

**TITLE V RENEWAL AND UPDATE
APPLICATION FOR
KEYSTONE #1 COAL PREPARATION PLANT
PERMIT NO. R30-04700008-1998**

Prepared for:

Second Sterling Corporation

P.O. Box 1085
Beckley, West Virginia 25802

Prepared by:

Potesta & Associates, Inc.

7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304
Phone: (304) 342-1400 Fax: (304) 343-9031
E-Mail: potesta@potesta.com

Project No. 0101-06-0184-001

April 2006

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SECTION I
GENERAL FORMS



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 10 sections: 1. Name of Applicant (Second Sterling Corporation), 2. Facility Name (Keystone #1 Coal Preparation Plant), 3. DAQ Plant ID No. (047-00008), 4. Federal Employer ID No. (550576409), 5. Permit Application Type (Renewal/Update), 6. Type of Business Entity (Corporation), 7. Is the Applicant the: (Both), 8. Number of onsite employees (34), 9. Governmental Code (Privately owned), 10. Business Confidentiality Claims (No).

11. Mailing Address		
Street or P.O. Box: P.O. Box 1085		
City: Beckley	State: WV	Zip: 25802-
Telephone Number: (304) 252-8528	Fax Number: (304) 252-6283	

12. Facility Location		
Street: Route 52	City: Keystone	County: McDowell
UTM Easting: 460.328 km	UTM Northing: 4141.305 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
<p>Directions: Take I64E/ I77S to Princeton, WV. Turn west on Route 260 to Bluefield, WV. Turn west on Route 52 and go to Keystone, WV. At Keystone, turn right on Bridge Street, cross railroad tracks, then turn right towards plant.</p>		
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). Kentucky Virginia	
Is facility located within 100 km of a Class I Area ¹ ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, do emissions impact a Class I Area ¹ ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
<small>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.</small>		

13. Contact Information		
Responsible Official: James C. Justice, III		Title: Executive Vice President
Street or P.O. Box: P.O. Box 1087		
City: Beckley	State: WV	Zip: 25802-
Telephone Number: (304) 252-8528	Fax Number: (304) 252-6283	
E-mail address: NA		
Environmental Contact: Rick Ball		Title: Project Engineer
Street or P.O. Box: P.O. Box 1087		
City: Beckley	State: WV	Zip: 25802-
Telephone Number: (304) 252-8528	Fax Number: (304) 252-6283	
E-mail address: ricky@bluestoneindustries.com		
Application Preparer: P.E. Ward		Title: Senior Engineer
Company: Potesta & Associates, Inc.		
Street or P.O. Box: 7012 MacCorkle Avenue, SE		
City: Charleston	State: WV	Zip: 25304-
Telephone Number: (304) 342-1400	Fax Number: (304) 343-9031	
E-mail address: peward@potesta.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
Coal Preparation Plant with Thermal Dryer.	Cleaned/ Processed Coal.	212111	1221

Provide a general description of operations.

The Keystone #1 Preparation Plant has the ability to screen, crush/ size, wash, store and load in/ out coal.

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.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR15)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> NO _x Budget Trading Program Non-EGUs (45CSR1)	<input type="checkbox"/> NO _x Budget Trading Program EGUs (45CSR26)

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies. The non-applicability determination contained in the existing permit remains unchanged.</p>
<p><input checked="" type="checkbox"/> Permit Shield</p>

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

Permit Shield

20. 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.

Facility-wide applicability requirements contained in the existing permit remain unchanged.

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.)

Monitoring/ testing/ recordkeeping/ reporting contained in the existing permit will remain unchanged.

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

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

20. Facility-Wide Applicable Requirements (Continued) - Attach additional pages as necessary.

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

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.)

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

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

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	55.00
Nitrogen Oxides (NO _x)	178.00
Lead (Pb)	NA
Particulate Matter (PM ₁₀) ¹	826.55/ 275.88
Total Particulate Matter (TSP)	1735.76/ 579.33
Sulfur Dioxide (SO ₂)	44.05
Volatile Organic Compounds (VOC)	127.00
Hazardous Air Pollutants ²	Potential Emissions
None	
Regulated Pollutants other than Criteria and HAP	Potential Emissions
None	
¹ PM ₁₀ is a component of TSP. ² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

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 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 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 checked="" 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 type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input checked="" 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 checked="" type="checkbox"/>	18. Emergency road flares.
<input checked="" 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 checked="" 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 checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input checked="" 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 checked="" 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 checked="" 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 type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input 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

24. Insignificant Activities (Check all that apply)

	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 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 type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input checked="" 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 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. Applications without a signed certification will be returned 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: James C. Justice, III

Title: Executive Vice President

Responsible official's signature:

Signature: _____ Signature Date: _____
 (Must be signed and dated in blue ink)

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

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input checked="" type="checkbox"/>	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.

Section 6: Certification of Information

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a. Certification of Truth, Accuracy and Completeness

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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: James C. Justice III

Title: Executive Vice President

Responsible official's signature:

Signature:  Signature Date: 4/21/06
 (Must be signed and dated in blue ink)

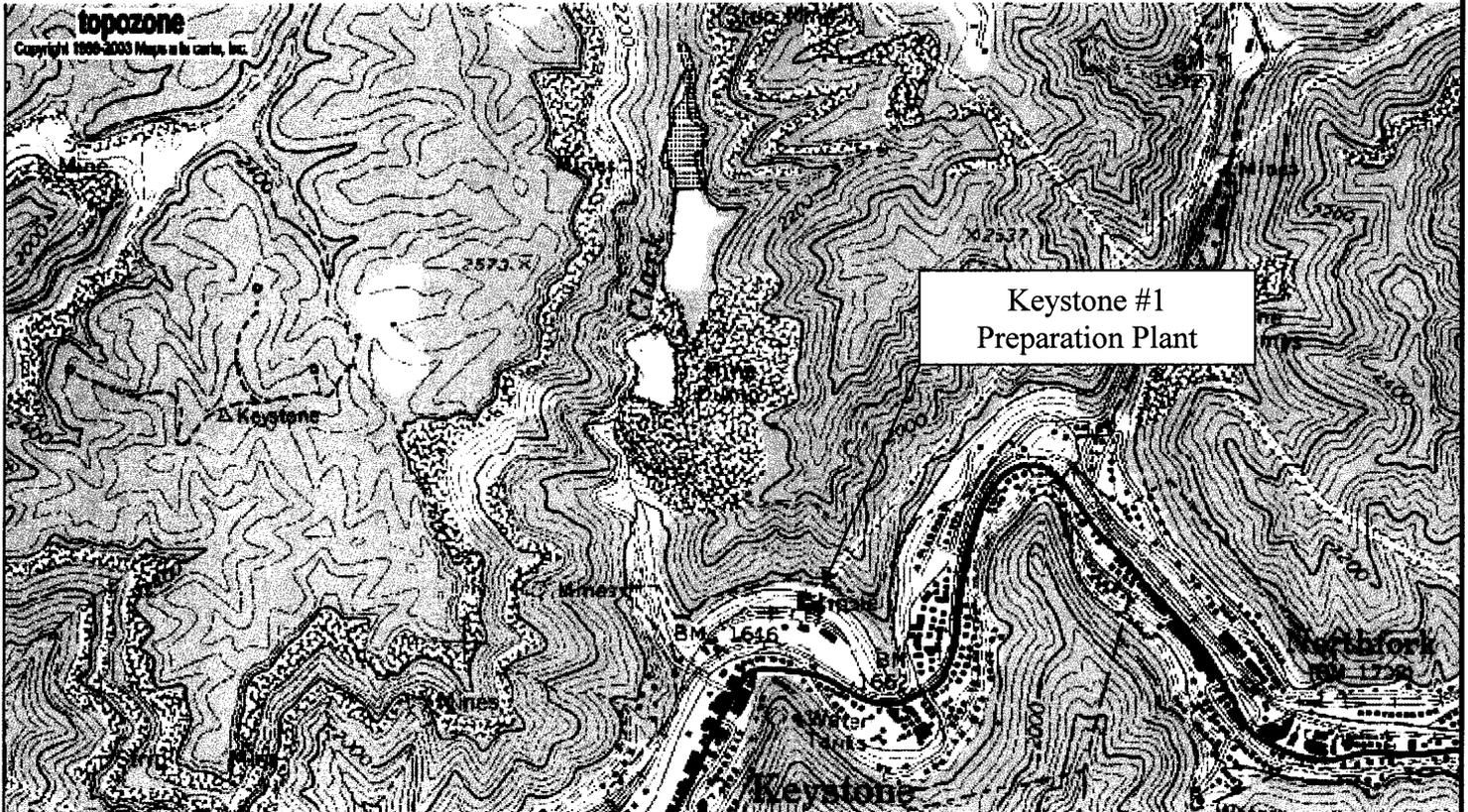
Note: Please check all applicable attachments included with this permit application:

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input checked="" type="checkbox"/>	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.vvdep.org/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

ATTACHMENT A

AREA MAP



Photocopied from the Keystone, West Virginia - WV USGS 7.5' Series
Topographic Map

Potesta & Associates, Inc.

7012 MacCorkle Avenue, SE, Charleston, WV 25304
Phone: (304) 342-1400 Fax: (304) 343-9031
E-Mail: potesta@potesta.com

Second Sterling Corporation
Keystone #1 Coal Preparation Plant
State Route 52 Keystone, West Virginia
Project No. 0101-06-0184

ATTACHMENT B

PLOT PLAN

ATTACHMENT C
PROCESS FLOW DIAGRAM

ATTACHMENT D
TITLE V EQUIPMENT TABLE

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

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/ Modified
1E	PE	C01	Belt Conveyor	200 TPH	1952
2E	PE	C02	Belt Conveyor	200 TPH	1952
3E	PE	C03	Belt Conveyor	470 TPH	1952
4E	FE	C04	Belt Conveyor	450 TPH	1952
5E	PE	C05	Belt Conveyor	450 TPH	1952
6E	PE	C06	Belt Conveyor	450 TPH	1952
7E	PE	C07	Belt Conveyor	450 TPH	1952
8E	PE	C08	Belt Conveyor	350 TPH	1952
9E	PE	C09	Belt Conveyor	350 TPH	1952
10E	Moisture Content	C10	Belt Conveyor	350 TPH	1952
11E	PE	C11	Belt Conveyor	290 TPH	1952
12E	PE	C12	Belt Conveyor	290 TPH	1990
13E	PE	C13	Belt Conveyor	290 TPH	1990
14E	PE	C14	Belt Conveyor	290 TPH	1990
15E	PE	C15	Belt Conveyor	290 TPH	1990
16E	PE	C16	Belt Conveyor	290 TPH	1990
17E	Moisture Content	C17	Belt Conveyor	200 TPH	1952
18E	Moisture Content	C18	Belt Conveyor	75 TPH	1952
19E	PE	C19	Belt Conveyor	200 TPH	1952
20E	PE	C20	Belt Conveyor	200 TPH	1952
21E	PE	C21	Belt Conveyor	318.7 TPH	
22E	PE	C22	Belt Conveyor	40 TPH	
23E	PE	C23	Belt Conveyor	40 TPH	
24E	PE	C24	Belt Conveyor	40 TPH	
25E	PE	C25	Belt Conveyor	40 TPH	
26E	Moisture Content	C26	Belt Conveyor	200 TPH	
27E	N	C27	Belt Conveyor	400 TPH	
28E	N	C28	Belt Conveyor	400 TPH	

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/ Modified
29E	N	C29	Belt Conveyor	400 TPH	
30E	N	C30	Belt Conveyor	400 TPH	
31E	N	C31	Belt Conveyor	400 TPH	
32E	N	C32	Belt Conveyor	1,000 TPH	2004
33E	N	C33	Belt Conveyor	1,000 TPH	2004
34E	N	C34	Belt Conveyor	1,000 TPH	2004
62E	FE	FSC1	Feed Screw Conveyor	0.025 TPH	2004
35E	FE	SZ01	Bradford Breaker	450 TPH	1952
36E	PE	SZ02	Gundlach Screen	200 TPH	1952
37E	PE	SZ03	McLanahan Crusher	200 TPH	1952
38E	PE	SZ04	Pre-Wet Wash Plant Screens (2)	350 TPH	1952
#001 #002	Wet Cyclone Scrubber	TD05	Thermal Dryer	318.7 TPH	1977
40E	Moisture Content	ST1	Raw Coal Open Stockpile	5000 sq ft/ 5000 Ton	1952
41E	PE	ST2	Raw Coal Storage Bin	2000 Ton	1952
42E	PE	ST3	Raw Coal Storage Bin	500 Ton	1952
43E	PE	ST4	Raw Coal Storage Bin	500 Ton	1952
44E	PE	ST5	Rail Loadout Bin	100 Ton	1977
45E	FE	ST6	Clean Coal Storage Silo	1,700 Ton	1990
46E	FE	ST7	Clean Coal Storage Silo	1,700 Ton	1990
47E	Dust Suppressant Additive	ST8	Clean Coal Open Stockpile	52,605 sq ft/ 100,000 Ton	1984
48E	PE	ST9	Stand-By Refuse Bin	300 Ton	1952
49E	PE	ST10	Refuse Bin	500 Ton	1952
50E	PE	ST11	Truck Dump Hopper #1	80 Ton	1952
51E	PE	ST12	Truck Dump Hopper #2	30 Ton	1952
52E	PE	ST13	House Coal Bin	2,000 Ton	
53E	PE	ST14	Refuse Bin	50 Ton	
54E	WS	ST15	Eckman Loadout Open Stockpile	348,480 sq ft/ 30,000 Ton	2004
55E	PE	ST16	Endloader Hopper	1,000,000 TPY	2004
56E	PE	ST17	Endloader Hopper	1,000,000 TPY	2004

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/ Modified
57E	PE	ST18	Endloader Hopper	1,000,000 TPY	2004
58E	PE	ST19	Endloader Hopper	1,000,000 TPY	2004
59E	FE	ST20	Hydrated Lime Bin	0.35 Ton	2004
60E	WT	HR-A	Haulroad Activity	NA	1950
60E	WT	HR-B	Haulroad Activity	NA	1950
60E	WT	HR-C	Haulroad Activity	NA	1950
60E	WT	HR-D	Haulroad Activity	NA	
61E	Water truck w/ Dust Suppressant Additive	HR-E	Haulroad Activity	NA	2004
61E	Water truck w/ Dust Suppressant Additive	HR-F	Haulroad Activity	NA	2004
60E	WT	FE	Front Endloader Activity		

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 - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001	Emission unit name: Transfer Points	List any control devices associated with this emission unit. Various
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Various transfers of raw coal, clean coal, and refuse.

Manufacturer: N/A	Model number: N/A	Serial number: N/A
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Construction date: Various	Installation date: Various	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): Various. See Attachment D and Attachment I.

Maximum Hourly Throughput: See Attachment D and Attachment I.	Maximum Annual Throughput: See Attachment D and Attachment I.	Maximum Operating Schedule: 8,760 Hrs/ Yr
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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
--	--

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

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

Emissions Data		
Criteria Pollutants	Potential Emissions (Uncontrolled/Controlled)	
	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 ₁₀)	8.83 / 5.33	15.94 / 8.94
Total Particulate Matter (TSP)	18.54 / 11.18	33.48 / 18.78
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
None		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<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>AP42, Section 13-2.4 (01/95) and the assumption that TSP/2.1 = PM10.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. 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.

Applicable requirements contained in the existing permit remain unchanged.

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/ testing/ record keeping/ reporting contained in the existing permit will remain unchanged.

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:
002

Emission unit name:
SZ02 Single Deck Screen/
SZ04 2 Pre-Wet Wash Screens

List any control devices associated with this emission unit.
PE/PE

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Particulate emissions associated with screening.

Manufacturer:
Gundlach/ Pre-Wet

Model number:
N/A

Serial number:
N/A

Construction date:
1952

Installation date:
1952

Modification date(s):
N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 200 TPH/ 350 TPH

Maximum Hourly Throughput:
200 TPH/ 350 TPH

Maximum Annual Throughput:
1,752,000 TPY/ 3,066,000 TPY

Maximum Operating Schedule:
8,760 HRS/YR

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:

Type and Btu/hr rating of burners:

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

Emissions Data		
Criteria Pollutants	Potential Emissions (Uncontrolled/Controlled)	
	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 ₁₀)	16.7/ 8.33	73.0/ 36.42
Total Particulate Matter (TSP)	35.0 / 17.5	153.3/ 76.65
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
None		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		

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.).

Emissions factor of 0.10 for screening from the Air Pollution Engineering Manual and References. Also assumed that TSP/2.1 = PM10.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. 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.

Applicable requirements contained in the existing permit remain unchanged.

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/testing/recordkeeping/reporting contained in the existing permit will remain unchanged.

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:
003

Emission unit name:
Breaking and Crushing

List any control devices associated with this emission unit.
FE/ PE

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
SZ01 - Rotary Breaker/SZ03 - Crusher

Manufacturer:
Bradford/ McLanahan

Model number:
N/A

Serial number:
N/A

Construction date:
1952

Installation date:
1952

Modification date(s):
N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
450 TPH / 200 TPH

Maximum Hourly Throughput:
450 TPH / 200 TPH

Maximum Annual Throughput:
3,942,000 TPH/ 1,752,000 TPH

Maximum Operating Schedule:
8,760 HRS/YR

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:

Type and Btu/hr rating of burners:

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

Emissions Data		
Criteria Pollutants	Potential Emissions (Uncontrolled/Controlled)	
	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 ₁₀) SZ01	4.29 / 0.86	18.77 / 3.75
Particulate Matter (PM ₁₀) SZ03	5.71 / 2.86	25.03 / 12.51
Total Particulate Matter (TSP) SZ01	9.0 / 1.8	39.42 / 7.88
Total Particulate Matter (TSP) SZ03	12.0 / 6.0	52.56 / 26.28
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
None		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		

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.).

Emission factor of 0.02 lb/ton used from the Air Pollution Engineering Manual and References. Also the assumption TSP/2.1 = PM10 is used.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. 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.

Applicable requirements contained in the existing permit remain unchanged.

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/testing/recordkeeping/reporting contained in the existing permit will remain unchanged.

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 004	Emission unit name: Stockpiles	List any control devices associated with this emission unit. Various
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Various stockpiles
ST1; ST8; ST15

Manufacturer: N/A	Model number: N/A	Serial number: N/A
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Construction date: Various	Installation date: Various	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Various. See Attachment D and Attachment I.

Maximum Hourly Throughput: See Attachment D and Attachment I.	Maximum Annual Throughput: See Attachment D and Attachment I.	Maximum Operating Schedule: 8,760 Hrs/ Yr
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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:	Type and Btu/hr rating of burners:
--	---

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

Emissions Data		
Criteria Pollutants	Potential Emissions (Uncontrolled/Controlled)	
	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 ₁₀)	1.11 / 0.28	4.85 / 1.22
Total Particulate Matter (TSP)	2.33 / 0.58	10.18 / 2.56
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
None		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<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>Used Emission Equation from AP42 Section 11.2.3, Fugitive Emissions (May 1983).</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. 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.

Applicable requirements contained in the existing permit remain unchanged.

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/ testing/ record keeping/ reporting contained in the existing permit will remain unchanged.

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 005	Emission unit name: Haulroad Emissions	List any control devices associated with this emission unit. Various
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Particulate entrainment from vehicle activity.

Manufacturer: N/A	Model number: N/	Serial number: N/A
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Construction date: Various	Installation date: Various	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Attachment D and Attachment I.

Maximum Hourly Throughput: See Attachment D and Attachment I.	Maximum Annual Throughput: See Attachment D and Attachment I.	Maximum Operating Schedule: 8,760 Hrs/ Yr
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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:	Type and Btu/hr rating of burners:
--	---

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

Emissions Data		
Criteria Pollutants	Potential Emissions (Uncontrolled/Controlled)	
	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 ₁₀)	283.25 / 66.55	688.96 / 197.85
Total Particulate Matter (TSP)	594.83 / 139.76	1,446.82 / 415.48
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
None		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<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>Used AP-42 Section 11.2.1 (11/88) and assumed that TSP/2.1 = PM10.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. 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.

Applicable requirements contained in existing permit remain unchanged.

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/testing/recordkeeping/reporting contained in the existing permit will remain unchanged.

Are you in compliance with all applicable requirements for this emission unit? Yes No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 006	Emission unit name: TD05 Thermal Dryer	List any control devices associated with this emission unit. Wet Cyclone Scrubber
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Particulate matter and criteria pollutants from coal washing and drying.

Manufacturer: ENI Engineering Company	Model number: Coal Flo #7.5	Serial number: N/A
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Construction date: 1977	Installation date: 1977	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Attachment D and Attachment I.

Maximum Hourly Throughput: See Attachment D and Attachment I.	Maximum Annual Throughput: See Attachment D and Attachment I.	Maximum Operating Schedule: 6900 Hrs/ Yr
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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 type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners: Bigelow Liptak Hot Air Furnace- 65,000,000 BTU/ Hr
--	---

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.

1 1/2 x 3/8 Stoker Coal at 2.5 TPH/ 8.63 TPY.

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
1 1/2 x 3/8 Stoker Coal	2.0%	10.0%	20,681,000 BTU/ Ton

Emissions Data		
Criteria Pollutants	Potential Emissions (Uncontrolled/Controlled)	
	PPH	TPY
Carbon Monoxide (CO)	15.94	55.0
Nitrogen Oxides (NO _x)	51.59	178.0
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	4.38	15.1
Total Particulate Matter (TSP)	9.19	31.7
Sulfur Dioxide (SO ₂)	12.77	44.05
Volatile Organic Compounds (VOC)	36.81	127.0
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
None		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<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>Used AP-42 and assumed that TSP/2.1 = PM10.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. 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.

Applicable requirements contained in existing permit remain unchanged.

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/testing/recordkeeping/reporting contained in the existing permit will remain unchanged.

Are you in compliance with all applicable requirements for this emission unit? Yes No

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: 0001	List all emission units associated with this control device. TD05 Thermal Dryer	
Manufacturer: Flex-Kleen	Model number: Flooded Cone Venturi #60	Installation date: NA

Type of Air Pollution Control Device:

<input type="checkbox"/> Baghouse/Fabric Filter	<input checked="" 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
TSP	100	N/A
SO ₂	100	2000 ppmv

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
 Scrubbing Liquor- 39.7 PSIA; Pressure Drop- 25 inches H₂O; Gas Flow 80,630 ACF @ 140 F and 16 PSIA.

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

Describe the parameters monitored and/or methods used to indicate performance of this control device.
 Continuously measure the exit temperature of the thermal dryer; continuously measure the pressure of water supply to scrubber; continuously measure pressure loss through the scrubber. Applicant proposes to record pH set-point of the scrubber influent (5.0), which will serve as proof that Keystone is meeting its emission limit for SO₂ from the thermal dryer. This operational parameter can easily be monitored and proven by continuously recording the pH of the scrubber influent.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:

0002

List all emission units associated with this control device.

TD05 Thermal Dryer

Manufacturer:

Flex-Kleen

Model number:

NA

Installation date:

NA

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input 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 checked="" type="checkbox"/> Single Cyclone (2 dry cyclones) |
| <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
TSP	90%	95%

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

82" diameter involute dry cyclones guaranteed to remove 90% of the minus 28 mesh fines entrained in the air stream. The cyclones are designed for 5" H₂O pressure drop. The fine coal is discharged from the cyclones through 16" diameter rotary air locks.

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

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

Visual inspection recordkeeping of $\leq 20\%$ opacity; stack testing and recordkeeping ≤ 0.031 gr/dscf.

ATTACHMENT H

CONTINUOUS AIR MONITORING SHEETS

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 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
TD05	Thermal Dryer	TSP and SO ₂	Cyclone and Scrubber	CSR 45-10-4.1 2000 ppm maximum allowable loading	Continuously measure the exit temperature of the thermal dryer; continuously measure the pressure of water supply to scrubber; continuously measure pressure loss through the scrubber. Applicant proposes to record pH set-point of the scrubber influent (5.0), which will serve as proof that Keystone is meeting its emission limit for SO ₂ from the thermal dryer. This operational parameter can easily be monitored and proven by continuously recording the pH of the scrubber influent.

^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: TD05	4b) Pollutant: TSP/SO2	4c) ^a Indicator No. 1: Cyclone – Pressure Drop and Inlet Temperature	4d) ^a Indicator No. 2: Wet Scrubber – Water Pressure to Scrubber, Pressure Loss of the Inlet Airflow, and Pressure Drop Across Scrubber
5a) GENERAL CRITERIA Describe the <u>MONITORING APPROACH</u> used to measure the indicators:		Gauges	Gauges
^b Establish the appropriate <u>INDICATOR RANGE</u> or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		5.0 inches of H2O and 130 Degrees F	39.7 PSIA, 25 inches of H2O
5b) PERFORMANCE CRITERIA Provide the <u>SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA</u> , such as detector location, installation specifications, and minimum acceptable accuracy:		N/A	N/A
^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: 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.):		N/A	N/A
^d Provide the <u>MONITORING FREQUENCY</u> :		Calibration is conducted as required.	
Provide the <u>DATA COLLECTION PROCEDURES</u> that will be used:		Once per 8 hour shift	
Provide the <u>DATA AVERAGING PERIOD</u> for the purpose of determining whether an excursion or exceedance has occurred:		Recorded in paper form	
		Exceedances of the indicator ranges does not specifically indicate an emissions exceedance.	

^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 ≥ 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:
TD05

6b) Regulated Air Pollutant:
TSP and SO2

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):

Indicator numbers were provided in the Regulation 13 Permit Application dated August 2003.

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:

Compliance testing conducted for this permit application.

ATTACHMENT I

SUPPORTING EMISSIONS CALCULATIONS

By: CCS
Date: 04/19/06

Checked By: PEW
Draft

Total Facility Emissions Keystone #1 Coal Preparation Plant

Emissions Source Description	Regulated Air Pollutant	Uncontrolled Emissions		Controlled Emissions	
		Hourly (LB/HR)	Annual (TPY)	Hourly (LB/HR)	Annual (TPY)
Transfer Points	PM	18.54	33.48	11.18	18.78
	PM ₁₀	8.83	15.94	5.33	8.94
Material Sizing	PM	56.00	245.28	25.30	110.81
	PM ₁₀	26.67	116.8	12.05	52.77
Open Stockpiles	PM	2.33	10.18	0.582	2.56
	PM ₁₀	1.108	4.85	0.277	1.22
Haulroads	PM	594.83	1,446.82	139.76	415.48
	PM ₁₀	283.25	688.96	66.55	197.85
Thermal Dryer ⁽¹⁾	PM	N/A	N/A	9.19	31.70
	PM ₁₀	N/A	N/A	4.38	15.10
	SO ₂	N/A	N/A	12.77	44.05
	NO _x	N/A	N/A	51.59	178.00
	CO	N/A	N/A	15.94	55.00
	VOC	N/A	N/A	36.81	127.00
Facility Totals	PM	671.70	1735.76	186.02	579.33
	PM ₁₀	319.86	826.55	88.58	275.88
	SO ₂	N/A	N/A	12.77	44.05
	NO _x	N/A	N/A	51.59	178.00
	CO	N/A	N/A	15.94	55.00
	VOC	N/A	N/A	36.81	127.00

1. Permitted limits.

Summary of Emissions for Existing Equipment at Keystone No. 1 Preparation Plant

Emissions Source Description	Regulated Air Pollutant	Uncontrolled Emissions		Controlled Emissions		Net Change in PTE	
		Hourly (LB/HR)	Annual (TPY)	Hourly (LB/HR)	Annual (TPY)	Hourly (LB/HR)	Annual (TPY)
Transfer Points	TSP	8.66	28.54	5.29	15.83	0	0
	PM ₁₀	4.12	13.59	2.52	7.54	0	0
Material Sizing	TSP	56.00	245.28	25.30	110.81	0	0
	PM ₁₀	26.67	116.8	12.05	52.77	0	0
Open Stockpiles	TSP	0.037	0.16	0.012	0.05	0	0
	PM ₁₀	0.018	0.08	0.006	0.02	0	0
Haulroads	TSP	336.87	1,322.95	101.06	396.90	0	0
	PM ₁₀	160.41	629.98	48.12	189.00	0	0
Thermal Dryer	TSP	N/A	N/A	9.19	31.70	+1.96	0
	SO ₂	N/A	N/A	12.77	44.05	+10.19	+32.75
	NO _x	N/A	N/A	51.59	178.0	+10.99	0
	CO	N/A	N/A	15.94	55.0	+3.34	0
	VOC	N/A	N/A	36.81	127.00	+6.81	0

Notes:

1. Assumption - For each ton of PM₁₀ there are 2.1 tons of Total Suspended Particulate (TSP).
2. The emissions summary above is for existing equipment at Keystone No. 1.
3. For existing transfer points, material sizing equipment, open stockpiles and facility haulroads the summary on the above table represents emissions at previously permitted throughputs on existing sources with no change in existing controls. Any increase in emissions over previously calculated PTE is not due to modifications, but is due instead to the use of updated emission factors. Therefore, an increase indicated by these calculations does not equate an actual increase in emissions.
4. In regard to the thermal dryer, annual emission rates of particulate matter, nitrogen oxides, carbon monoxide and volatile organic compounds remain unchanged from previous Regulation 13 permit limits. Hourly rates of these pollutants have been adjusted accordingly to reflect a self imposed hourly operational limit of 6,900 hours on the thermal dryer's annual operation.
5. Emissions of sulfur dioxide from the thermal dryer have been increased on an hourly and annual basis. The annual increase is below the PSD modification threshold when comparing the new potential to past actuals.

Transfer Points - Existing Equipment

Defining transfer point empirical expression variables, where:

	Raw Coal	Clean-Wet	Clean-Dry	Refuse	
e =	?	?	?	?	lb/ton
k =	0.74	0.74	0.74	0.74	dimensionless
U =	10	10	10	10	mph
M =	10	20	6	20	%
e =	0.0006	0.0002	0.0013	0.0002	lb/ton

Transfer Point ID	Maximum Throughput		Emission Factor (lb/ton)	Uncontrolled TSP		Control Device	Control Efficiency (%)	Controlled TSP	
	Hourly (TPH)	Annual (TPY)		Hourly (LB/HR)	Annual (TPY)			Hourly (LB/HR)	Annual (TPY)
T1	450	3,942,000	0.0006	0.27	1.18	N	0	0.27	1.18
T2	450	3,942,000	0.0006	0.27	1.18	PE	50	0.14	0.59
T4	450	3,942,000	0.0006	0.27	1.18	PE	50	0.14	0.59
T5	450	3,942,000	0.0006	0.27	1.18	PE	50	0.14	0.59
T6	450	3,942,000	0.0006	0.27	1.18	PE	50	0.14	0.59
T7	See Note 2								
T8	See Note 2								
T10	450	3,942,000	0.0006	0.27	1.18	PE	50	0.14	0.59
T11	See Note 2								
T12	470	100,000	0.0006	0.28	0.03	N	0	0.28	0.03
T13	See Note 2								
T14	200	1,752,000	0.0006	0.12	0.53	N	0	0.12	0.53
T15	200	1,752,000	0.0006	0.12	0.53	PE	50	0.06	0.27
T16	200	1,752,000	0.0006	0.12	0.53	PE	50	0.06	0.27
T17	75	657,000	0.0002	0.02	0.07	PE	50	0.01	0.04
T18	350	100,000	0.0006	0.21	0.03	PE	50	0.11	0.02
T19	350	100,000	0.0006	0.21	0.03	N	0	0.21	0.03
T23	350	3,066,000	0.0006	0.21	0.92	PE	50	0.11	0.46
T24	350	3,066,000	0.0006	0.21	0.92	PE	50	0.11	0.46
T25	350	3,066,000	0.0006	0.21	0.92	PE	50	0.11	0.46
T26	350	3,066,000	0.0006	0.21	0.92	PE	50	0.11	0.46
T27	See Note 2								
T28	290	2,001,000	0.0013	0.38	1.30	FE	80	0.08	0.26
T29	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T30	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T31	See Note 2								
T32	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T33	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T34	See Note 2								
T35	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T37	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T38	290	2,001,000	0.0013	0.38	1.30	PE	50	0.19	0.65
T40	See Note 2								
			Uncontrolled Subtotal:	6.58	22.91		Controlled Subtotal:	3.67	11.97

Notes:

- Transfer points T3, T9, T20, T21, T22, T36, T39, T41 and T45 are being reserved.
- Determining particulate matter generated from these transfer points would double-count emissions.
- Calculations on this page represent emissions at previously permitted throughputs on existing sources with no change in existing controls. Any increase in emissions over the previous PTE is not due to modifications, but is due instead to the use of updated emission factors. Therefore, an increase indicated by these calculations does not equate an actual increase in emissions.

Emissions Estimating Method/Reference:

Emission Equation AP-42 Section 13.2.4, Aggregate Handling and Storage Piles (January 1995):

$$e = k * (0.0032)[(U/5)^{1.3} / (M/2)^{1.4}] \quad (\text{lbs/ton})$$

e = Emissions factor (lb/ton)

k = Particle size multiplier from AP-42 for particle size < 30 microns

U = Mean wind speed (mph)

M = Material moisture content (%)

Transfer Points (Continued) - Existing Equipment

Transfer point emission factors:

e = **Raw Coal 0.0006** **Clean-Wet 0.0002** **Clean-Dry 0.0013** **Refuse 0.0002** lb/ton

Transfer Point ID	Maximum Throughput		Emission Factor (lb/ton)	Uncontrolled TSP		Control Device	Control Efficiency (%)	Controlled TSP		
	Hourly (TPH)	Annual (TPY)		Hourly (LB/HR)	Annual (TPY)			Hourly (LB/HR)	Annual (TPY)	
T42	See Note 2									
T43	290	1,000,000	0.0013	0.38	0.65	N	0	0.38	0.65	
T44	290	1,000,000	0.0013	0.38	0.65	N	0	0.38	0.65	
T46	200	1,752,000	0.0002	0.04	0.18	PE	50	0.02	0.09	
T47	200	1,752,000	0.0002	0.04	0.18	PE	50	0.02	0.09	
T48	200	1,752,000	0.0002	0.04	0.18	PE	50	0.02	0.09	
T49	200	1,752,000	0.0002	0.04	0.18	PE	50	0.02	0.09	
T50	200	1,752,000	0.0002	0.04	0.18	PE	50	0.02	0.09	
T51	400	1,752,000	0.0002	0.08	0.18	PE	50	0.04	0.09	
T52	75	657,000	0.0002	0.02	0.07	PE	50	0.01	0.04	
T53	200	1,752,000	0.0006	0.12	0.53	PE	50	0.06	0.27	
T54	200	1,752,000	0.0006	0.12	0.53	PE	50	0.06	0.27	
T55	350	3,066,000	0.0002	0.07	0.31	FE	80	0.01	0.06	
T56	318.7	2,199,030	0.0002	0.06	0.22	FE	80	0.01	0.04	
T57	40	350,400	0.0002	0.01	0.04	FE	80	0.002	0.01	
T58	40	350,400	0.0002	0.01	0.04	PE	50	0.01	0.02	
T59	40	350,400	0.0002	0.01	0.04	PE	50	0.01	0.02	
T60	40	333,150	0.0002	0.01	0.03	N	0	0.01	0.03	
T61	40	17,250	0.0002	0.01	0.00	FE	80	0.002	0.00	
T62	200	1,752,000	0.0002	0.04	0.18	PE	50	0.02	0.09	
T63	400	1,752,000	0.0002	0.08	0.18	PE	50	0.04	0.09	
T64	400	1,752,000	0.0002	0.08	0.18	N	0	0.08	0.18	
T65	400	1,752,000	0.0002	0.08	0.18	N	0	0.08	0.18	
T66	400	1,752,000	0.0002	0.08	0.18	N	0	0.08	0.18	
T67	400	1,752,000	0.0002	0.08	0.18	N	0	0.08	0.18	
T68	400	1,752,000	0.0002	0.08	0.18	N	0	0.08	0.18	
T69	400	1,752,000	0.0002	0.08	0.18	N	0	0.08	0.18	
			Uncontrolled Subtotal:	2.08	5.63			Controlled Subtotal:	1.62	3.86

Notes:

1. Transfer points T3, T9, T20, T21, T22, T36, T39, T41 and T45 are being reserved.
2. Determining particulate matter generated from these transfer points would double-count emissions.
3. Calculations on this page represent emissions at previously permitted throughputs on existing sources with no change in existing controls. Any increase in emissions over the previous PTE is not due to modifications, but is due instead to the use of updated emission factors. Therefore, an increase indicated by these calculations does not equate an actual increase in emissions.

Emissions Estimating Method/Reference:

Emission Equation AP-42 Section 13.2.4, Aggregate Handling and Storage Piles (January 1995):

$$e = k * (0.0032)[(U/5)^{1.3} / (M/2)^{1.4}] \quad (\text{lbs/ton})$$

e = Emissions factor (lb/ton)

k = Particle size multiplier from AP-42 for particle size < 30 microns

U = Mean wind speed (mph)

M = Material moisture content (%)

Material Sizing (Breaking, Crushing and Screening) - Existing Equipment

Material sizing emission factors:

Primary Crushing = **0.02** lb/ton processed (maximum raw coal input)
 Secondary Crushing = **0.06** lb/ton processed (maximum raw coal input)
 Screening = **0.10** lb/ton processed (maximum raw coal input)

Sizer ID Number	Maximum Throughput		Emission Factor (lb/ton)	Uncontrolled TSP		Control Device	Control Efficiency (%)	Controlled TSP	
	Hourly (TPH)	Annual (TPY)		Hourly (LB/HR)	Annual (TPY)			Hourly (LB/HR)	Annual (TPY)
Primary Crushing									
SZ01	450	3,942,000	0.02	9.00	39.42	FE	80	1.80	7.88
Secondary Crushing									
SZ03	200	1,752,000	0.06	12.00	52.56	PE	50	6.00	26.28
Screening									
SZ02 & SZ04	350	3,066,000	0.10	35.00	153.30	PE	50	17.50	76.65
			Uncontrolled Subtotal:	56.00	245.28		Controlled Subtotal:	25.30	110.81

Notes:

1. Calculations on this page represent emissions at previously permitted throughputs on existing sources with no change in existing controls. Any increase in emissions over the previous PTE is not due to modifications, but is due instead to the use of updated emission factors. Therefore, an increase indicated by these calculations does not equate an actual increase in emissions.

Emissions Estimating Method/Reference:

Air Pollution Engineering Manual and References

Open Stockpiles (Wind Erosion) - Existing Equipment

Defining open stockpile empirical expression variables, where:

	Raw Coal	Clean Coal	
e =	?	?	lb/day/acre
s =	1	1	%
p =	157	157	days
f =	10	10	%
e =	0.67	0.67	lb/day/acre

Open Stockpile ID Number	Stockpile Base Area (ft ²)	Emission Factor (lb/day/acre)	Uncontrolled TSP Hourly (LB/HR)	Uncontrolled TSP Annual (TPY)	Control Device	Control Efficiency (%)	Controlled TSP Hourly (LB/HR)	Controlled TSP Annual (TPY)
Raw Coal Stockpile								
ST1	5,000	0.67	0.003	0.01	N	0	0.003	0.01
Clean Coal Stockpile								
ST8	52,605	0.67	0.034	0.15	DSA	75	0.009	0.04
		Uncontrolled Subtotal:	0.037	0.16		Controlled Subtotal:	0.012	0.05

Notes:

1. Calculations on this page represent emissions at previously permitted throughputs on existing sources with no change in existing controls. Any increase in emissions over the previous PTE is not due to modifications, but is due instead to the use of updated emission factors. Therefore, an increase indicated by these calculations does not equate an actual increase in emissions.

Emissions Estimating Method/Reference

Emission Equation AP-42 Section 11.2.3, Aggregate Handling and Storage Piles (May 1983):

$$e = 1.7 * (s/1.5) [(365-p)/235] (f/15) \text{ (lb/day/acre)}$$

e = Emissions factor (lb/day/acre)

s = Silt content of open stockpile (%)

p = Number of days with at least 0.01 in. of precipitation per year

f = Percentage of time where unobstructed wind speed > 12 mph (%)

Vehicular Traffic (Unpaved Haulroads) - Existing Equipment

Defining unpaved haulroads empirical expression variables, where:

	Plant Trucks	
e =	?	lb/VMT
k =	10	dimensionless, particle size multiplier
s =	9	%, surface material silt content
W =	41.625	tons, mean vehicle weight
M =	0.2	% dry, surface material moisture content
a =	0.8	constant
b =	0.5	constant
c =	0.4	constant
p =	157	# days/year with 0.1 in of rain
e =	16.86	lb/VMT

Source Description	Number of Vehicles		Miles Per Trip (miles)	Uncontrolled TSP		Control Device	Control Efficiency (%)	Controlled TSP		
	Hourly	Annual		Hourly (LB/HR)	Annual (TPY)			Hourly (LB/HR)	Annual (TPY)	
HR-A	2	15,494	0.53	17.87	69.23	WT	70	5.36	20.77	
HR-B	15	123,952	0.64	161.86	668.75	WT	70	48.56	200.63	
HR-C	4	30,988	1.86	125.44	485.89	WT	70	37.63	145.77	
HR-D	8	27,211	0.11	14.84	25.23	WT	70	4.45	7.57	
Endloader	1	8760	1.00	16.86	73.85	WT	70	5.06	22.16	
Uncontrolled Subtotal:				336.87	1,322.95			Controlled Subtotal:	101.06	396.90

	HR-A	HR-B	HR-C	HR-D
Hourly =	65	520	130	290
Annual =	569,400	4,555,200	1,138,800	1,000,000
Load per truck =	36.75	36.75	36.75	36.75
Trucks per hour =	2	15	4	8
Trucks per year =	15,494	123,952	30,988	27,211

Notes:

- HR-A is a 1,400 ft section of unpaved haulroad from the mainline railroad tracks up Clark Branch to the Y intersection. It is assumed that 10% of the raw coal total coming to the plant travels this section of haulroad.
- HR-B is a 1,700 ft section of unpaved haulroad from the Y intersection to the plant truck dump. It is assumed that 80% of the raw coal total coming to the plant travels this section of haulroad. HR-B includes traffic from HR-A.
- HR-C is a 4,900 ft section of unpaved haulroad from County Route 6 at the Keystone No. 1 mine yard along the old tram road to the plant truck dump. It is assumed that 20% of the raw coal total coming to the plant travels this section of haulroad.
- HR-D is a 300 ft section of unpaved haulroad from the preparation plant rail loadout (T38) to open stockpile ST8.
- The endloader is used to load trucks and railcars only and its travel is estimated as one vehicle traveling one mile every hour; therefore, 8,760 hrs/yr. This is a rough estimate to include endloader emissions.
- Maximum raw coal input to the facility is 650 tons/hr and 5,694,000 tons/yr.
- Clean coal is transported to open stockpile ST8 at the maximum rate of 290 tons/yr and 1,000,000 tons/yr.
- Maximum loaded truck weight is 120,000 lbs.
- Calculations on this page represent emissions at previously permitted throughputs on existing sources with no change in existing controls. Any increase in emissions over the previous PTE is not due to modifications, but is due instead to the use of updated emission factors. Therefore, an increase indicated by these calculations does not equate an actual increase in emissions.

Emissions Estimating Method/Reference

Emission Equation AP-42 Section 13.2.2, Unpaved Roads (September 1998):

$$e = k [(s/12)^a (W/3)^b / (M_{dry}/0.2)^c] [(365-p)/365]$$

e = Emission factor, pounds per vehicle-mile-traveled, (lb/VMT)

k, a, b, & c = Constants for equation given in AP-42 Table 13.2.2-2 (dimensionless)

s = Silt content of road surface material (%)

W = Mean vehicle weight, ton

p = Number of days with at least 0.254 mm (0.01 in.) of precipitation per year

Thermal Dryer (Coal Drying) - Existing Equipment

Thermal Dryer Pollutant	Hourly Permit Limit (LB/HR)	Operational Hours Restriction (Hours)	Annual Permit Limit (TPY)
Particulate Matter	9.19	6,900	31.7
Sulfur Dioxide	12.77	6,900	44.05
Nitrogen Oxides	51.59	6,900	178.0
Carbon Monoxide	15.94	6,900	55.0
Volatile Organic Compounds	36.81	6,900	127.0

Notes:

1. Annual emissions of particulate matter, nitrogen oxides, carbon monoxide and volatile organic compounds remain unchanged from Regulation 13 permit, R13-0308A, issued on August 27, 2002.
2. Short term, hourly emissions of particulate matter, nitrogen oxides, carbon monoxide and volatile organic compounds have been increased in relation with the requested limit on thermal dryer's hours of operation.
3. The hourly and annual emission rate of sulfur dioxide from the thermal dryer is being increased at a level below the major modification threshold for PSD applicability of 40 tons/yr. The average actual sulfur dioxide emission rate for 2000 and 2001 was 6.55 tons/yr. The requested increase in annual sulfur dioxide emissions is 37.5 tons/yr (<40 tons/yr) which equates to an allowable annual emission rate of 6.55 tons/yr + 37.5 tons/yr = 44.05 tons/yr.

Summary of Emissions for Proposed Equipment at Keystone No. 1 Preparation Plant

Emissions Source Description	Regulated Air Pollutant	Uncontrolled Emissions		Controlled Emissions	
		Hourly (LB/HR)	Annual (TPY)	Hourly (LB/HR)	Annual (TPY)
Transfer Points	TSP	9.88	4.94	5.89	2.95
	PM ₁₀	4.71	2.35	2.81	1.41
Open Stockpiles	TSP	2.29	10.02	0.57	2.51
	PM ₁₀	1.09	4.77	0.27	1.20
Haulroads	TSP	257.96	123.87	38.70	18.58
	PM ₁₀	122.84	58.99	18.43	8.85

Annual TSP Increase (tpy) = 24.04 *< 25 tpy PSD modification trigger threshold for TSP*
Annual PM₁₀ Increase (tpy) = 11.46 *< 15 tpy PSD modification trigger threshold for PM₁₀*

Notes:

1. Assumption - For each ton of PM₁₀ there are 2.1 tons of Total Suspended Particulate (TSP).
2. The emissions summary above is for proposed equipment at Keystone No. 1 which includes the Eckman Loadout and hydrated lime bin for the control of SO₂ from the thermal dryer.

Transfer Points - Proposed Equipment

Defining transfer point empirical expression variables, where:

	Synfuel/Coal	Lime	
e =	?	?	lb/ton
k =	0.74	0.74	dimensionless
U =	10	10	mph
M =	4.5	1	%
e =	0.0019	0.0154	lb/ton

Transfer Point ID	Maximum Throughput		Emission Factor (lb/ton)	Uncontrolled TSP		Control Device	Control Efficiency (%)	Controlled TSP	
	Hourly (TPH)	Annual (TPY)		Hourly (LB/HR)	Annual (TPY)			Hourly (LB/HR)	Annual (TPY)
T70	1,000	1,000,000	0.0019	1.90	0.95	N	0	1.90	0.95
T71	See Note 1								
T72	See Note 1								
T73	See Note 1								
T74	See Note 1								
T75	1,000	1,000,000	0.0019	1.90	0.95	PE	50	0.95	0.48
T76	1,000	1,000,000	0.0019	1.90	0.95	FE	80	0.38	0.19
T77	1,000	1,000,000	0.0019	1.90	0.95	FE	80	0.38	0.19
T78	See Note 1								
T79	See Note 1								
T80	See Note 1								
T81	1,000	1,000,000	0.0019	1.90	0.95	N	0	1.90	0.95
T82	200	200,000	0.0019	0.38	0.19	N	0	0.38	0.19
T83	0.025	175	0.0154	0.0004	0.0013	N	0	0.0004	0.0013
T84	0.025	175	0.0154	0.0004	0.0013	FE	80	0.0001	0.0003
T85	0.025	175	0.0154	0.0004	0.0013	PE	50	0.0002	0.0007
Uncontrolled Subtotal:				9.88	4.94	Controlled Subtotal:		5.89	2.95

Notes:

1. Determining particulate matter generated from these transfer points would double-count emissions. Emissions are calculated for those points that represent the worst-case emissions scenario.

Emissions Estimating Method/Reference:

Emission Equation AP-42 Section 13.2.4, Aggregate Handling and Storage Piles (January 1995):

$$e = k * (0.0032)[(U/5)^{1.3} / (M/2)^{1.4}] \quad (\text{lbs/ton})$$

e = Emissions factor (lb/ton)

k = Particle size multiplier from AP-42 for particle size < 30 microns

U = Mean wind speed (mph)

M = Material moisture content (%)

Open Stockpiles (Wind Erosion) - Proposed Equipment

Defining open stockpile empirical expression variables, where:

Synfuel
 e = ? lb/day/acre
 s = 10.26 %
 p = 157 days
 f = 10 %

 e = 6.86 lb/day/acre

Open Stockpile ID Number	Stockpile Base Area (ft ²)	Emission Factor (lb/day/acre)	Uncontrolled TSP Hourly (LB/HR)	Uncontrolled TSP Annual (TPY)	Control Device	Control Efficiency (%)	Controlled TSP Hourly (LB/HR)	Controlled TSP Annual (TPY)
Eckman Loadout Stockpiles								
ST15	348,480	6.86	2.29	10.02	WS	75	0.57	2.51
		Uncontrolled				Controlled		
		Subtotal:	2.29	10.02		Subtotal:	0.57	2.51

Emissions Estimating Method/Reference

Emission Equation AP-42 Section 11.2.3, Aggregate Handling and Storage Piles (May 1983):

$$e = 1.7 * (s/1.5) [(365-p)/235] (f/15) \text{ (lb/day/acre)}$$

e = Emissions factor (lb/day/acre)

s = Silt content of open stockpile (%)

p = Number of days with at least 0.01 in. of precipitation per year

f = Percentage of time where unobstructed wind speed > 12 mph (%)

Vehicular Traffic (Unpaved Haulroads) - Proposed Equipment

Defining unpaved haulroads empirical expression variables, where:

	Plant Trucks	
e =	?	lb/VMT
k =	10	dimensionless, particle size multiplier
s =	9	%, surface material silt content
W =	41.625	tons, mean vehicle weight
M =	0.2	% dry, surface material moisture content
a =	0.8	constant
b =	0.5	constant
c =	0.4	constant
p =	157	# days/year with 0.1 in of rain
e =	16.86	lb/VMT

Source Description	Number of Vehicles		Miles Per Trip (miles)	Uncontrolled TSP		Control Device	Control Efficiency (%)	Controlled TSP	
	Hourly	Annual		Hourly (LB/HR)	Annual (TPY)			Hourly (LB/HR)	Annual (TPY)
HR-E	28	27,211	0.45	212.44	103.22	WT	85	31.87	15.48
HR-F	6	5,443	0.45	45.52	20.65	WT	85	6.83	3.10
			Uncontrolled Subtotal:	257.96	123.87		Controlled Subtotal:	38.70	18.58

	HR-E	HR-F
Hourly =	1,000	200
Annual =	1,000,000	200,000
Load per truck =	36.75	36.75
Trucks per hour =	28	6
Trucks per year =	27,211	5,443

Notes:

- HR-E and HR-F represent a 1,200 ft section of unpaved haulroad from public road to open stockpile ST15 at Eckman Loadout. HR-E is vehicular traffic to Eckman Loadout while HR-F represents trucks that are reloaded to be shipped off site rather than being shipped by railcar.
- Maximum material input to the facility is 1,000 tons/hr and 1,200,000 tons/yr.
- Maximum material output from the facility via trucks is 200 tons/hr and 200,000 tons/yr.
- Maximum loaded truck weight is 120,000 lbs.

Emissions Estimating Method/Reference

Emission Equation AP-42 Section 13.2.2, Unpaved Roads (September 1998):

$$e = k [(s/12)^a (W/3)^b / (M_{dry}/0.2)^c] [(365-p)/365]$$

e = Emission factor, pounds per vehicle-mile-traveled, (lb/VMT)

k, a, b, & c = Constants for equation given in AP-42 Table 13.2.2-2 (dimensionless)

s = Silt content of road surface material (%)

W = Mean vehicle weight, ton

p = Number of days with at least 0.254 mm (0.01 in.) of precipitation per year