	Building Enclosure 1 / Enclosed System 1 / Water Spray 4	S00F8	TP00F8--Vibratory Feeder 1 to Transfer Conveyor 1	23.35	8322	8760	6	0.000673	0.99	0.00065		0.01571		16.7		N/A
F009	Fugitive Emission 9	D001/D004	Building Enclosure 1 / Enclosed System 1	S00F9	Transfer Conveyor 1	46.7	8322	8760	6	0	0.99	0.00000		0.00000		0.0		N/A
F010	Fugitive Emission 10	D001/D004/D009	Building Enclosure 1 / Enclosed System 1 / Water Spray 5	S00F10	TP00F10--Transfer Conveyor 1 to Elevating Conveyor 1	46.7	8322	8760	6	0.000673	0.99	0.00131		0.03143		33.3		N/A
F011	Fugitive Emission 11	D001	Building Enclosure 1	S00F11	TP00F11--Dribble Chute 1 to Dribble Chute Catch Bin 1	0.00467	8322	8760	6	0.000673	0.9	0.00000		0.00000		0.0		N/A
F012	Fugitive Emission 12	D001	Building Enclosure 1	S00F12	Dribble Chute Catch Bin1	0.00467	8322	8760	6	0	0.9	0.00000		0.00000		0.0		N/A
F013	Fugitive Emission 13	D001	Building Enclosure 1	S00F13	TP00F13--Dribble Chute Chatch Bin 1 to Dribble Chute Conveyor 1	0.00467	8322	8760	6	0.000673	0.9	0.00000		0.00000		0.0		N/A
F014	Fugitive Emission 14	D001	Building Enclosure 1	S00F14	TP00F14--Dribble Chute Conveyor 1 to Transfer Conveyor 1	0.00467	8322	8760	6	0.000673	0.9	0.00000		0.00000		0.0		N/A
Group Total													0.0039		0.09430		N/A	

Typical Annual Emissions PM, tpy	0.0039
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Morgantown Energy Associates
Emission Calculations for Fugitive Emission Sources 15 16

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
F0015	Fugitive Emission 15	N/A	N/A	S00F15	TP00F15--Front End Loader to Emergency Mill Feed System Hopper 1	46.7	0	8760	6	0.000673	0	0		0				
F0016	Fugitive Emission 16	N/A	N/A	S00F16	Emergency Mill Feed System Hopper 1	46.7	0	8760	6	0	0	0		0				
Group Total													0		0		N/A	

Typical Annual Emissions PM, tpy	0
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Emission Calculations for Fugitive Emission Sources 17 thru 25

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Hours	Max. Hours	Percent H ₂ O	Emission Factor (lb/ton)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
F017	Fugitive Emission 17	N/A	N/A	S00F17	A.S.T. 01 Acid Tank (5800 gallons)		8322	8760										
F018	Fugitive Emission 18	N/A	N/A	S00F18	A.S.T. 02 Caustic Tank (5800 gallons)		8322	8760										
F019	Fugitive Emission 19	N/A	N/A	S00F19	<i>NO LONGER IN USE</i> - A.S.T. 03 Sodium Bisulfite (0 gallons)		0	0										
F020	Fugitive Emission 20	N/A	N/A	S00F20	<i>NO LONGER IN USE</i> - A.S.T. 04 Sodium Hypochlorite (0 gallons)		0	0										
F021	Fugitive Emission 21	N/A	N/A	S00F21	A.S.T. 05 Turbine Oil Tank (2378 gallons)		8322	8760										
F022	Fugitive Emission 22	N/A	N/A	S00F22	A.S.T. 06 EHC Oil Storage Tank (105 gallons)		8322	8760										
F023	Fugitive Emission 23	N/A	N/A	S00F23	A.S.T. 07 Water Treatment Phosphate Tank (1600 gallons)		8322	8760										
F024	Fugitive Emission 24	N/A	N/A	S00F24	A.S.T. 08 Water Treatment Corrosion inhibitor Tank (400 gallons)		8322	8760										
F025	Fugitive Emission 25	N/A	N/A	S00F25	A.S.T. 09 Water Treatment Oxygen Scavenger Tank (400 gallons)		8322	8760										
Group Total																		N/A

Typical Annual Emissions VOCs, tpy	0
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Emission Calculations for Fugitive Emission Source 26

Emission Point ID #	Emission Point Description	Pollution Control ID #	Pollution Control Device Description	Source ID #	Source Description	Full Load Thruput (tph)	Typical Eq. Full Load Miles Traveled/Year	Max. Hours	Percent H ₂ O	Emission Factor (lb/VMT)	Control Efficiency	Actual Emissions (tpy)	Group Actual Emissions (tpy)	Max. Uncontrolled Emissions (lb/hr)	Uncontrolled Group Max. Total (lb/hr)	Percent of Goup Total	Permit Limit (lb/hr)	Calculated Controlled Source Emissions (lb/hr)
F026	Fugitive Emission 26	D041/ D042	Paving / Water Cleaning	S00F26	Plant Roadway		5197			0.053	0.5	0.069					N/A	

Typical Annual Emissions PM, tpy	0.069
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Column Heading—Emission Point ID #

Self-explanatory

Column Heading—Emission Point Description

Self-explanatory

Column Heading—Pollution Control ID #

Self-explanatory

Column Heading—Pollution Control Device Description

Self-explanatory

Column Heading—Source ID #

Self-explanatory

Column Heading—Source Description

Self-explanatory

Column Heading—Full Load Thruput

Equipment throughputs were based on the maximum amount of fuel which could be burned in the CFB and Auxiliary boilers.

<i>Component</i>	<i>Throughput</i>
CFB Fuel	46.7 tph
Coal component of CFB fuel (35% of total fuel)	16.3 tph
Gob (waste coal) component of CFB fuel (65% of total fuel)	30.4 tph
Limestone feed to CFB boilers	13.6 tph
Total dry ash generated (41.7% of fuel + Limestone)	33 tph
Bottom ash generated (50% of total ash)	16.5 tph
Flyash generated (50% of total ash)	16.5 tph
Wet ash generated (1.15 * total dry ash)	38 tph
Auxiliary boilers natural gas usage @ a rated heat input of 264 mmBtu/hr	0.264*10 ⁶ ft ³ /hr

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Title V Permit Application Supporting Documentation for Emissions Calculations

Column Heading—Typical Eq. Full Load Hours

Typical equivalent full load hours (8322 hours) were based on using a 95% capacity operating factor for a year (8760 hours * 0.95 = 8322 hours).

Column Heading—Max. Hours

Maximum hours (8760 hours) were based on using a 100% capacity operating factor for a year.

Column Heading—% H₂O

Moisture content is an important component of the AP-42 emission factor equation for material transfer.

<i>Material</i>	<i>Moisture Content, %</i>
CFB Fuel	6
Limestone	1
Dry Ash	0.1
Wet Ash	15

Column Heading—Emission Factor

Emission Factors (EF) listed are from one of the following sources: AP-42 factors, permit limits, 1992 performance test data, 2004 stack test data, 2005 stack test data, or 2006 CEM data. The emission factor reported in this worksheet may or may not be the same one used in the Title V permit application as noted below:

<i>Emission Point Description</i>	<i>Worksheet EF Source</i>	<i>Worksheet EF Units</i>	<i>Title V EF Source</i>	<i>Title V EF Units</i>
Vents 1-10	AP-42 (1)	lb/ton	Permit Limit (2)	lb/hr
Fugitive Emission 1-16	AP-42 (1)	lb/ton	AP-42 (1)	lb/hr
Fugitive Emission 18, 19, 22-25	N/A	N/A	N/A	N/A
Fugitive Emission 26	ACHD (3)	lb/VMT	ACHD (3)	lb/VMT
Stack 1: L/S & Fuel to CFBs	AP-42 (1)	lb/ton	N/A	N/A
Stack 1: NO _x & SO ₂ --CFBs	2006 CEM Data	lb/hr	2006 CEM Data	lb/hr
Stack 1: CO & PM--CFBs	2004/2005 Stack Test	lb/hr	2004/2005 Stack Test	lb/hr
Stack 1: Other Emissions--CFBs	1992 testing	lb/hr	1992 testing	lb/hr
Stack 1: Radionuclides--CFBs	Permit Limit (2)	lb/hr	Permit Limit (2)	lb/hr
Stack 1: PM--AUXs	AP-42 (4)	lb/mm ft ³	AP-42 (4)	lb/mm ft ³

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Title V Permit Application Supporting Documentation for Emissions Calculations

Stack 1: NO _x & SO ₂ --AUXs	2006 CEM Data	lb/hr	2006 CEM Data	lb/hr
Stack 1: VOC & CO--AUXs	1992 testing	lb/hr	1992 testing	lb/hr
Stack 1: NO _x & SO ₂ --CFBs & AUXs	2006 CEM Data CFB + AUX	lb/hr	2006 CEM Data CFB + AUX	lb/hr
Stack 1: Other Emissions--CFBs & AUXs	CFB EF + AUX EF	lb/hr	CFB EF + AUX EF	lb/hr

- (1) AP-42 (5th Edition, 11/2006), Section 13.2.4 (Aggregate Handling & Storage Piles)

$$EF = k * (0.0032) * (U/5)^{1.3} / (M/2)^{1.4}$$

Where: EF = lb particulate matter / ton of material transferred
k = particle size multiplier (0.74 for particulate matter)
U = mean wind speed (6.2 mph)
M = material moisture content, %

- (2) Title V Permit R30-06100027-2003
- (3) Allegheny County Health Department, Table 11.2.5-4 (Recommended Particulate Emission Factors for Specific Roadway Categories and Particle Size Fractions)
- (4) AP-42 (5th Edition, 10/1996), Section 1.4, Table 1.4-2 (Emission Factors for Particulate Matter (PM) from Natural Gas Combustion)
- (5) 2006 CEM Data

Boiler	NO _x (lb/hr)	SO ₂ (lb/hr)
CFBs	206.1	249.5
AUXs	12.1	1.8

Column Heading—Control Efficiency

The basis for each control efficiency (CE) is listed below:

<i>Emission Point Description</i>	<i>Control Efficiency Basis</i>
Vents 1-10	Baghouse Efficiencies
Fugitive Emission 1-14	Best Professional Judgment
Fugitive Emission 15-16, 17-18, & 21-25	N/A, No control Device
Fugitive Emission 26	Allegheny County Health Department recommended reduction for regularly cleaned roads
Stack 1	N/A, Performance/Stack Testing are post-control device

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 Title V Permit Application Supporting Documentation for Emissions Calculations

Column Heading—Actual Emissions

Actual emissions are calculated using one of the following equations:

A. $tpy = Q_1 * t * EF * (1-CE) / 2000$
 where: Q_1 = Full load throughput, tph
 T = Typical equivalent full load hours, 8322 hours
 EF = Emission factor, lb/ton
 CE = Control efficiency
 2000 = conversion factor from pounds to tons

B. $tpy = EF * VMT * (1-CE) / 2000$
 where: EF = Emission factor, lb/VMT
 CE = Control efficiency
 2000 = conversion factor from pounds to tons
 VMT = Vehicle miles traveled and are calculated as

follows:

	To Tare weight	Coal	Coal Waste	Limestone	Distance Traveled	Total Miles VMT
# Trucks	2400	5540	10659	3998	0.23	5197

Truck speed = 10 mph

C. $tpy = EF * t / 2000$
 where: EF = Emission factor, lb/hr
 t = Typical equivalent full load hours
 2000 = conversion factor from pounds to tons

D. $lb/hr = EF * MMBTU_{input}$
 where: EF = Emission factor, lb/10⁶ ft³
 $MMBTU$ = design heat input

<i>Emission Point Description</i>	<i>Actual Emissions Equation</i>
Vents 1-11, Fugitive Emissions 1-16, and Stack 1: L/S & Fuel Feed to CFBs	A
Fugitive Emissions 17, 18, and 21-25	N/A
Fugitive Emission 26	B
Stack 1: CFBs, AUXs, CFBs & AUXs (except AUX PM)	C
Stack 1: AUXs PM	D

Column Heading—Group Actual Emissions

Group actual emissions is a summation of all emissions for a particular group (i.e. Vent).

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Title V Permit Application Supporting Documentation for Emissions Calculations

Note for following Items: The remaining calculations were used to determine how to apportion the existing permit limits to emission units if MEA was requested to do so by the WV DEP DAQ. The general method used was to determine the percentage of its group for which each emission unit was responsible and apply this percentage to the permit limit.

Column Heading—Max. Uncontrolled Emissions

Maximum uncontrolled emissions have been calculated for sources which emit to a baghouse using the following equation:

$$\text{lb/hr} = Q_1 * \text{EF}$$

Where: Q_1 = Full load throughput, tph
EF = Emission Factor, lb/ton

Column Heading—Uncontrolled Group Max. Total

Uncontrolled group maximum total emissions is a summation of all emissions for a particular group.

Column Heading—Percent of Group Total

Percent of group total is calculated using the following equation:

$$\% = \text{Maximum uncontrolled emissions} / \text{Uncontrolled group total} * 100$$

Column Heading—Permit Limit

Self-explanatory

Column Heading—Calculated Controlled Source Emissions

Calculated controlled source emissions are calculated using the following equation:

$$\text{lb/hr} = \text{Permit limit} * \% \text{ of group total} / 100$$