

May 9, 2008  
Project No. G06783B

Ms. Melissa Byrnes  
Thermal Process Unit  
MDEQ–Air Quality Division  
Constitution Hall, 3<sup>rd</sup> Floor North  
525 West Allegan Street  
Lansing, MI 48909-7760

Re: Wolverine Power Supply Cooperative's (Wolverine's) Air Use Permit to Install  
Application No. 317-07  
Wolverine Clean Energy Venture (WCEV)  
Response to MDEQ Additional Information Request

Dear Ms. Byrnes:

On behalf of Wolverine, Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H) is submitting documentation in response to your request of April 23, 2008, for a preliminary Malfunction Abatement Plan (MAP) for the CFB boilers' emissions control equipment and a Startup/Shutdown Plan for all equipment. We have also included a copy of our preliminary Fugitive Emissions Control Program as compiled with District staff input and our response to the draft material handling, storage and fugitive dust permit conditions proposed by Mr. Matt Hall.

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### **Preliminary Malfunction Abatement Plan**

We have prepared the preliminary MAP in a summary table format for (1) Preventive Maintenance and (2) Malfunction Response activities. As noted in the enclosed document, this listing may also include additional controlled sources within the facility at the discretion of the District Supervisor.

Prior to selection of equipment vendors, we are very restricted in the level of detail we can provide. We have made our best effort to identify the key activities that will be addressed in more detail in an updated MAP, but the specific details cannot be completed until the vendors are selected. We also suggest the specific information contained in the MAP not be attached to the permit so that it can be revised as necessary and consistent with the District Supervisor's expectations as soon as the equipment vendors are selected for this project.

### **Startup/Shutdown Plan(s)**

We have previously provided documentation for establishing BACT limits applicable to boiler operations for all modes of operation, including startup and shutdown. In addition, a detailed dispersion modeling analysis was performed using these worst-case emission estimates to assure the facility would comply with the applicable ambient air quality standards through the boiler startup cycle. We believe that as we are proposing BACT emissions limitations covering startup and shutdown of CFB boiler operation that no separate startup/shutdown plan is required beyond the permit conditions proposed.

Similarly, the remaining fuel combustion equipment proposed for the project will also have written startup procedures, upon selection of the equipment vendors. These documents will be reviewed with the District Supervisor prior to initial startup of the equipment to allow MDEQ staff an opportunity to recommend modifications to any source-specific startup plan.

### **Fugitive Emissions Control Program**

The enclosed preliminary Fugitive Emissions Control Program was developed with input from the AQD District staff and should be considered preliminary until construction is completed and the facility is ready to commence operations. At that time, we will schedule a meeting with MDEQ

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District staff to review the plan and observe plant operations to verify the preliminary plan is sufficient. Again, we request that the preliminary Fugitive Emissions Control Program not be attached to the permit so that it can be revised consistent with the District Supervisor's expectations after plant operations have commenced.

For complex projects of this nature, it is common for the MAP and Fugitive Emissions Control Program to be treated as living documents so that they can be updated on an as-needed basis. These documents will likely be revised subsequent to startup of the facility and may undergo subsequent modifications as additional operating experience is gained at this facility.

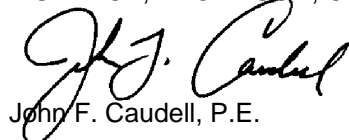
**Draft Permit Conditions for Material Handling, Storage, Waste Removal and Vehicular Activity**

We have reviewed the initial draft conditions and identified proposed modifications in "Track Changes" mode for your review and comment. In particular, we have asked the Owner's Engineer (Burns and Roe) to review the proposed requirement for broken bag detectors and to verify this equipment is technically viable for all particulate sources noted. However, we believe some further discussion on monitoring these sources is warranted in light of proposed changes to NSPS Subpart OOO and Y requirements. As a "placeholder" we have suggested wording to allow the District Supervisor to approve alternative compliance monitoring methods. We also removed the redundant "maintenance" term associated with the MAP conditions, as MAP rule specifies the development of a Preventive Maintenance Plan.

We believe this response addresses your issues related to the MAP, Startup/Shutdown for the minor combustion sources, the Fugitive Emissions Control Program, and the draft particulate and visible emission limitations for the remaining particulate sources. If you require additional information, please contact me at (517) 622-6126.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.



John F. Caudell, P.E.

tc

Enclosures

By U.S. mail and e-mail

- cc/enc: Ms. Mary Ann Dolehanty – MDEQ (by U.S. mail)  
 Ms. Janis Denman – MDEQ (by U.S. mail)  
 Mr. William Rogers – MDEQ (by U.S. mail)  
 Mr. Brian L. Warner, CHMM – Wolverine (by e-mail)  
 Mr. Eugene E. Smary – Warner Norcross & Judd, LLP (by e-mail)  
 Mr. Steven C. Kohl – Warner Norcross & Judd, LLP (by e-mail)  
 Mr. Michael L. Robinson – Warner Norcross & Judd, LLP (by e-mail)  
 Mr. William Campbell III – ENSR (by e-mail)  
 Mr. John Lagomarsino – Burns and Roe Enterprises, Inc. (by e-mail)  
 Mr. James A. Susan, P.E. – FTC&H (by e-mail)  
 Ms. Jacquelyn F. Linck, P.E. – FTC&H (by e-mail)  
 Mr. David M. Yanochko, P.E. – FTC&H (by e-mail)

## **Preliminary Malfunction Abatement Plan**

**for**

### **Wolverine Clean Energy Venture**

**May 9, 2008**

This documentation is in response to MDEQ's request for a Malfunction Abatement Plan (MAP) outline prior to release of the permit application to a PSD Public Comment period. The attached summary tables include an outline of the preventive maintenance activities and malfunction response measures to be taken to minimize both the frequency and duration of any malfunction that may occur. This MAP is consistent with the requirements contained in Rule 911 which state:

***(2) A malfunction abatement plan required by subrule (1) of this rule shall be in writing and shall, at a minimum, specify all of the following:***

***(a) A complete preventative maintenance program, including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.***

***(b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.***

***(c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.***

While the attached summary tables provide a sample template for the MAP, neither document can be completed until such time as the equipment vendors are selected for this project. Upon selection of the vendors, Wolverine will meet with the MDEQ District Supervisor and amend the plan accordingly. This may also require the inclusion of other processes which require the use of emissions control equipment aside from the CFB boilers, depending upon the preferences of the MDEQ District Supervisor. As these should be considered dynamic documents, we recognize that one or both of these attached summaries may be revised from time to time, depending on actual plant operations. Such modifications will be performed independently of the issued Permit to Install and the MDEQ District Supervisor will have responsibility for review and approval of all proposed modifications.

**Table 1 - Preventive Maintenance Summary  
Preliminary Malfunction Abatement Plan<sup>1</sup>  
WCEV - Rogers City, Michigan**

Control Device	Manufacturer / Model	PM Activity	Each Operating Shift	Each Operating Day	Weekly	Monthly	Annually	Recorded by DCS System	Recorded into Log Bc	Spare Parts on Hand
CFB - Fabric Filter	TBD	Visual Inspections and Maintenance Activities	> Verify there are no active alarms on the baghouse or fly ash systems. > Observe and monitor Filter Pressure differential and cleaning cycle > Observe and monitor fly ash system operation.	Non-certified VE readings and Pressure Drop Readings; check dust levels; check system listening for proper operation; check for unusual occurrences in process; observe control panel indicators; check compressed air pressure; assure that dust is being removed from system	Inspect material handling equipment for lubrication; operate damper valves; check compressed air lines, including line filters and dryers; check that valves are opening and closing properly; check bag house; verify accuracy of temperature indicating equipment; check pressure drop indicating equipment for plugged lines	Check any drive belts for wear; observe and check accuracy of all indicating equipment; lubricate equipment according to manufacturers' recommendations	Calibrate Baghouse Differential Pressure Transmitters; Visually inspect filter bags; lubricate equipment according to manufacturers' recommendations	> baghouse filter differential pressure Any baghouse or fly ash system alarm or operation evolution		> Filter bags > dump valve solenoids >
ACI Injection	TBD	Visual Inspections and Maintenance Activities	> Verify there are no active alarms on the ACI system.	check reagent feedrates and inventories	inspect pneumatic equipment; check for vibration; confirm there are no fugitive emissions	lubricate equipment according to manufacturers' recommendations	lubricate equipment according to manufacturers' recommendations	reagent feedrate	Any ACI system alarm or operation evolution	
SO2 Polishing Scrubber	TBD	Visual Inspections and Maintenance Activities	> Verify there are no active alarms on the SO2 Polishing Scrubber system.	Check recycle flow; check bleed flow; check fan & pump bearings for oil level, oil temperature & vibration; check scrubber pressure drop; check pump discharge pressure; check fan inlet & outlet pressure; check slurry bleed concentration; check vibration of fan for buildup or bleeds; check inlet & saturation temperature of gas stream	Check wet/dry line areas for material buildup; check liquid spray quantity & manifold pressure on mist eliminator; check bearings, drive mechanisms, temperature rise, sprocket chain tension, oil levels;	lubricate equipment according to manufacturers' recommendations; check monitoring equipment for accuracy	Verify accuracy of instruments and calibrate critical pieces of equipment, including contacts; check & repair wear zones in scrubbers, valves, piping & ductwork; lubricate damper drive mechanisms & bearings; verify proper operation of all equipment & inspect for leakage	gas flow rate; mass flow rate of SO2; mass flow rate of H2O; mass flow rate of reagent; scrubber differential pressure; scrubber inlet flue gas temperature; reagent consumption; pH measurement; SO2 removal efficiency.	Any SO2 Polishing Scrubber system alarm or operation evolution	
SNCR	TBD	Visual Inspections and Maintenance Activities	> Verify there are no active alarms on the SNCR system. > Verify reagent feed rate	> Check Reagent Feedrates and Inventory; visually inspect probes for external leaks	verify mechanical operation is operating as designed	lubricate equipment according to manufacturers' recommendations	lubricate equipment according to manufacturers' recommendations	reagent feedrate	Any SNCR system alarm or operation evolution	
Limestone Injection System	TBD	Visual Inspections and Maintenance Activities	> Verify there are no active alarms on the Limestone Injection System. > Check limestone feed rate.	check limestone feedrates and inventories	inspect pneumatic equipment; check for vibration; confirm there are no fugitive emissions	lubricate equipment according to manufacturers' recommendations	lubricate equipment according to manufacturers' recommendations	limestone feedrate	Any Limestone injection system, alarm or operation evolution	
EUCCOOLINGTWR	TBD	Visual Inspections and Maintenance Activities	> Verify there are no active alarms on the main cooling water system. > Verify cooling tower water level.	> Measure cooling tower water pH and conductivity and verify against DCS indication. > Check cooling Tower Chemical Treatment Feedrates and Inventories	verify mechanical operation is operating as designed	lubricate equipment according to manufacturers' recommendations	lubricate equipment according to manufacturers' recommendations	> Cooling Tower pH, Conductivity and Level	Any main cooling water system alarm or operation evolution	pH probes

<sup>1</sup> Revised Plan will be submitted as soon as all equipment vendors are selected. Revised MAP to be sent to District MDEQ office for review, approval and subsequent modifications

**Table 2 - Sample Malfunction Response Summary**  
**Preliminary Malfunction Abatement Plan\***  
**WCEV - Rogers City, Michigan**

Control Device (Emission Unit ID)	Manufacturer / Model	Operating Parameters	Parameter Range	Possible Malfunction Detection	Possible Malfunctions	Corrective Steps to Return Unit to Proper Operation
CFB Baghouse	TBD	Opacity	0 - 10%	Visible Emissions exceed 10%	Bag(s) may have failed or are not properly seated	Compartment will be brought off line and bags inspected for fit and proper seating
				Broken Bag Detector Alarm	Bag(s) may have failed or are not properly seated	Compartment will be brought off line and bags inspected for proper seating / replacement
		Differential Pressure	___ - ___" water	Pressure drop above ___"	One or more bags may be plugged or blinded	Unit will be brought off-line and the bags checked
					Air to the cleaning jets maybe plugged	Unit will be brought off-line and air pulse cleaning system will be inspected
					Instrumentation Malfunction	Maintain spare magnehelic gauge for possible replacement
___ - ___" water	Pressure drop less than ___"	One or both of the lines to the magnehelic gauge may be plugged	The lines to the magnehelic gauge will be disconnected and inspected			
		Access ports may not have been sealed properly during last inspection	The access ports will be inspected and if found leaking then the unit will be brought off-line and the seal around the access port repaired			
Instrumentation Malfunction	Maintain spare magnehelic gauge for possible replacement					
Carbon Injection System	TBD			No activated carbon is consumed	Feeder not working	Fix or replace malfunctioning part
SO2 Polishing Scrubber	TBD	SO2 emission	0 - 0.06 lb/MMBtu at 70-100% load 0 - 0.08 lb/MMBtu at 50-70% load (30 day avg - excl. malfunctions)	Emission exceeds 0.06 lb/MMBtu or 0.08 lb/MMBtu	Fresh lime feeding system is malfunctioning	Fix lime feeding system. Meanwhile, feed more imestone into the furnace
		Flue gas temperature after polishing scrubber	0 - 400 °F	Flue gas temperature is above 200 °F	Water flow is reduced or no water flow	Increase water flow or if system is not working, fix it. Meanwhile, feed more limestone into the furnace
CFB Limestone Injection System	TBD	SO2 emission	0 - 0.06 lb/MMBtu at 70-100% load 0 - 0.08 lb/MMBtu at 50-70% load (30 day avg - excl. malfunctions)	Emission exceeds 0.06 lb/MMBtu or 0.08 lb/MMBtu	Limestone feeding into furnace has to be stopped because of leaking pneumatic line	If leak is minor, weld a patch on the pipe. If the leak is major, isolate the line and replace the eroded part of the pipe. Use the operating limestone feed points to compensate the reduced feed rate. If needed, and unit is burning expected fuel mix of petcoke and PRB, maximize the share of PRB (low sulfur fuel) and increase fresh lime feed into the polishing scrubber
					Limestone feed line becomes plugged because of wet lilmestone	Isolate and clean the line, use above mentioned procedures to compensate the missing line
SNCR System	TBD	NOx emission	0 - 0.07 lb/MMBtu at 70-100% load 0 - 0.14 lb/MMBtu at 50-70% load (30 day avg - excl. malfunctions)	Emission exceeds 0.07 lb/MMBtu or 0.14 lb/MMBtu	Reagent pump is not working	Replace the pump or use a redundant pump.

\* Revised Plan will be submitted as soon as all equipment vendors are selected. Revised MAP to be sent to District MDEQ office for review, approval, and subsequent modifications.

## **Preliminary Fugitive Emissions Control Program**

**for**

### **Wolverine Clean Energy Venture**

**May 9, 2008**

The minimization of fugitive emissions from a major industrial complex should include an effective emissions control strategy for roadways and parking areas, storage piles, material handling and front-end loading operations (where applicable). This plan has also been developed with the understanding that documents of this nature are dynamic and can be modified from time to time as necessary, without re-opening of the air permit review process, upon mutual agreement between the regulatory agency and the permittee.

#### **I. General Site Maintenance**

- a. Any solids spillage onsite will be collected and either removed from site or returned to the appropriate raw material storage area within 24 hours of discovery.
- b. All particulate gathered from the baghouse collectors will be disposed of in a manner which minimizes the opportunity for re-entrainment into the ambient air. Some of the collected materials may be returned to the process and others will be hauled away for disposal.

#### **II. Onsite Roadways and Parking Areas**

- a. All site roadways on which street vehicles and haul trucks routinely travel will be graveled or paved. This also includes the concrete pads under the ash storage silos, carbon storage silos, lime storage silos, and main employee parking areas.
- b. A wet sweeper shall be utilized on all paved roadways and paved parking areas.
- c. Wet sweeping shall be performed on all paved roadways and paved parking areas on a frequency sufficient to comply with a visible emission limitation of five percent opacity.
- d. All unpaved roads and other unpaved traffic areas shall be treated with water or an alternative wet suppressant on a frequency sufficient to comply with a visible emissions limitation of ten percent opacity.
- e. The speed of vehicles onsite will be limited to a maximum of 15 miles per hour. The speed limit shall be posted near the plant entrance and other locations along the site roadways.
- f. Solids track out to any public roadway shall be limited to no more than 50 feet from the plant entrance. In the event track out exceeds the 50-foot limitation, the public area shall be treated with a wet sweeper within the next working day of non-freezing temperatures. Upon written notification from the Michigan Department of Environmental Quality (MDEQ) that additional measures are required to minimize solids track out, the company shall respond with potential solutions within 30 days of receipt of written notification.
- g. Verification of visible emissions using U.S. Environmental Protection Agency (USEPA) Method 9 or an alternative method as approved by the District Supervisor from the paved and unpaved roadways and parking areas shall be performed on a daily basis. If a visible emissions reading is at or above the allowed limitation, wet sweeping or another equivalent control technique shall be performed within the next 24 hours.

### **III. Front-End Loading Operations**

- a. The front-end loader operators shall be directed to obey all onsite speed limitations and to minimize the drop height(s) when loading raw materials onto stockpiles and/or onto a conveying system.

### **IV. Conveyor Systems**

- a. All material handling conveyors shall use belt enclosure designs to minimize the opportunity for wind blown fugitive dust and conveyor spillage. In addition, all conveyor drop points will use enclosures and/or minimal material drop heights.
- b. All material handling conveyor transfer/drop point enclosures and equipment, such as crushers, vibrating screens/feeders, that have the potential to produce dust shall be provided with dust pick-up hoods connected to fabric filter collectors, or equipped with dust suppressors.
- c. All fully enclosed silos and/or bins will be provided with bin vent filters and/or dust pick-up points connected to a fabric filter collector.

### **V. Fuel Storage Piles**

- a. Wet suppression or crusting agents shall be applied to the coal and petroleum coke (pet coke) fuels at the point of off-loading from ships onto the primary conveyor system. A telescoping chute design utilizing minimal drop heights shall be used for the loading of coal and pet coke onto the emergency short-term storage pile.
- b. Long- and short-term stockpiles of pet coke and coal shall be treated with wetting agents on an as-needed basis in order to meet an opacity limit of five percent. Equipment to apply the wetting agent shall be available at the site or on call for use at the site within the following operating day.
- c. All long-term coal and pet coke storage piles shall be compacted within 24 to 36 hours of ship unloading, except when postponed for the duration of adverse weather conditions.
- d. The coal and pet coke unloading and pile working operations shall be suspended at sustained winds greater than 40 miles per hour, as measured at the nearby airport.
- e. In the event the applicant elects to utilize biomass, the long-term storage of biomass fuel shall utilize a roofed structure to minimize the opportunity for weather related additions of rain and snow to the storage pile(s).
- f. Visible emission verifications using USEPA Method 9 or an alternative method as approved by the District Supervisor shall be performed each operating day, weather conditions permitting, for the fuel storage piles and (fuel) conveyor transfer points to confirm compliance with the visible emission limitations. Additional wetting agents will be applied to any fuel storage pile within 24 hours of noting that visible emissions are at or exceed the visible emission limitation.

### **VI. Ash Handling and Disposal**

- a. The ash collecting operation and storage silos shall be equipped with baghouse collectors. Ash from the storage silos shall be loaded into haul trucks utilizing rotary pugmill unloaders which add moisture to the ash prior to loading into the haul trucks. The unloader shall use a telescoping chute for loading into the trucks. An alternative means of dry unloading of fly ash may be provided by the use of a telescoping chute to the inlet of enclosed trucks with a return vent back into the storage silos.
- b. The ash truck loading area shall utilize a wind break design to minimize the opportunity for wind blown fugitive dust, or a complete enclosure of the bottom of the silo within skirted walls.

- c. The haul trucks will not be filled higher than six inches from the top and will be covered with a tarp before the truck enters a public roadway.

**VII. Recordkeeping**

- a. The company shall maintain a log book onsite which contains all visible emission readings, dates of application for dust suppressants, wet sweeping activities and other information required to demonstrate compliance with this Fugitive Emissions Control Plan. This information shall be made available to MDEQ staff upon request and shall be maintained onsite for a period of five years.

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H <sub>2</sub> S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure*	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM-10	Particulate Matter less than 10 microns diameter
MSDS	Material Safety Data Sheet	pph	Pound per hour
NESHAP	National Emission Standard for Hazardous Air Pollutants	ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	psia	Pounds per square inch absolute
PSD	Prevention of Significant Deterioration	psig	Pounds per square inch gauge
PTE	Permanent Total Enclosure	scf	Standard cubic feet
PTI	Permit to Install	sec	Seconds
RACT	Reasonably Available Control Technology	SO <sub>2</sub>	Sulfur Dioxide
ROP	Renewable Operating Permit	THC	Total Hydrocarbons
SC	Special Condition	tpy	Tons per year
SCR	Selective Catalytic Reduction	µg	Microgram
SRN	State Registration Number	VOC	Volatile Organic Compounds
TAC	Toxic Air Contaminant	yr	Year
TEQ	Toxicity Equivalence Quotient		
VE	Visible Emissions		

\* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).



**SPECIAL CONDITIONS**

**Emission Unit Identification**

<b>Emission Unit ID</b>	<b>Emission Unit Description</b>	<b>Stack Identification</b>
EULIMEPROCESS	Processing and handling of limestone prior to storage. This equipment includes two crushers controlled by a common fabric filter.	SVLIMEPROCESS
EULIMEPREP	Limestone preparation facilities. There are two identical trains. Each train consists of a limestone mill and separator, a cyclone collector heater, screen, dust collectors and blowers. The finished product is stored in a silo.	SVLIMEPREP1 SVLIMEPREP2
EUBEDASH	Equipment used for the collection and removal of ash from the fluidized bed from each unit. This equipment includes both mechanical and pneumatic conveying systems, surge bins, clinker grinders and a common storage silo. This emission unit also includes the wet unloading equipment and the bed ash re-injection system.	SVBEDASH
EUFLYSTORAGE	Equipment used for the collection and removal of ash from the economizer hoppers. This equipment includes pneumatic conveying systems and a common storage silo. This emission unit also includes both wet and dry unloading equipment.	SVFLYSTORAGE
EUCOALHANDLING	The coal and Pet Coke handling system. Equipment includes the barge unloading system, conveying system, transfer towers and storage piles. The conveyors will use hood covers. The transfer towers are equipped with magnetic separators and either dust suppression or fabric filters.	SVTTOWER3, SVTTOWER4
EUCOALCRUSHER	Two hammer mill crushers, with associated equipment, used to reduce coal to the appropriate size for boiler feed. This equipment is housed in the Crusher and Sample House and controlled by a common dust collector.	SVCOALCRUSHER
EUCOALSILO	Five storage silos used to hold the crushed coal prior to boiler feed. Two dust collectors control emissions from these silos.	SVCOALSILO1, SVCOALSILO2

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.

**The following conditions apply to: EULIMEPROCESS**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
1.1a	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	The common fabric filter dust collector	General Condition No. 13	R 336.1331
1.1b	PM-10	0.01 Pounds Per Hour	Test Protocol	The common fabric filter dust collector	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)

\* Calculated on a dry gas basis.

**Visible Emission Limits**

- 1.2 Visible emissions from the drop point and transfer point portions of EULIMEPROCESS shall not exceed 10 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.672)**
- 1.3 There shall be no visible emissions from the building where the crushing activities of EULIMEPROCESS occur. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.672)**
- 1.4 Visible emissions from SVLIMEPROCESS shall not exceed 7 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.672)**

**Included in Fugitive Emissions Control Program for all paved and unpaved roadways and haul roads.**

**Process / Operational Limits**

- 1.6 The permittee shall not operate EULIMEPROCESS unless the program for continuous fugitive emissions control for all material handling operations as approved by the District Supervisor has been implemented and is maintained. **(R 336.1371, R 336.1901)**
- 1.7 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and OOO, as they apply to EULIMEPROCESS. **(40 CFR Part 60 Subparts A & OOO)**

**Equipment**

- 1.8 The permittee shall not operate any portion of EULIMEPROCESS unless the fabric filter is installed, maintained and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Monitoring**

1.9 The permittee shall equip and maintain the fabric filter of EULIMEPROCESS with continuously monitoring broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor **(R 336.1331, R 336.1910)**

**Testing**

1.10 Within 60 days after achieving maximum production rate, but not later than 180 days after commencement of trial operation, the permittee shall evaluate visible emissions from EULIMEPROCESS, at owner's expense, in accordance with federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subparts A and OOO. The permittee must have prior approval from the AQD for visible emission observation procedures. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD within 45 days following the last date of the evaluation. **(R 336.1301, 40 CFR Part 60 Subparts A & OOO)**

**Recordkeeping / Reporting / Notification**

1.11 The permittee shall keep monitoring records from the broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor on the fabric filter of EULIMEPROCESS. All records shall be kept for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910)**

**Stack/Vent Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
1.12	SVLIMEPROCESS	20	20	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: EULIMEPREP**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
2.1a	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	Each individual fabric filter dust collector in EULIMEPREP	General Condition No. 13	R 336.1331
2.1b	PM-10	0.0006 Pounds Per Hour	Test Protocol	Each individual fabric filter dust collector in EULIMEPREP	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)

\* Calculated on a dry gas basis.

**Visible Emission Limits**

- 2.2 Visible emissions from the drop point and transfer point portions of EULIMEPREP shall not exceed 10 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.672)**
- 2.3 There shall be no visible emissions from the building where the crushing activities of EULIMEPREP occur. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.672)**
- 2.4 Visible emissions from each individual fabric filter dust collector in EULIMEPREP shall not exceed 7 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.672)**

**Process / Operational Limits**

- 2.5 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and OOO, as they apply to EULIMEPREP. **(40 CFR Part 60 Subparts A & OOO)**

**Equipment**

- 2.6 The permittee shall not operate any portion of EULIMEPREP unless the fabric filters and associated bin vent filters are installed, maintained and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Monitoring**

- 2.7 The permittee shall equip and maintain each fabric filter contained in EULIMEPREP with continuously monitoring broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor. **(R 336.1331, R 336.1910)**

**Testing**

2.8 Within 60 days after achieving maximum production rate, but not later than 180 days after commencement of trial operation, the permittee shall evaluate visible emissions from EULIMEPREP, at owner's expense, in accordance with federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subparts A and OOO. The permittee must have prior approval from the AQD for visible emission observation procedures. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD within 45 days following the last date of the evaluation. **(R 336.1301, 40 CFR Part 60 Subparts A & OOO)**

**Recordkeeping / Reporting / Notification**

2.9 The permittee shall keep monitoring records from the broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor on each fabric filter of EULIMEPREP. All records shall be kept for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910)**

**Stack / Vent Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
2.10a	SVLIMEPREP1	46	90	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
2.10b	SVLIMEPREP1	46	90	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: EUBEDASH**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
3.1a	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	Fabric filter dust collector.	General Condition No. 13	R 336.1331
3.1b	PM-10	0.00007 Pounds Per Hour	Test Protocol	Fabric filter dust collector.	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)

\* Calculated on a dry gas basis.

**Visible Emission Limits**

3.2 Visible emissions from EUBEDASH shall not exceed a six-minute average of 5 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Equipment**

3.3 The permittee shall not operate EUBEDASH unless the fabric filter and associated bin vent filters are installed, maintained, and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1301, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Monitoring**

3.4 The permittee shall equip and maintain the fabric filter of EUBEDASH with continuously monitoring broken bag leak detectors, or alternative monitoring measures as approved by the District Supervisor. **(R 336.1331, R 336.1910)**

**Recordkeeping / Reporting / Notification**

3.5 The permittee shall keep monitoring records from the broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor on the fabric filter of EUBEDASH. All records shall be kept for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910)**

**Stack / Vent Restrictions**

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
3.6	SVBEDASH	26	125	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: EUFLYSTORAGE**

**Equipment**

- 4.1 The permittee shall not operate EUFLYSTORAGE unless the bin vent filters are installed, maintained, and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1301, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**The following conditions apply to: EUCOALHANDLING**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
5.1a	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	Transfer Tower #3	General Condition No. 13	R 336.1331
5.1b	PM-10	0.05 Pounds Per Hour	Test Protocol	Transfer Tower #3	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)
5.1c	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	Transfer Tower #4	General Condition No. 13	R 336.1331
5.1d	PM-10	0.01 Pounds Per Hour	Test Protocol	Transfer Tower #4	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)
* Calculated on a dry gas basis.						

**Visible Emission Limits**

- 5.2 Visible emissions from the drop point and transfer point portions of EUCOALHANDLING shall not exceed 20 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.252(c))**
- 5.3 Visible emissions from each individual fabric filter dust collector in EUCOALHANDLING shall not exceed a six minute average of 10 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Process / Operational Limits**

- 5.4 The permittee shall not operate EUCOALHANDLING unless the program for continuous fugitive emissions control for all material handling operations as approved by the District Supervisor has been implemented and is maintained. **(R 336.1371, R 336.1901)**
- 5.5 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Y, as they apply to EUCOALHANDLING. **(40 CFR Part 60 Subparts A & Y)**

**Equipment**

- 5.6 The permittee shall not operate EUCOALHANDLING unless the fabric filters and dust suppressant systems are installed, maintained and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**
- 5.7 The permittee shall not operate EUCOALHANDLING unless the conveyor hoods are installed, maintained and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Monitoring**

- 5.8 The permittee shall equip and maintain each fabric filter of EUCOALHANDLING with continuously monitoring broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor. **(R 336.1331, R 336.1910)**

**Recordkeeping / Reporting / Notification**

- 5.9 The permittee shall keep monitoring records from the broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor on the fabric filter of EUCOALHANDLING. All records shall be kept for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910)**

**Stack / Vent Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
5.10a	SVTTOWER3	30	20	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
5.10b	SVTTOWER4	30	20	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: EUCOALCRUSHER**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
6.1a	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	Fabric filter collector	General Condition No. 13	R 336.1331
6.1b	PM-10	0.0028 Pounds Per Hour	Test Protocol	Fabric filter collector	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)
* Calculated on a dry gas basis.						

**Visible Emission Limits**

- 6.2 Visible emissions from the drop point and transfer point portions of EUCOALCRUSHER shall not exceed 20 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.252(c))**
- 6.3 Visible emissions from the fabric filter dust collector in EUCOALCRUSHER shall not exceed a six minute average of 5 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Process / Operational Limits**

- 6.4 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Y, as they apply to EUCOALCRUSHER. **(40 CFR Part 60 Subparts A & Y)**
- 6.5 The permittee shall not operate EUCOALCRUSHER unless the program for continuous fugitive emissions control for all material handling operations as approved by the District Supervisor has been implemented and is maintained. **(R 336.1371, R 336.1901)**

**Equipment**

- 6.6 The permittee shall not operate any portion of EUCOALCRUSHER unless the fabric filter is installed, maintained and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Monitoring**

- 6.7 The permittee shall equip and maintain the fabric filter in EUCOALCRUSHER with continuously monitoring broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor. **(R 336.1331, R 336.1910)**

**Recordkeeping / Reporting / Notification**

6.8 The permittee shall keep monitoring records from the broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor on each fabric filter of EUACOALCRUSHER. All records shall be kept for a period of at least five years and made available to the Department upon request. (R 336.1331, R 336.1910)

**Stack / Vent Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
6.9	SVCOALCRUSHER	30	30	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: EUCOALSILO**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
7.1a	PM	0.005 grains per dry standard cubic foot of exhaust gases*	Test Protocol	Each individual fabric filter dust collector in EUCOALSILO	General Condition No. 13	R 336.1331
7.1b	PM-10	0.0028 Pounds Per Hour	Test Protocol	Each individual fabric filter dust collector in EUCOALSILO	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21 Subparts (c) & (d)

\* Calculated on a dry gas basis.

**Visible Emission Limits**

- 7.2 Visible emissions from the drop point and transfer point portions of EUCOALSILO shall not exceed 20 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d), 40 CFR 60.252(c))**
- 7.3 Visible emissions from each fabric filter dust collector in EUCOALSILO shall not exceed a six minute average of 5 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Process / Operational Limits**

- 7.4 The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Y, as they apply to EUCOALSILO. **(40 CFR Part 60 Subparts A & Y)**
- 7.5 The permittee shall not operate EUCOALSILO unless the program for continuous fugitive emissions control for all material handling operations as approved by the District Supervisor has been implemented and is maintained. **(R 336.1371, R 336.1901)**

**Equipment**

- 7.6 The permittee shall not operate any portion of EUCOALSILO unless the fabric filters are installed, maintained and operated in a satisfactory manner, and/or in accordance with a malfunction abatement plan (MAP), approvable by the AQD District Supervisor. **(R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

**Monitoring**

- 7.7 The permittee shall equip and maintain each fabric filter contained in EUCOALSILO with continuously monitoring broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor. **(R 336.1331, R 336.1910)**

**Recordkeeping / Reporting / Notification**

7.8 The permittee shall keep monitoring records from the broken bag leak detectors or alternative monitoring measures as approved by the District Supervisor on each fabric filter of EUCOALSILO. All records shall be kept for a period of at least five years and made available to the Department upon request. **(R 336.1331, R 336.1910)**

**Stack / Vent Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
7.9a	SVCOALSILO1	32	170	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
7.9b	SVCOALSILO2	32	170	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

