west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2459B
Plant ID No.:	061-00013
Applicant:	Patriot Mining Company, Inc.
Facility Name:	Maidsville
Location:	Monongalia County
SIC Code:	1221
Application Type:	Modification
Received Date:	February 05, 2010
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$300
Date Received:	February 08, 2010
Complete Date:	May 17, 2010
Applicant Ad Date:	May 01, 2010
Newspaper:	*The Dominion Post*
UTM's:	Easting: 587.710 km Northing: 4,392.543 km Zone: 17
Description:	This application is for a Modification to existing permit (13-2459A) to increase the throughput for the Rail Loadout facility from 300,000 tons per year (TPY) to 600,000 TPY.

DESCRIPTION OF PROCESS (taken from application)

Existing equipment and process permitted under R13-2459A consists of coal being trucked onto the site and dumped onto one of two open stockpile OS-1 and OS-2. The Maidsville facilities provide Rail Loadout, River Loadout and Truck Loadout. The following describes each of the loadout processes and the associated equipment:

Rail Loadout Facility:

Raw coal is trucked to open stockpile OS-1 (SW-WS) where it is unloaded at transfer point TP-1. An endloader transfers a portion of raw coal from OS-1 at TP-2 to bin 1S (UD-PW) at TP-3. Bin 1S transfers raw coal to crusher 2S (CS-PE) at TP-4. Coal will pass through crusher 2S and onto 36" belt conveyor BC-3S (PE) at TP-5. Belt conveyor BC-3S will move sized coal to loadout chute 5S (PE) at TP-6. Loadout chute 5S transfers sized coal in the train/coal cars at TP-7. The remainder of raw coal is transferred by endloader from OS-1 at TP-2 to bin 6S (UD-PW) at TP-8. Bin 6S transfers raw coal onto belt conveyor BC-7S (PE) at TP-9. Belt conveyor BC-7S transfers raw coal to crusher 8S (CS-PE) at TP-10. Sized coal will exit the crusher 8S onto a 36" belt conveyor BC-9S (PE) at TP-11. Belt conveyor BC-9S will transfer sized coal to a 36" belt conveyor BC-10S (PE) at TP-12. Belt conveyor BC-10S will transfer sized coal to a 36" belt conveyor BC-3S (PE) at TP-13. Belt conveyor BC-3S will transfer sized coal to loadout chute 5S at TP-6. Loadout chute 5S transfers sized coal in the train/coal cars at TP-7.

River Loadout Facility:

Raw coal is trucked to open stockpile OS-2 (SW-WS) where it is unloaded at transfer point TP-14. An endloader transfers a portion of raw coal from OS-2 at TP-15 to bin 14S (UD-PW) at TP-16. Bin 14S transfers raw coal to a 48" belt conveyor BC-15S (PE) at TP-17. Belt conveyor BC-15S transfers raw coal to 48" belt conveyor BC-17S (PE) at TP-18. Another portion of raw coal is transferred by endloader from OS-2 at TP-14 to bin 16S (UD-PW) at TP-19. Bin 16S also transfers raw coal onto 48" belt conveyor BC-17S (PE) at TP-20. Belt Conveyor BC-17S will carry raw coal to the vibrating screen 18S (PE) at TP-21. Vibrating screen 18S will drop raw coal to crusher 19S (CS-PE) at TP-22. Coal will pass through crusher 19S and onto 48" belt conveyor BC-20S (PE) at TP-23. Belt conveyor BC-20S will move sized coal to 48" belt conveyor BC-21S (PE) at TP-24. Belt conveyor BC-21S then transfers sized coal to 48" belt conveyor BC-24S (PE) at TP-25. Belt conveyor BC-24S then transfers sized coal to 48" belt conveyor BC-25S (PE) at TP-26. Belt conveyor BC-25S transfers sized coal into loadout chute 26S (PE) at TP-27. Loadout chute 26S transfers sized coal into a coal barge at TP-28. The remainder of raw coal transferred by endloader from OS-2 is transferred to bin 22S (PE) at TP-29. Bin 22S transfers raw coal onto 36" belt conveyor BC-23S at TP-30. Belt conveyor BC-23S will move raw coal to 48" belt conveyor BC-21S (PE) at TP-31. Belt conveyor BC-21S then transfers raw coal to 48" belt conveyor BC-24S (PE) at TP-25. Belt conveyor BC-24S then transfers raw coal to 48" belt conveyor BC-25S (PE) at TP-26. Belt conveyor BC-25S transfers raw coal into loadout chute 26S (PE) at TP-27. Loadout chute 26S transfers sized coal into a coal barge at TP-28.

Truck Loadout Facility:

Raw coal is trucked to open stockpile OS-2 (SW-WS) where it is unloaded at transfer point TP-32. An endloader transfers a portion of raw coal from OS-2 at TP-33 to bin 30S (UD-PW) at TP-34. Bin 30S transfers raw coal onto 48" belt conveyor BC-31S (PE) at TP-35. Belt conveyor BC-31S will transfer raw coal to crusher 32S (CS-PE) at TP-36. Coal will pass through crusher 32S and onto 48" belt conveyor BC-33S (PE) at TP-37. Belt conveyor BC-33S will move sized coal to 48" belt conveyor BC-34S (PE) at TP-38. Belt conveyor BC-34S then transfers sized coal to 48" belt conveyor BC-35S (PE) at TP-25. Belt conveyor BC-35S then transfers sized coal to open stockpile

OS-43S (PE) at TP-40. An endloader will load sized coal from OS-43S at TP-41 and transfer the sized coal to truck bin chute 41S (PE) at TP-42. The truck bin chute will place the coal into the trucks at TP-43.

There are no VOC's or HAP's associated with these loadout facilities.

The facilities shall be constructed and operated in accordance with the following equipment and control device information:

Equip-ment ID No.	AMR[1]	Year	Description	Maximum Rated Throughputs		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10 [3]		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
Rail Loadout Circuit									
OS-1	M	1980	41,000 ft [2] - Open Raw Coal Storage Stockpile receives coal from trucks and loadsout to endloader	----	600	SW-WS	B A A A	TP-1 TP-2 TP-3 TP-8	TD-MDH LO-RC UD-PE UD-PE
1S	M	2010	25 Ton Feed Bin - receives coal from front-end loader and transfers to crusher 2S.	700	400	PE	B A	TP-3 TP-4	UD-PE PE
2S	M	2010	Crusher receives raw coal from bin 1S, crushes and discharges onto belt conveyor BC-3S.	700	400	PE	B A	TP-4 TP-5	PE PE
6S	M	2010	40 Ton Feed Bin - receives coal from front-end loader and transfers to belt conveyor BC-7S.	300	200	PE	B A	TP-8 TP-9	UD-PE PE
BC-7S	M	2010	36" Belt Conveyor for transfer of coal - transfers raw coal from bin 6S to crusher 8S.	300	200	PE	B A	TP-9 TP-10	PE PE
8S	M	2010	Crusher receives raw coal from bin 6S, crushes and discharges onto belt conveyor BC-9S.	300	200	PE	B A	TP-10 TP-11	PE PE
BC-9S	M	2010	36" Belt Conveyor for transfer of sized coal - transfers sized coal from crusher 8S to belt conveyor BC-10S.	300	200	PE	B A	TP-11 TP-12	PE PE
BC-10S	M	2010	36" Belt Conveyor for transfer of sized coal - transfers sized coal from belt conveyor BC-9S to belt conveyor BC-3S.	300	200	PE	B A	TP-12 TP-13	PE PE
BC-3S	M	2010	36" Belt Conveyor for transfer of sized coal - transfers sized coal from crusher 2S and belt conveyor BC-10S to loadout chute 5S.	1,000	600	PE	B B A	TP-5 TP-13 TP-6	PE PE PE
5S	M	2010	Loadout Chute - receives sized coal from belt conveyor BC-3S and transfers to rail cars.	1,000	600	PE	B A	TP-6 TP-7	PE LR-TC
River Loadout Circuit									
OS-2	M	1980	112,000 ft [2] - Open Raw Coal Storage Stockpile receives coal from trucks and loadsout to endloader (Note: OS-2 is utilized for both River Loadout and Truck Loadout).	----	1,800	SW-WS	B A A A A	TP-14 TP-15 TP-16 TP-19 TP-29	TD-MDH LO-RC UD-PE UD-PE UD-PE
14S	M	1980	32 Ton Feed Bin - receives coal from front-end loader and transfers to belt conveyor BC-15S.	300	720	PE	B A	TP-16 TP-17	UD-PE PE
BC-15S	M	1980	48" Belt Conveyor for transfer of coal - transfers raw coal from bin 14S to belt conveyor BC-17S.	300	720	PE	B A	TP-17 TP-18	PE PE
16S	M	1980	32 Ton Feed Bin - receives coal from front-end loader and transfers to belt conveyor BC-17S.	300	720	PE	B A	TP-19 TP-20	PE PE
BC-17S	M	1980	48" Belt Conveyor for transfer of coal - transfers raw coal from bin 14S to vibrating screen 18S.	600	1,440	PE	B B A	TP-18 TP-20 TP-21	PE PE PE

Equip-ment ID No.	AMR[1]	Year	Description	Maximum Rated Throughputs		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10 [3]		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
18S	M	1980	Vibrating Screen receives raw coal from belt conveyor BC-17S and drop raw coal into crusher 19S.	600	1,440	PE	B A	TP-21 TP-22	PE PE
19S	M	1980	Crusher receives raw coal from vibrating screen 18S, crushes and discharges onto belt conveyor BC-20S.	600	1,440	PE	B A	TP-22 TP-23	PE PE
BC-20S	M	1980	48" Belt Conveyor for transfer of sized coal - transfers sized coal from crusher 19S to belt conveyor BC-21S.	600	1,440	PE	B A	TP-23 TP-24	PE PE
22S	M	1980	32 Ton Feed Bin - receives coal from front-end loader and transfers to belt conveyor BC-23S.	150	360	PE	B A	TP-29 TP-30	UD-PE PE
BC-23S	M	1980	36" Belt Conveyor for transfer of coal - transfers raw coal from bin 22S to belt conveyor BC-21S	150	360	PE	B A	TP-30 TP-31	PE PE
BC-21S	M	1980	48" Belt Conveyor for transfer of coal - transfers raw coal from belt conveyor BC-23S or sized coal from belt conveyor BC-20S to belt conveyor BC-24S	750	1,800	PE	B B A	TP-31 TP-24 TP-25	PE PE PE
BC-24S	M	1980	48" Belt Conveyor for transfer of coal - transfers raw/sized coal from belt conveyor BC-21S to belt conveyor BC-25S	750	1,800	PE	B A	TP-25 TP-26	PE PE
BC-25S	M	1980	48" Belt Conveyor for transfer of coal - transfers raw/sized coal from belt conveyor BC-24S to loadout chute 26S.	750	1,800	PE	B A	TP-26 TP-27	PE PE
26S	M	1980	Loadout Chute - receives raw/sized coal from belt conveyor BC-25S and transfers to barge.	750	1,800	PE	B A	TP-27 TP-28	PE LR-TC
Truck Loadout Circuit									
OS-2	M	1980	112,000 ft [2] - Open Raw Coal Storage Stockpile receives coal from trucks and loadsout to endloader (Note: OS-2 is utilized for both River Loadout and Truck Loadout).	----	1,800	SW-WS	B A A	TP-32 TP-33 TP-34	TD-MDH LO-RC UD-PE
30S	M	1980	45 Ton Feed Bin - receives coal from front-end loader and transfers to belt conveyor BC-31S.	200	500	PE	B A	TP-34 TP-35	UD-PE PE
BC-31S	M	1980	48" Belt Conveyor for transfer of coal - transfers raw coal from bin 30S to crusher 32S.	200	500	PE	B A	TP-35 TP-36	PE PE
32S	M	1980	Crusher receives raw coal from belt conveyor BC-31S, crushes and discharges onto belt conveyor BC-33S.	200	500	PE	B A	TP-36 TP-37	PE PE
BC-33S	M	1980	48" Belt Conveyor for transfer of sized coal - transfers sized coal from crusher 32S to belt conveyor BC-34S.	200	500	PE	B A	TP-37 TP-38	PE PE
BC-34S	M	1980	48" Belt Conveyor for transfer of sized coal - transfers sized coal from belt conveyor BC-33S to belt conveyor BC-35S.	200	500	PE	B A	TP-38 TP-39	PE PE
BC-35S	M	1980	48" Belt Conveyor for transfer of sized coal - transfers sized coal from belt conveyor BC-34S to Open Sized Coal Stockpile OS-43S..	200	500	PE	B A	TP-39 TP-40	PE PE
OS-43S	M	1980	3,100 ft [2] - Open Sized Coal Storage Stockpile receives coal from belt conveyor BC-35S and loadsout to endloader	200	500	PE	B A A	TP-40 TP-41 TP-42	PE PE LO-RC
41S	M	1980	Loadout Chute - receives sized coal from endloader and then place the sized coal into trucks.	200	500	PE	B A	TP-42 TP-43	LO-RC LR-TC

[1] A - Addition; M - Modification; R - Removal (Existing unmodified equipment to be included in the permit is labeled with an M.)

[2] PE - Partial Enclosure; LR-TC - Railcar/Barge/Truck Loadout w/ Telescoping Chutes; TD-MDH - Truck Dump, Minimum Drop Height; UD-PE - Partially Enclosed Dump Bin; LO-RC - Endloader from Stockpile

[3] Value X 1,000

INSTALLATION AND STARTUP SCHEDULE

Modification to the Rail Loadout Facility is expected to occur on 04/01/2010 or upon receipt of approved permit.

DESCRIPTION OF FUGITIVE EMISSIONS

Potential sources of fugitive particulate emissions for this facility include emissions that are not captured by pollution control equipment, emissions from open stockpiles and vehicular traffic on paved and unpaved haulroads and work areas. The haulroads, stockpiles and work areas will be controlled by water sprays and by water truck. The water truck will be operated on a regular basis, depending on weather conditions and the operating schedule for the facility.

All belt conveyors are partially enclosed and equipment transfer points are partially enclosed. Water sprays are located at various transfer points throughout the facility to be used on an as needed basis.

An additive to prevent freezing will be utilized in the winter months when freezing conditions are present, but in keeping with MSHA Safety Standards.

SITE INSPECTION

This facility is inspected on a regular basis by Brian Tephabock of our compliance and enforcement section from our North Central Regional Office. The facility receives generally good inspection scores. I have notified Brian of the request to increase throughput of the Rail Loadout facility from 300,000 TPY to 600,000 TPY.

Directions to the Patriot Mining Company, Inc., Maidsville facility are as follows: From intersection of Route 100 and Fort Martin Road, along the west bank of the Monangahela River approximately 100 yards.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, storage piles and unpaved haulroads are based on AP-42 “Compilation of Air Pollution Emission Factors.” Control efficiencies were applied based on “Calculation of Particulate Matter Emission - Coal Preparation Plants and Material Handling Operations.” The estimated emission calculations were performed by the applicant’s consultant and were checked for accuracy and completeness by the writer.

The proposed modification will result in an estimated potential to discharge controlled emissions of 567.37 pounds per hour and 289.82 TPY of particulate matter, of which 128.04 pounds per hour and 72.28 TPY are less than ten (10) microns in diameter. Patriot Mining Company, Inc.

proposed modification will result in the following estimated potential to discharge controlled emissions:

Emissions Summary - ***Patriot Mining Company, Inc. Maidsville Facility***	Controlled PM Emissions		Controlled PM_{10} Emissions		Change in PM Emissions		Change in PM_{10} Emissions	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Fugitive Emissions								
Stockpile Emissions	0.30	1.31	0.14	0.62	0.00	0.00	0.00	0.00
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	519.52	232.55	101.29	45.34	0.00	19.95	0.00	3.89
Fugitive Emissions Total	*519.82*	*233.86*	*101.43*	*45.96*	*0.00*	*19.95*	*0.00*	*3.89*
Point Source Emissions								
Equipment Emissions	48.00	48.70	22.56	22.89	30.00	37.50	14.10	17.63
Transfer Point Emissions	8.55	7.26	4.04	3.43	0.00	0.52	0.00	0.24
Point Source Emissions Total	*56.55*	*55.96*	*26.60*	*26.32*	*30.00*	*38.02*	*14.10*	*17.87*
FACILITY EMISSIONS TOTAL	**576.37**	**289.82**	**128.04**	**72.28**	**30.00**	**57.97**	**14.10**	**21.76**

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The proposed modification of a coal processing plant will be subject to the following state and federal rules:

45CSR5 To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants and Coal Handling Operations

The facility is subject to the requirements of 45CSR5 because it meets the definition of "Wet wash coal preparation plant" found in subsection 45CSR5.2.4. The facility should be in compliance with Section 3 (less than 20% opacity) and Section 6 (fugitive dust control system and dust control of the premises and access roads) when the particulate matter control methods and devices proposed within application R13-2459B and any amendments thereto are in operation.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed modification is subject to the requirements of 45CSR13 because it will result in an increase in potential to discharge controlled emissions greater than six (6) pounds per hour and ten (10) tons per year, and 144 pounds per day of a regulated air pollutant (PM and PM_{10}). The applicant submitted the proper $1000 application fee and published a Class I legal advertisement in the *The Dominion Post* on May 01, 2010.

45CSR16 Standards of Performance for New Stationary Sources
40 CFR 60 Subpart Y: Standards of Performance for Coal Preparation and Processing Plants

The proposed modification is subject to 40 CFR 60 Subpart Y because it was constructed after October 24, 1974 and will process more than 200 tons of coal per day. Therefore, the proposed modification is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants. The facility should be in compliance with Section 254(a) (less than 20% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified on or before April 28, 2008) and Section 254(b) (less than 10% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified after April 28, 2008) when the particulate matter control methods and devices proposed are in operation..

45CSR30 Requirements for Operating Permits

The facility's potential to emit will be 26.32 TPY of a regulated air pollutant (PM_{10}), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY for a major source. However, the facility is subject to 40 CFR 60 Subpart Y. Therefore, the facility is still subject to 45CSR30 and remains classified as a Title V deferred non-major source.

The proposed modification will <u>not</u> be subject to the following state and federal rules:

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

In accordance with 45CSR14 Major Source Determination, the proposed coal handling and truck loadout facility is not listed in Table 1. The facility will have the potential to emit 55.96 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. In accordance with subsection 2.4.3.d, this facility is not listed in Table 1, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed modifications are not subject to the requirements set forth within 45CSR14.

<u>TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS</u>

A toxicity analysis was not performed because the pollutants being emitted from this facility are PM (particulate matter) and PM_{10} (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and proposed location of this facility. This facility will be located in Monongalia County, WV, which is currently in attainment for PM (particulate matter), PM_{10} (particulate matter less than 10 microns in diameter) and $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter).

MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily and monthly records. An example form is included as Appendix A to Permit R13-2459B. An example form for tracking the amount of water applied through the water truck is included as Appendix B to Permit R13-2459B. An example form for the Monthly Opacity Testing is included as Appendix C to Permit R13-2459B. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on site by the permittee for at least five (5) years and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this modification permit application indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. No public comments were received. Therefore, the granting of a permit to Patriot Mining Company, Inc. for the modification of their facility located in Maidsville, Monongalia County, WV is hereby recommended.

Thornton E. Martin Jr.,
Permit Engineer

May 17, 2010
Date