

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

**DRAFT**

**MEMORANDUM**

**July 27, 2016**

**TO:** Phillip Fielder, Permits and Engineering Group Manager

**THROUGH:** Rick Groshong, Sr. Environmental Manager, Compliance and Enforcement

**THROUGH:** Phil Martin, P.E., Existing Source Permits Section Manager

**THROUGH:** Peer Review

**FROM:** David Schutz, P.E., New Source Permits Section

**SUBJECT:** Evaluation of Permit Application No. **2015-0689-TV**  
Cabot Norit Americas, Inc.  
Pryor Activated Carbon Plant (SIC 2819)  
SW/4 SE/4 Sec. 4, T20N, R19E, Mayes County (36.23124° N, 95.27639° W)  
FAC ID 469  
Driving Directions: From Intersection of US-412 and US-69, Six Miles North to US-69A, Three Miles East to US-412B (Hunt Street), One Mile South to 6<sup>th</sup> Street, Almost ½ Mile West, Plant on Left. Alternately, from US-412 and US-69, Three Miles East to US-412B, Five Miles North to 6<sup>th</sup> Street, ½ Mile West to Plant.

**SECTION I. INTRODUCTION**

Cabot Norit Americas (Cabot) operates under Part 70 Permit No. 98-014-TV (M-8), issued January 14, 2014. In addition, Permit No. 98-171-C (M-2)(PSD) was issued on November 24, 2014, in resolution of past violations. The facility has requested renewal of the Part 70 operating permit. Requirements of the PSD permit are incorporated into the operating permit, and Compliance Assurance Monitoring (CAM) requirements are incorporated into the permit for the thermal oxidizers and baghouses.

Cabot owns and operates a virgin activated carbon or VAC (original straight run and acid washed carbon) manufacturing plant and a spent activated carbon (SAC) regeneration facility at its Pryor, Oklahoma facility. The facility was originally constructed in 1979 as authorized by Permit No. 78-002-C. Numerous additions and changes in operation of the facility have been authorized over the years. A Consent Order (CO) dated August 6, 2007, required that a retroactive PSD analysis be performed for the Primary and Secondary Carbonizers and both activator furnaces.

## SECTION II. FACILITY DESCRIPTION

Process descriptions for the base operating scenarios for the VAC and SAC plants follow. No alternative operating scenarios are required to define operations at the facility. Commercial-grade natural gas is the primary fuel, with the facility being operated continuously.

### Virgin Plant Operation

- Receiving bituminous coal, subbituminous coal, and coal tar pitch by truck and rail from various sources; unloading and storing the coal and pitch.
- Drying the coal, blending with coal tar pitch, milling and compacting the coal/pitch material into uniform briquettes, and grinding the briquettes to the desired granule size.
- Processing the granulated briquettes through carbonizers (kilns), using natural gas as the primary fuel source for carbonization, to drive off the volatile matter and produce carbonized granules. Using heat from natural gas combustion in the activator furnaces together with steam to activate the carbon; that is, to create a porous structure in the carbon.
- Additional milling to create powdered products. Handling, storing and loading of the activated carbon into bags or trucks for final shipment to customers.
- Using dilute hydrochloric acid (HCl) to remove, through a wash or leach operation, acid-soluble constituents from part of the activated carbon produced by the virgin plant.

The virgin plant utilizes the following five basic operating areas.

- Area 10 - Material Handling Operations
- Area 20 - Material Drying, Milling, Compacting and Sizing Operations
- Area 30 - Carbonizing and Activation Operations
- Area 40 - Finished Product Packaging Operations
- Acid Wash Plant Operations

### **Area 10 - Material Handling Operations**

Coal arrives at the plant via rail or truck and is unloaded in the raw material unloading building or at the coal unloading pile, and is moved within the unloading building, eventually to the working coal storage pile. Front-end loaders are used to transfer the coal into either the open coal storage area or into the dry coal storage building, as well as to maintain the coal piles in both areas. They also transfer coal from the piles to the coal hoppers at the beginning of Area 20 operations. The only particulate matter (PM) emission controls for the storage buildings and chutes are enclosures, some partial and others complete.

Coal is “reclaimed” from the coal storage and processing areas by a front-end loader that transports the reclaimed coal and maintains the reclaim coal pile. Front-end loaders transfer the coal to the reclaim coal hopper and transfer reclaimed coal to Area 20 operations.

Coal tar pitch, which is used in Area 20 as a coal binding agent, arrives at the plant via rail or bulk bags. The pitch received by rail is unloaded in the raw material unloading building, where it is transferred into piles within the pitch storage building. During rail offloading, negative pressure is maintained in the pitch storage building and any emissions are captured, reduced by the pitch storage building high efficiency panel filter, and vented through the pitch building exhaust stack. The pitch storage building is normally closed, except during periods of pitch maintenance/reclaim by front-end loader and while dropping pitch into the pitch hopper. Bulk bags are normally received in iso containers and are stored in the pitch building, in the SAC warehouse, or emptied onto the pitch building storage pile. Pitch is transferred to Area 20 via a front end loader and dumped into the pitch receiving hopper. The pitch hopper is enclosed, maintained under negative pressure, and controlled by the Area 20 dust collector.

### **Area 20 - Material Sizing and Drying Operations**

The purpose of Area 20 is to form the raw coal and pitch materials into a homogeneous material of uniform size and hardness, as required for activated carbon processing in Area 30. Phosphoric acid is added to incoming subbituminous coal as a processing aid. The process chemistry is such that there are no phosphoric acid emissions from this process. A purged air and steam coal dryer removes moisture from the coal. After the coal is dried, it is then pulverized and ground with the pitch and compacted into granular briquettes of uniform hardness. The briquettes are milled to the desired granule size. The granular material is dropped into a surge bin to control the transfer rate to Area 30 operations. The coal drying operation, Area 20, is subject to NSPS Subpart Y – Coal Preparation Plants. The coal dryer dust collector controls PM emissions from the coal dryer. The Area 20 dust collector controls PM emissions from other coal handling operations in Area 20.

### **Area 30 - Carbonizing and Activation Operations**

The primary processes within Area 30 are two kilns, designated as the Primary and Secondary Carbonizers, and two multiple-hearth furnaces, designated as the activator furnaces. The Primary and Secondary Carbonizers are slowly rotating cylinders in which heat is applied to the granular material to drive off water and volatile organic compounds (VOCs) and to reduce the material to elemental carbon (thus “carbonizing” it). Heat is supplied indirectly by gas-fired burners installed in heating jackets positioned on the outside of each rotating cylinder. Heat is transferred to the granular material by conduction and radiation. As the granular material flows from the feed end to the discharge end of the kiln, a counter-current flow of heated air, fed to the discharge end, purges the water vapor, VOCs, and coal fines from the material and begins the process of forming a pore structure in the elemental carbon.

The granules produced in Area 20 are fed to the Primary Carbonizer. The Primary Carbonizer feed bag house controls emissions from the raw material feed system. The Primary Carbonizer is the initial step in driving off the volatile matter. It operates at a lower temperature range than the Secondary Carbonizer. This process continues at higher temperatures in the Secondary Carbonizer. Heated air with reduced oxygen is used in the Secondary Carbonizer to minimize oxidation of the carbon. The process off-gases contain particulate matter and volatile matter. Organic compounds are controlled by thermal oxidation in thermal oxidizers; each Carbonizer is equipped with its own thermal oxidizer. Waste heat boilers follow each thermal oxidizer. The Secondary Carbonizer has a multiclone particulate separator for PM control after the exhaust stream exits the waste heat boiler.

The carbonized granules are then fed to the east and west activator furnaces for further processing. These are two multiple hearth furnaces that operate in parallel. In the activator furnaces, heat is again applied to the carbonized granules, first by contacting it with hot process gases and then by contacting it with steam, to drive off any remaining volatile compounds and to complete the formation of the pore structure of the product so that the carbon granules are “activated” for their intended end use. Each activator furnace consists of a refractory-lined cylindrical steel shield containing a series of horizontal refractory hearths. The upper hearths are used to heat the carbon and drive off any remaining volatile compounds. The remaining hearths are used for the actual activation of carbon. These hearths have alternate in-feed and out-feed directions, causing carbon granules to move completely across each hearth as they drop from one level to another. The vertical orientation of the hearths have the effect of creating a counter-current flow of carbon granules moving downward and hot process gases and steam moving upward. Mechanical stoking is provided by a motor-driven revolving center shaft to which radial arms are attached. These arms have teeth (or plows) attached that move the material across the hearth to the peripheral or central openings, called drop holes, through which the granules drop to the next hearth. Multiple gas-fired burners provide auxiliary heat. Steam and process air is introduced selectively at various hearths from levels 2 through 12 to control and enhance the activation process. The process off-gases contain products of natural gas combustion, particulate matter, and some remaining volatile compounds. The off-gas from each activator furnace passes through a cyclone for the removal of particulate matter. PM recovered by these units is generally salable material and is returned to the activation furnace. Off-gas leaving each cyclone then enters a thermal oxidizer for each unit to oxidize any remaining organic matter. Exhaust gases from the thermal oxidizers may be emitted to the atmosphere directly or passed through a waste heat boiler first.

#### **Area 40 - Finished Product Packaging Operations**

Activated carbon from Area 30 is then screened, packaged, and/or milled into powdered activated carbon (PAC) as necessary in Area 40. Activated carbon granules are transferred from the activation furnaces and dropped into the Area 40 product screener. Emissions are controlled by the Area 40 Auxiliary Dust Collector. Depending on customer requirements, the activated carbon granules and fines can be sent to the powdered activated carbon (PAC) mill for milling or to the packaging area. The PAC mill dust collector controls PAC mill emissions and the Area 40 dust collector controls packaging emission.

### **Acid Wash Plant Operations**

The acid wash plant (AWP) is an auxiliary process to the virgin activated carbon manufacturing plant. The AWP uses dilute hydrochloric acid (HCl) to remove, through a wash or leach operation, acid soluble constituents from activated carbon produced by the virgin plant. This auxiliary process allows the production of a higher quality activated carbon that is required by certain industrial processes, such as food processing or pharmaceuticals.

The activated carbon granules from the activation furnaces are transferred from Area 40 and dropped into the acid wash reactor in batches. The activated carbon is processed through a relatively high temperature, medium pressure reaction with dilute HCl. The batch is then water washed in several steps. A buffering/neutralizing agent may be used as a rinsing agent to adjust the quality of the plant water supply. Following the water washing, the batch is then de-watered. A natural gas-fired acid-wash dryer is used to reduce the moisture content. The final product is sized and packaged.

Emissions from the HCl storage tank pass through a caustic scrubber. PM emissions arising from the transfer of granules to the acid wash reactor are controlled by the Area 20 dust collector. PM emissions from the acid wash dryer, product screener and product bin are controlled by the AWP dust collector and vented through its stack.

### **Regeneration Plant Operation**

Spent activated carbon (used activated carbon that has adsorbed chemical constituents) is typically brought to the regeneration plant via bulk tank trucks and containers. Bulk tank trucks are pressurized to drive the spent activated carbon (SAC) into storage silos, where it is conveyed into a feed silo, and then into the regeneration kiln. Alternatively, bulk trucks are offloaded onto the SAC storage pad, which is a contained, outdoor unit. SAC received in containers is received and stored/staged in a warehouse or stored outside. Bulk SAC is transferred from the SAC pad to the Regen kiln feed hopper (F hopper). Containerized SAC is transferred from the warehouse and manually poured into the F hopper or poured onto the SAC pad. The regeneration kiln drives the adsorbed chemical constituents from the spent carbon. After regeneration, the reactivated carbon is cooled in a non-contact water-cooled heat exchanger, then screened and packaged or bulk loaded into trucks.

Emission controls in the regeneration process include an thermal oxidizer, a baghouse, and an alkaline scrubber (for HCl and SO<sub>x</sub> removal). When the thermal oxidizer is not in service, the silos vent any VOC emissions through a carbon canister. The Regeneration Product Area Dust Collector controls packaging emissions. Truck loading operations use only a chute to control emissions.

**SECTION III. EQUIPMENT**

Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) in Section III (Equipment), based on activity, type of control, and permitting status.

**EUG 1 Facility-wide**

**EUG 2 Primary Carbonizer/Thermal Oxidizer**

Completion of the PSD project resulted in all individual exhausts associated with EUG 2 and EUG 3 being exhausted through a common stack.

EU	Point ID	Name/Model	Const. Date
17	SV-VP-005	Primary Carbonizer/ Thermal oxidizer/Waste Heat Boiler	1990

The PC thermal oxidizer has three burners with 12 MMBTUH total heat input.

**EUG 3 Secondary Carbonizer/Thermal Oxidizer**

EU	Point ID	Name/Model	Const. Date
17	SV-VP-005	Sec. Carb./Multiclone/Afterburn/ Waste Heat Boiler	1979*

\*Multiclones were installed and became operational 10/9/2006.

Oxygen content of sweep air supplied to the SC is depleted by a 14.6 MMBTUH burner. The SC thermal oxidizer has two burners with 1.9 MMBTUH total heat input. The thermal oxidizer also has supplemental gas feed used as necessary. Combined maximum potential heat input is estimated at 18.47 MMBTUH.

**EUG 4 Primary Carbonizer Heating Jacket**

EU	Point ID	Name/Model	Const. Date
21	SV-VP-006	Primary Carbonizer Heating Jacket	1990

The Primary Carbonizer (PC) heating jacket has eight burners with total heat input of 8 MMBTUH.

**EUG 5 Secondary Carbonizer Heating Jacket**

EU	Point ID	Name/Model	Const. Date
22	SV VP 008	Secondary Carbonizer Heating Jacket	1979

The Secondary Carbonizer (SC) heating jacket has 8 burners with 10 MMBTUH combined total heat input.

**EUG 6 Activator Furnaces**

The East and West activator furnaces each have 20 small burners with a combined total heat input of 25 MMBTUH, and each furnace has a single 2.2 MMBTUH burner in its respective thermal oxidizer.

EU	Point ID	Name/Model	Const. Date
10	SV-VP-009a, b	East Activator Furnace	1979
11	SV-VP-010a, b	West Activator Furnace	1979

Exhausts from each activator furnace flow through a cyclone for PM removal/recovery and to an thermal oxidizer for destruction of organic material. A portion of both gas streams vent through a common waste heat boiler, but all streams vent to atmosphere through a common exhaust.

**EUG 7 Acid Wash Dryer**

The acid wash plant (AWP) dryer has heat input rated at 3.3 MMBTUH.

EU	Point ID	Name/Model	Const. Date
23	SV-VP-015	Acid Wash Plant Dryer	1989

**EUG 8 Material Handling & Transfer – Controlled**

EU	Point ID	Description	Throughput
24	SV-VP-004	Transfer of coal from the carbonizer feed bin to the primary carbonizer	10 TPH

**EUG 9 Coal Processing Plant (Area 20)**

The coal crusher, compactor, and Area 20 screen each have 10 TPH capacity.

EU	Point ID	Name/Model	Const. Date
8	SV-VP-002	Coal Preparation Plant Dryer	1994
9	SV-VP-003	Coal Preparation Bowl Mill	1994
9	SV-VP-003	Coal Preparation Compactor w/Crusher and Screener	1994
9	SV-VP-003	Coal Preparation Double Roll Crusher	1994

**EUG 10 Material Handling, Transfer, Traffic, & Erosion – Uncontrolled**

EU	Point ID	Description	Throughput
1a	VP10-SUB-01	Subbit coal railcar unloading into hopper	35TPH
1d	VP10-SUB-02	Subbit coal drop to elevator from unloading hopper	20 TPH
1e	VP10-SUB-03	Subbit coal drop from elevator to working subbit coal storage pile adjacent to unloading building	20 TPH
4	VP10-SUB-05	Front end loader drop into subbit coal storage pile in open storage area or in dry coal storage building	20 TPH
7	VP10-SUB-10	Front end loader drop of subbit coal into subbit coal loading hopper	20 TPH
2	VP10-PIT-01	Pitch railcar unloading into hopper	20 TPH
3	VP10-PIT-02	Pitch drop onto elevator from unloading hopper	20 TPH
1o	VP10-BIT-03	Bituminous coal unloading from truck into bituminous unloading pile	200TPH
1	VP10-BIT-05	Front end loader drop of bituminous coal into coal storage area or dry coal storage building	200 TPH
7	VP10-BIT-09	Front end loader drop of bituminous coal into Load Hopper	20 TPH
1	VP10-REC-03	Front end loader drop of Reclaim coal into truck	120 TPH
1	VP10-REC-05	Front end loader drop of Reclaim coal into Load Hopper	20 TPH
28	VP40-PACLD	PAC Bulk loading station into trucks	20 TPH
NA	SV-REGN-004	Truck unloading onto SAC storage pad	40 TPH
NA	REGN-SKUL	Regen F Hopper loading	3 TPH

“Subbituminous” is shortened to “subbit” for the preceding table

**EUG 11 Acid Wash Plant Material Handling & Transfer – Controlled**

The AWP product screen has 1.5 TPH capacity.

EU	Point ID	Description	Throughput
23	SV-VP-015	Acid wash dryer drop to product screener	1.5TPH
23	SV-VP-015	Acid wash screener drop to product bin	1.5 TPH
23	SV-VP-015	Acid wash plant product packaging	1.5TPH

**EUG 12 Material Handling & Transfer – Controlled**

The fines screen associated with the GAC product screen has capacity of 4 TPH.

EU	Point ID	Description	Throughput
3	SV-VP-001	Pitch drop from elevator onto pitch building distribution conveyor belt	35TPH
3	SV-VP-003	Pitch drop into Pitch feed Bin	20 TPH
13	SV-VP-012	Activated carbon from activated furnaces transfer into product screener and screening	4 TPH
13	SV-VP-012	Fines transfer from product screener to fines bin	4 TPH
13	SV-VP-012	Fines transfer from product screener to oversize bin	4 TPH
20	SV-VP-013	Transfer activated carbon from fines bin into PAC mill	4 TPH
13	SV-VP-014	PAC mill to packaging	4 TPH
13	SV-VP-012	Product screener transfer into packages	4 TPH

EU	Point ID	Description	Throughput
9	SV-VP-003	Activated carbon transfer into acid wash feed hopper	4 TPH
NA	Mobile Equipment	Pneumatic transfer of product from tanker to rail car	8 TPH

**EUG 13 Material Handling, Transfer, Traffic, & Erosion – Uncontrolled**

EU	Point ID	Description	Throughput
4	VP10-SUB-04	Front end loader transfer from working storage to open subbituminous storage or dry coal storage building	20 TPH
5	VP10-SUB-06	Front end loader maintenance of subbituminous open coal storage area or dry coal storage area or dry coal storage building including transfer between open and dry coal storage building and to subbituminous coal loading hopper	20 TPH
4	VP10-SUB-07	Wind erosion of subbituminous coal working storage pile	
6	VP10-SUB-08	Wind erosion of subbituminous coal storage pile	
6	VP10-SUB-09	Wind erosion of subbituminous coal storage pile in dry coal storage building	
3	VP10-PIT-06	Front end loader maintenance of pitch and transport to load hopper	20 TPH
1m	VP10-BIT-01	Travel by truck carrying bituminous coal on unpaved road (loaded)	
7	VP10-BIT-02	Travel by truck carrying bituminous coal on unpaved road (empty)	
5	VP10-BIT-04	Movement of bituminous coal from unloading area to coal storage area or dry coal storage building by front end loader	20 TPH
5	VP10-BIT-06	Maintenance of bituminous coal storage pile by front end loader and transfer to loading hopper	20 TPH
6	VP10-BIT-07	Wind erosion of bituminous coal in open coal storage area	
6	VP10-BIT-08	Wind erosion of bituminous coal in dry coal storage building	
5	VP10-REC-01	Loaded reclaim coal truck travel on unpaved roads	
5	VP10-REC-02	Empty reclaim coal truck travel on unpaved roads	
5	VP10-REC-04	Reclaim coal pile maintenance by loader, transfer to loading hopper	
6	VP10-REC-06	Wind erosion of reclaim coal pile	
NA	SV-REGN-004	Wind erosion of SAC pile	
NA	Mobile Equipment	Transfer of bulk bag product to tanker via mobile belt conveyor	14 TPH

**EUG 14 Truck Unloading**

EU	Point ID	Description
NA	SV-REGN-001	Truck loading into storage silos and transfer from storage to feed silo
NA	SV-REGN-002	Truck unloading into auxiliary silo and neutralization
NA	SV-REGN-003	Truck unloading into auxiliary silo and neutralization

**EUG 15 Regeneration Kiln/Thermal oxidizer**

The regeneration kiln and thermal oxidizer have combined heat input of 8 MMBTUH.

EU	Point	Name/Model	Const. Date
18	SV-REGN-001	Regeneration Kiln / Thermal oxidizer	1991

**EUG 16 Regeneration Plant Material Handling**

The regeneration plant product screen has 2 TPH capacity.

EU	Point	Description	Throughput
19	SV-REGN-003	Packaging area material handling	2
NA	SV-REGN-004	Regeneration product collector	2
NA	REGN-TRKLD	Regen bulk truck loading (drop into top of trucks at facility on northwest side of regeneration plant)	20

**EUG 17 Regeneration Plant Bulk Handling**

EU	Point ID	Description
27	REGN-PACLD	Regeneration plant PAC mill bulk truck loadout - controlled

**EUG 18 Hydrochloric Acid Storage Tank**

EU	Point ID	Description	Const. Date
15	SV-VP-016	Storage tank	N/A

**EUG 19 NSPS Subpart Dc Boiler (Permit No. 98-171-C (M-1))**

This boiler is also subject to NESHAP 40 CFR 63 Subpart DDDDD.

EU	Point	Description	Const. Date
19	SV-VP-019	24.5 MMBTUH Cleaver-Brooks CBLE600	1/18/2008

**EUG 20 Cooling Tower**

EU	Point ID	Description	Const. Date
20	SV-VP-020	Cooling Tower	N/A

**EUG 21 NSPS Subpart III Engine**

EU	Point	Description	Const. Date
BR-EC-001	BR-EC-001	300 HP Caterpillar C9, S/N CAJSC11209	6/1/2009

Additional information concerning throughput capacity and stack geometry are presented in the following table.

ID #	EU	Ht. (ft)	Diam. (ft)	Flow (ACFM)	Temp. (°F)
19103	Coal dryer	50	50" × 34"	30,000	130
9063, 30880	Area 20 dust collect	75	1.3	17,000	120
TBD	Activator Common Stack	140	6	155,000	675
TBD	Carbonizer Common Stack	120	4	50,000	625
9073	Area 40 dust collect	94	1.5	7,200	130
19104	Area 40 Aux DC	70	2.0	8,000	130
19105	Regen Kiln	92	2.5	15,000	170
19106	Regen Area DC *	63	2.0	8,550	110
9077	PAC Mill DC	70	16" × 21"	1150	100
9066	PC Jacket	40	1.5	950	800
9067	SC Jacket	26	1.5	950	800
9069	AWP dryer	50	1.3	7000	180
9070	PC Feed DC **	75	10" × 10"	7500	100
9072	Regen PAC Mill	60	1.3	1,200	180
38706	Pitch Bldg Filter Stack	47	3.5	10,000	100

\* Also identified as the Product Area Dust Collector

\*\* Also identified as the Primary Carbonizer Surge Bin

#### SECTION IV. EMISSIONS

Analyses from previous permit memoranda, including the current Part 70 permit, were set aside, and only the methods proposed in the PSD permit application were used. In this analysis, emissions from each affected unit were estimated through a material balance calculation. PM emissions from the VAC can be assessed by considering the amount of dry material feed and the amount of dry material product. This can be refined by reviewing the amount of dry feed at each of the processing units; that is, at the Primary Carbonizer, the Secondary Carbonizer, and at the activator furnaces, allowing a calculation of what portion of total emissions is attributable to each process component. Further considerations address ash content of the raw material and review both the genesis and the fate of both ash and non-ash PM. Cyclones are assumed to be 80% efficient and thermal oxidizers 90% efficient, noting that thermal oxidizers affect only the non-ash PM. This methodology involves confidential data, so no further discussion is offered here.

For the Carbonizers, emissions of NO<sub>x</sub> are calculated based upon 2004 stack testing results. Because these calculations reveal proprietary process information, only the results (701.3 TPY) are given. Post-project emissions of CO are calculated in the same manner as those of NO<sub>x</sub>, yielding 53.1 TPY. Emissions of VOC have been calculated based on May and June 1997 tests of each unit, and assuming linearity. The factors evolved from those tests are 0.015 lb/ton for the primary, 0.073 lb/ton for the secondary, 0.060 lb/ton for the east activator furnace, and 0.070 lb/ton for the west activator furnace. Maximum potential SO<sub>2</sub> emissions rates were estimated by

Cabot based on the maximum sulfur input rate of 150 lb/hr in combination with assumptions (based on operating experience) about production yield, product sulfur content, and 100% conversion of all feed sulfur that is not contained in the product to SO<sub>2</sub>, emissions. Fluoride emissions were calculated using factors evolved from testing performed in May and June, 1997. Factors are 0.009 lb/ton for the primary, 0.002 lb/ton for the secondary, and 0.037 lb/ton for each activator furnace, where the West activator furnace was tested and the East activator furnace was assumed to be identical. Pre-project emissions total 1.50 TPY and post-project emissions total 3.32 TPY.

Natural gas is used in the primary and secondary carbonizer heating jackets, the secondary carbonizer oxygen consumer, the acid wash plant dryer, the regeneration kiln the various thermal oxidizers, and the package boiler. Emissions for these sources are based upon continuous operation, their maximum burner rating, and Chapter 1.4 of AP-42 (7/98), assuming 1,020 BTU/CF. All PM emissions from these combustion sources are assumed to be PM<sub>10</sub>.

Emissions from the regeneration plant are based on varying criteria. Permit limits for NO<sub>x</sub>, CO, HCl, and SO<sub>2</sub> are based on stack test results with an added safety factor of 20%. The VOC limit assumes a conservatively high 60% of the feed is VOC and then uses the guaranteed 99.99% efficiency of the thermal oxidizer to arrive at a limit. The PM limit for process offgas is based on a BACT standard of 0.031 g/dscf. Extensive correction to acfm data is necessary because of the water vapor-saturated condition of the 15,000 acfm exhaust. PM emissions from product handling are calculated assuming 99% control of 8,000 acfm at 1 g/dscf, using an overall safety factor of two. Finally, PM emissions from the silo vent were originally based on a factor of 4.8 lbs/hour from the revoked OAC 252:100-19, which is now found in Appendix G. Because emissions from the vent can occur only in the event of failure of the process off-gas emission control equipment, the annual effect of this is assumed to be no more than 240 hours per year, which is then further multiplied by a safety factor of two.

Emissions from the Area 20 coal dryer were calculated using the NSPS Subpart Y limitation of 0.031 g/DSCF and a flow rate of 1,329 DSCFM. Subpart Y performance testing confirmed compliance. The emission factor for coal crushing was taken from the U.S. EPA FIRE database for SCC 3-05-010-10.

Emission factors for each drop source were calculated using Equation 1 from Chapter 13.2.4 of AP-42 (1/95),

$$E = k(.0032)(U/5)^{1.3} \div (M/2)^{1.4}, \text{ where}$$

E = emissions (lb/hr)

K = dimensionless constant (0.35 for PM<sub>10</sub>)

U = wind velocity (10.3 mph for open areas in the Tulsa vicinity, 0.1 mph for enclosed areas, and 1.0 mph for containers to account for turbulence)

M = moisture content (dependent on the process analyzed).

Moisture content of various materials included 4.40% for bituminous, 3% for pitch, 19.04% for subbituminous, 5.17% for reclaim, 1.14% for PAC, 1.22% for virgin bulk, and 29% for SAC.

PM emissions from the acid wash plant (AWP) are based upon a material balance of approximately 18,000 lb/batch with an input rate of 3,000 lb/hr and 850 batches a year. All PM emissions from the AWP are assumed to be PM<sub>10</sub>. HCl emissions from the AWP dryer are based on a factor of 2.5 lbs of HCl per ton of activated carbon. Using the known capacity of 3,000 lb/hr and an annual throughput of 15,000,000 pounds yields 3.75 lbs/hr and 9.38 TPY of HCl.

PM and PM<sub>10</sub> emissions from vehicle travel are based upon a certain number of miles driven per year and AP-42 (1/95), Chapter 13.2.2, Equation 13.2.2.2-(1). Since the wind erosion emission calculation for large storage piles in AP-42 (1/95), Chapter 13.2.5, is a stepwise process and is very complex, the PM emissions from the active coal storage piles are based upon calculations using Equation 5 from Chapter 4 of the *Air Pollution Engineering Manual*, Page 136. Fifty percent of all PM emissions from the storage piles is considered PM<sub>10</sub>.

A cooling tower located in Area 30 receives non-contact cooling water from the east and west activator product coolers and regeneration plant product cooler. The particulate emission rate from this unit assumes that the 100% of the TDS entrained in the liquid drift is converted to PM<sub>10</sub>. The estimated maximum total flow to the cooling tower is 300 gpm. The TDS ranges from 350 to 650 ppm. From AP-42 table 13.4-1, the liquid drift is assumed to be 0.02% of the total flow. Therefore, the maximum PM<sub>10</sub> emission rate is calculated as follows. Note that these calculations are performed only for completeness, because this activity is defined as Trivial.

$$\begin{aligned} \text{PM}_{10} &= (\text{lbs/hr flow})(\% \text{ liquid drift}/100)(\text{ppm TDS}) \\ &= (300 \text{ gpm})(60 \text{ min/hr})(8.34 \text{ lbs/gal})(0.02/100)(650/1,000,000) \\ &= 0.02 \text{ lbs/hr} \end{aligned}$$

Emission calculations for the diesel engine of EUG 21 include manufacturer's factors for NO<sub>x</sub> (including NMHC), CO, and PM, with factors for SO<sub>2</sub> and CO<sub>2</sub> taken from Table 3.3-1 of AP-42 (10/96).

The PTE table is identified as a listing of PTE, but it is actually a collection of established permit limits, estimates of emissions, emission inventory data, and a few PTE calculations. It should be viewed as only a rough estimate of the facility's potential.

**Total Potential Emissions**

EUG NO.	Emission Units	NO <sub>x</sub>		CO		VOC		PM		PM <sub>10</sub>		SO <sub>2</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
2 & 3	Carbonizers	34.8	152	3.97	17.4	---	---	---	---	77.4	339	66.4	291
6	Activator stack	125	549	8.15	35.7	---	---	---	---	60.3	264	264	633
4	PC-Jacket	0.78	3.44	0.66	2.89	0.04	0.19	0.06	0.27	0.06	0.26	0.01	0.02
5	SC-Jacket	1.23	5.37	1.03	4.51	0.07	0.30	0.09	0.41	0.09	0.41	0.01	0.03
7	AWP Dryer	0.59	2.58	0.50	2.16	0.03	0.14	0.05	0.20	0.05	0.20	0.01	0.01
3	SC-O <sub>2</sub> Consumer	1.43	6.27	1.20	5.27	0.08	0.35	0.11	0.48	0.11	0.48	0.01	0.04
21	Diesel engine	1.83*	8.00*	0.64	2.81	N/A	N/A	0.19	0.39	0.19	0.39	0.18	0.78
15	Regen Kiln/Dryer	1.97	8.62	2.68	11.7	0.40	1.75	0.27	1.18	0.06	0.27	4.88	21.4
17	Regen Product	---	---	---	---	---	---	1.46	6.57	1.46	6.57	---	---
16	Regen Silo Vent	---	---	---	---	---	---	4.80	1.15	4.80	1.15	---	---
9	Coal Dryer	---	---	---	---	---	---	0.35	1.55	0.35	1.55	---	---
9	Crushing	---	---	---	---	---	---	0.01	0.04	0.01	0.04	---	---
9	Screening	---	---	---	---	---	---	0.01	0.01	0.01	0.01	---	---
10	Material Handling	---	---	---	---	---	---	0.07	0.29	0.03	0.13	---	---
--	Roads	---	---	---	---	---	---	3.13	13.70	1.44	6.30	---	---
--	Piles	---	---	---	---	---	---	0.29	1.26	0.10	0.44	---	---
	<b>TOTALS</b>	<b>168</b>	<b>735</b>	<b>18.8</b>	<b>82.4</b>	<b>0.62</b>	<b>2.73</b>	<b>10.89</b>	<b>27.50</b>	<b>146</b>	<b>621</b>	<b>336</b>	<b>946</b>

\*These data reflect NO<sub>x</sub> plus NMHC.

The only HAP with significant emissions is hydrogen chloride. The following table lists sources with applicable HCl limits.

**HCl Emissions**

Emission Unit	lb/hr	TPY
Acid Wash Plant Dryer	4.09	9.29
Hydrogen Chloride Tanks	0.53	1.37
Regeneration Plant	4.08	17.87
<b>Totals</b>	<b>8.70</b>	<b>28.53</b>

#### SECTION IV. INSIGNIFICANT ACTIVITIES

Insignificant activities identified in the application are listed below. Appropriate record keeping of activities indicated below with "\*" is specified in the Specific Conditions.

\* Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel which are either used exclusively for emergency power generation or for peaking power service not exceeding 500 hours/year. With recent changes to NESHAP Subpart ZZZZ, the emergency engines are no longer classified as "insignificant activities."

Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas). With recent changes to NESHAP Subpart DDDDD, the gas-fired heaters are no longer classified as "insignificant activities."

\* Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period. The facility has a 320-gallon gasoline tank and a 320-gallon diesel tank located at the facility. The facility used 11,053 gallons of diesel and 1,390 gallons of gasoline during 2007 for all mobile and stationary equipment, resulting in fuel throughput much less than 2,175 gallons per day for each tank.

Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes. Welding is conducted only for routine maintenance and is not part of the process operations. This is considered a trivial activity and recordkeeping will not be required in the Specific Conditions.

Torch cutting and welding of less than 200,000 tons of steel fabricated per year. These activities are routine maintenance and are not conducted as part of process operations. Such activities are considered to be trivial and recordkeeping will not be required in the Specific Conditions.

Surface coating operations that do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, and clean-up solvents, at any one emission unit. The facility conducts painting for maintenance reasons, which is considered a trivial activity, and recordkeeping will not be required in the Specific Conditions.

Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas. The facility has chemical, paint, and/or solvent storage rooms or cabinets.

Cold degreasing operations utilizing solvents that are denser than air. The facility has a unit using petroleum distillate in its maintenance shop. Only 30 gallons were used in 2007.

Sanitary sewage collection and treatment facilities other than incinerators and Publicly Owned Treatment Works

\* Activities that have the potential to emit no more than 5 TPY (actual) of any criteria pollutant. There are two separate laboratories (R&D and QC) at the Pryor facility. The various vents for both labs are listed in the following table. All emissions are trace amounts. The estimated operating hours are tabulated.

Area	Hood/vent	ht (ft)	dia (in)	hrs/day	days/month	Expected emission type (trace)
R&D	Oven	15	18	3	4	volatile matter from hi temp treatment of spent carbon
R&D	Prep room hood 1	15	18 × 18	3	15	dust removal from riffing
R&D	Prep room hood 2	15	18 × 18	3	15	volatile matter from drying spent carbon
R&D	Prep room crusher and mill vent	15	6	2	2	coal dust removal
R&D	Acid fume hood	15	(2) × 12	2	2	acid fumes
R&D	Carbonizer hood	15	24 × 24	8	2	pitch and volatile matter from coal carbonization
R&D	Activator hood	15	24 × 24	8	2	CO, CO <sub>2</sub> from thermal activation
QC	Riffle hood and Alpine exhaust to baghouse	15	8	5	30	particulate
QC	Furnace hood	17	6	0.5	30	heat, water vapor, VM from coal and product
QC	Duralab hoods 1 and 2	14	8	1	30	(1) butane, VOC; (2) HCl (truck samples only)

## SECTION VI. GREENHOUSE GAS EMISSIONS

Greenhouse gas (GHG) became a regulated pollutant on January 2, 2011. In addition to the straightforward calculation of combustion emissions of CO<sub>2</sub>, calculation of emissions of other pollutants with CO<sub>2</sub>-equivalents was performed. Emissions of N<sub>2</sub>O and CH<sub>4</sub> were calculated using factors for overfeed stokers from Table 1.1-19 of AP-42 (9/98) and CO<sub>2e</sub> conversion factors from *PSD and Title V Permitting Guidance For Greenhouse Gases*, EPA, November 10, 2010. Note that the AP-42 factors are based on coal combusted and not on only the carbon content of the coal; that is, the calculation is based on the difference between raw material input and product. This figure is based on overall yield and is averaged across both coal and pitch. Although the facility treated each input individually, the following table reflects the totals.

Parameter	N <sub>2</sub> O	CH <sub>4</sub>
Coal & Pitch Combusted	35,044 TPY	35,044 TPY
Emission Factor	0.04 lb/ton	0.06 lb/ton
Emissions	0.7 TPY	1.1 TPY
Conversion Factor	299	25
CO <sub>2</sub> e Emissions	217 TPY	22.1 TPY

Potential to emit (PTE) CO<sub>2</sub>e emissions are based on the equivalent of a continuous raw material feed rate of 15,000 lbs/hr for 8,760 hrs/yr.

Finally, emissions from natural gas combustion in the Primary Carbonizer and thermal oxidizer are based on maximum burner capacity, which is 105.1 MMCF/yr for the primary and 70.1 MMCF/yr for the thermal oxidizer, or 175.2 MMCF/yr total. Emission factors are taken from Table 1.4-2 of AP-42 (7/98) and the CO<sub>2</sub>e conversions are as stated previously.

Pollutant	Emission Factor Lb/MMCF	Emissions TPY	CO <sub>2</sub> e Factor	CO <sub>2</sub> e Emissions TPY
CO <sub>2</sub>	120,000	10,512	1	10,512
N <sub>2</sub> O	2.2	0.19	299	57.6
CH <sub>4</sub>	2.3	0.20	25	5.04
Total				10,576

Total potential CO<sub>2</sub>e emissions = 141,565 TPY.

**SECTION VII. OKLAHOMA AIR POLLUTION CONTROL RULES**

OAC 252:100-1 (General Provisions) [Applicable]  
 Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]  
 This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations listed in OAC 252:100, Appendix Q. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]  
 Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in “attainment” of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]  
 Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]  
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits.

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

Emissions limitations have been established based on information from stack testing, previous operating permits, and the permit application.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]  
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for affirmative defense, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Prohibition of Open Burning) [Applicable]  
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]  
Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Fuel-burning equipment is defined in OAC 252:100-19 as any internal combustion engine or gas turbine, or other combustion device used to convert the combustion of fuel into usable energy. The natural gas combusted in the following equipment is subject to the requirements of this subchapter. Several of the thermal oxidizers at this facility vent their exhaust gasses to waste heat boilers. Although thermal oxidizers are typically considered to be pollution control equipment not subject to Section 19-4, in this instance they provide usable heat to the boilers and are subject to the Appendix C limits. Table 1.4-2 of AP-42 (7/98) lists total PM emissions for natural gas-fired external combustion units to be 7.6 lbs/million scf or about 0.0076 lbs/MMBTU, which is in compliance. Table 13.5-1 of AP-42 (9/91) suggests a range of values for “soot” from industrial flares. A conservatively high 20 µg/L is used to assure compliance. Exhaust rates and heat input are assumed at their various maxima.

Equipment	Maximum Heat Input (MMBTUH)	Emissions in lbs/MMBTU	
		Appendix C Limit	Potential Rate
PC Heating Jacket	8	0.60	0.008
SC Heating Jacket	10	0.60	0.008
East Activation Furnace	24	0.49	0.008
West Activation Furnace	24	0.49	0.008
Acid Wash Plant Dryer	3.3	0.60	0.008
PC Thermal oxidizer	12	0.60	0.008
SC Thermal oxidizer	18	0.60	0.008
Package Boiler	24.5	0.49	0.010*
Diesel engine	2.2	0.60	0.086
SC oxygen consumer	14.6	0.59	0.008

\*Manufacturer supplied data

Section 19-12 limits particulate emissions from new and existing directly fired fuel-burning units and/or emission points in an industrial process based on process weight rate, as specified in Appendix G. As shown in the following table, all emission points are in compliance with Subchapter 19. Note that the primary and secondary carbonizing processes include two industrial processes each; namely, carbonizing and transporting. Additionally, the process weight for the carbonizing process includes raw material feed and process (reaction) air. The activation furnaces or multi-hearth furnaces (MHF) have three sections, each of which is subject to a limit. Process weight includes raw materials, reaction air, and steam. The East and West MHFs are identical in design.

Equipment	Process Rate (TPH)	Emissions (Lbs/hr)	
		Appendix G Limit	Potential Rate
Area 20 crusher	10	19.2	4.46 <sup>1</sup>
Area 20 compactor	10	19.2	
Area 20 bowl mill	10	19.2	
Area 40 product screen	4	10.4	0.035 <sup>2</sup>
Area 40 fines screen	2	6.52	0.017 <sup>2</sup>
Regeneration product screen	2	6.52	0.017 <sup>2</sup>
Drops (9)	20 each	30.5 each	0.022 <sup>2</sup> each
Drops (7)	4 each	10.4 each	0.004 <sup>2</sup> each
Drops (2)	2 each	6.52 each	0.002 <sup>2</sup> each
Truck unloading	20	30.5	0.002 <sup>2</sup>
Railcar unloading (2)	20 each	30.5 each	0.002 <sup>2</sup> each
Front end loader (5)	20 each	30.5 each	0.002 <sup>2</sup> each
Front end loader (3)	N/A	N/A	
Thermal dryer	10	19.2	0.05 <sup>1</sup>
Primary (carbonizing)	24	34.48	13.3 <sup>3</sup>
Primary (transporting)	8.6	17.33	
Secondary (carbonizing)	9.75	18.85	14.0 <sup>4</sup>
Secondary (transporting)	8.38	17.03	

Equipment	Process Rate (TPH)	Emissions (Lbs/hr)	
		Appendix G Limit	Potential Rate
MHF (combined)	57.04	61.58	24.5 <sup>6</sup>
MHF (combined)	57.04	61.58	24.5 <sup>6</sup>
Regeneration kiln	3.3	9.1	0.3 <sup>5</sup>
Acid wash plant	1.2	4.6	3.2 <sup>6</sup>

- 1 4/27/94 stack test
- 2 Table 11.19.2-2, AP-42 (8/04)
- 3 110% of 6/24/04 stack test
- 4 Combination of thermal oxidizer and WHB stack test results, 5/2009
- 5 9/15/95 stack test
- 6 Combination of stack and WHB stack test results, 5/5/2009

Emissions of PM from material handling and transport are very low in comparison to the allowable rate of emissions under this subchapter. No controls are required in the operating permit except for precautions taken to minimize fugitive dust.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]  
 No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. When burning natural gas in any of the combustion devices at the facility, there is very little possibility of exceeding these standards. The thermal dryer, crusher, compactor, and coal conveying, transfer, and loading equipment are not subject to Subchapter 25 since they are subject to an opacity limitation of NSPS Subpart Y. Various operations at the facility have emissions of certain pollutants controlled by thermal oxidizers, cyclones, or baghouses. The operating permit requires operation of these devices during operation of the related production equipment and requires appropriate maintenance of all control devices to ensure the opacity standard is met. This permit also requires weekly observation of the associated stacks, and opacity readings to be conducted if visible emissions are detected.

OAC 252:100-29 (Fugitive Dust) [Applicable]  
 No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. The facility has numerous drop points and material processes. Normal operation of the facility with the control devices in operation should not cause a problem in this area. However, reasonable precautions to control fugitive dust emissions from the operations are stated in the permit.

OAC 252:100-31 (Sulfur Compounds) [Applicable]  
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. The permit requires the use of natural gas as defined in Part 72 having 20.0 grains TRS/100 scf to ensure compliance with Subchapter 31.

The waste heat boilers need additional consideration. Note that in no case do the exhausts from such boilers exhaust directly to atmosphere; they are always commingled with direct exhaust from other sources. In any event, the waste heat boilers burn "alternative fuel," as that term is defined in §31-2. Because emission limits for SO<sub>2</sub> for these sources are covered by BACT requirements from Permit No. 98-171-C (M-2)(PSD) as stated in Specific Condition No. 1, EUG-3, the exhaust from each boiler is exempt from the requirements of Subchapter 31, per §31-25(4). The diesel-fired air compressor engine of EUG 21 is subject to the liquid fuel limit of 0.8 lb/MMBTU. The actual value of 0.08 lb/MMBTU is an order of magnitude lower than the limit.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]

This subchapter limits new fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to specified emissions of NO<sub>x</sub> in lbs per MMBTU, three-hour average. There are no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]

This subchapter affects gray iron cupolas, blast furnaces, basic oxygen furnaces, petroleum catalytic cracking units, and petroleum catalytic reforming units. There are no affected sources.

OAC 252:100-37 (Volatile Organic Compounds) [Part 7 Applicable]

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There are no tanks storing VOC that have capacity of 400 gallons or more.

Part 5 limits the organic solvent content of coating or other operations. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is not an affected operation.

Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion.

OAC 252:100-40 (Friable Asbestos During Demolition and Renovation)

[Not Applicable At This Time]

Any projects at the facility that involve asbestos removal are affected by this subchapter. Section 40-5 describes procedures for the proper handling of asbestos.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]

This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]

This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

**The following Oklahoma Air Pollution Control Rules are not applicable to this facility.**

OAC 252:100-10	General Operating Permits	not requested
OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-21	PM from Wood Waste Burning	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

**SECTION VIII. FEDERAL REGULATIONS**

PSD, 40 CFR Part 52 [Applicable]

Total emissions of NO<sub>x</sub> and SO<sub>2</sub> are greater than the threshold of 250 TPY of any single regulated pollutant, making it a major stationary source. A retroactive PSD analysis was performed for the plant under Permit No. 98-171-C (M-2)(PSD). Any future increases of emissions must be evaluated for PSD if they exceed a significance level.

NSPS, 40 CFR Part 60 [Subparts A, Dc, Y, and III Are Applicable]

Subpart A. This subpart contains general provisions that apply to all sources subject to requirements under Part 60. Design and monitoring requirements for flares are included, as well as general notification and reporting requirements. The various thermal oxidizers, if treated as flares, are not referenced in any subparts covering the facilities that they serve, so they are not affected by this subpart.

Subparts D, Da, and Db (Steam Generating Units) do not apply for various reasons. The waste heat boilers are not used to generate electricity and do not combust any fuel.

Subpart Dc (Small Industrial-Commercial-Institutional Steam Generating Units) applies to steam generating units constructed, modified, or reconstructed after June 9, 1989, and with maximum design heat input capacity greater than or equal to 10 MMBTUH and less than or equal to 100 MMBTUH. It does not apply to the waste heat boilers because they do not combust any fuel. The 24.5 MMBTUH boiler of EUG 20 is an affected facility and shall comply with SO<sub>2</sub> and particulate standards. This boiler uses only natural gas and is not subject to standards for either pollutant. Recordkeeping of daily fuel use is required by 40 CFR 60.48(g).

Subpart K, Ka, and Kb (VOL Storage Vessels). The 320 -gallon gasoline tank is not subject to any of these subparts because it is below the threshold capacity of each of these subparts.

Subpart Y (Coal Preparation Plants) affects thermal dryers, pneumatic coal cleaning equipment, coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems at coal processing plants with a capacity of 200 TPD or more and that commenced construction, reconstruction, or modification after October 24, 1974. All affected facilities are subject to an opacity limitation of 20% and the subpart prohibits discharge from any thermal dryer of gases with 0.031 gr/DSCF of PM or more. Pneumatic cleaning is not performed at this location. Performance testing has demonstrated compliance with all of these standards.

Subpart IIII (Stationary Compression Ignition Internal Combustion Engines {CI-ICE}) affects CI-ICE constructed, modified, or reconstructed after July 11, 2005. The emergency generator listed as an Insignificant Activity in Section IV went into operation prior to 1996, and is not an affected facility. The 300-hp air compressor engine constructed in June, 2009 is an affected facility, and has a certificate of compliance.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are trace amounts of arsenic, beryllium, and mercury found in the raw coal, some of which is emitted to the atmosphere. Cabot's process does not fall under the applicability determinations of Part 61 for any of these pollutants. There are no emissions of asbestos, vinyl chloride, coke oven emissions, or radionuclides. Testing has shown the raw material to contain insufficient amounts of benzene to trigger applicability of either Subpart J or Subpart FF

Subpart J (Equipment Leaks of Benzene) concerns only process streams that contain more than 10% benzene by weight.

Subpart FF (Benzene Waste Operations) concerns operations at chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries. This facility does not satisfy the definition of any of these activities, as described in 40 CFR 61.341.

NESHAP, 40 CFR Part 63

[Subparts ZZZZ and DDDDD Are Applicable]

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects RICE at major and area sources of HAP emissions. According to 40 CFR 63.6590(a)(1)(iii), the emergency generator engines are affected sources, but according to §6590(b)(3), these existing emergency stationary RICE do not have to meet the requirements of Subparts ZZZZ or A, nor is initial notification required.

Subpart DDDDD (Industrial, Commercial and Institutional Boilers and Process Heaters), published in the Federal Register March 21, 2011, affects new and existing boilers at major sources of HAP. According to the definitions, waste heat boilers are not affected sources, because they do not combust fuel. The various gas-fired boilers and process heaters are subject to the following standards as "existing" equipment:

If your unit is . . .	You must meet the following . . .
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.
2. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of less than 10 million Btu per hour in the unit designed to burn heavy liquid or unit designed to burn solid fuel subcategories; or a new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour, in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid	Conduct a tune-up of the boiler or process heater biennially as specified in §63.7540.
3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater	Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.

CAM, 40 CFR Part 64

[Applicable]

This part applies to any pollutant-specific emissions unit at a major source that is required to obtain an operating permit, for any application for an initial operating permit submitted after April 20, 1998, that addresses “large pollutant-specific emissions units,” or any application that addresses “large pollutant-specific emissions units” as a significant modification to an operating permit, or for any application for renewal of an operating permit, if it meets all of the following criteria.

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY

The Primary Carbonizer, Secondary Carbonizer, East activator furnace, West activator furnace, and the regeneration furnace use thermal oxidizers to control emissions of VOC and toxic compounds. However, emissions after control are below 100 TPY for these pollutants and these specific processes were not subject to the CAM rule until the renewal Title V permitting date. CAM for these units have been stated in this permit.

The coal handling facilities, coal dryer, regeneration kiln and acid wash facilities utilize baghouses and fabric filters to control emissions of PM. CAM for these units have been stated in this permit.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]  
This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments).

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts B and F Applicable]  
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations that meet phase out requirements and that maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

The facility performs service on motor (fleet) vehicles which involve ozone-depleting substances. Therefore, this facility is subject to these requirements and the permit requires compliance with Part 82 per Standard Condition XX.B.

## **SECTION IX. COMPLIANCE**

### **Inspection**

This facility has been visited numerous times, most recently by Tom Pinkston of the Regional Office at Tulsa Compliance/Enforcement staff, on February 19, 2015. Two items of alleged non-compliance were noted from the latest FCE.

**Tier Classification and Public Review**

This application has been determined to be a Tier II based on the request for a renewed operating permit for an existing major stationary source. The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land.

The applicant published the “Notice of Filing a Tier II Application” in *The Pryor Times*, a daily newspaper in Mayes County, on May 28, 2015. The notice stated that the application was available for public review at the Pryor Public Library, Pryor, Oklahoma and at the AQD office in Oklahoma City. A notice of availability of the draft will also be published in *The Times* and on the Air Quality section of the DEQ web page at <http://www.deq.state.ok.us>. This facility is located within 50 miles of Oklahoma borders with Kansas, Missouri, and Arkansas. Notice of the draft permit will be provided to each of these states.

**Fees Paid**

Part 70 source permit renewal fee of \$7,500.

**SECTION X. SUMMARY**

This facility was constructed as described in the application. There is an active Air Quality compliance or enforcement issue. Issuance of the operating permit is recommended, contingent on public and EPA review.

**PERMIT TO OPERATE  
AIR POLLUTION CONTROL FACILITY  
SPECIFIC CONDITIONS**

**DRAFT**

**Cabot Norit Americas, Inc.  
Pryor Activated Carbon Facility**

**Permit Number 2015-0689-TVR**

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on April 14, 2015. The Evaluation Memorandum dated July 27, 2016, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. All particulate matter (PM) emission limits are total PM, that is, filterable and condensable, or “front-half” and “back-half,” unless otherwise specifically indicated. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

1. Points of emissions and limitations for each point. [OAC 252:100-8-6(a)(1)]

**EUG 1 Facility-wide**

This emission unit group is facility-wide. It includes all emission units and is established to discuss the applicability of those rules or compliance demonstrations that may affect all sources within the facility.

- a. The facility is subject to NESHAP, 40 CFR Part 63, Subpart DDDDD, and shall comply with applicable standards;
1. 63.7480 What is the purpose of this subpart?
  2. 63.7485 Am I subject to this subpart?
  3. 63.7490 What is the affected source of this subpart?
  4. 63.7491 Are any boiler or process heaters not subject to this subpart?
  5. 63.7495 When do I have to comply with this subpart?
  6. 63.7499 What are the subcategories of boilers and process heaters?
  7. 63.7500 What emission limits, work practice standards, and operating limits must I meet?
  8. 63.7505 What are my general requirements for complying with this subpart?
  9. 63.7506 Do any boilers or process heaters have limited requirements?
  10. 63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?
  11. 63.7510 What are my initial compliance requirements and by what date must I conduct them?
  12. 63.7515 When must I conduct subsequent performance tests or fuel analyses?
  13. 63.7520 What performance test and procedures must I use?
  14. 63.7521 What fuel analyses and procedures must I use?
  15. 63.7522 Can I use emission averaging to comply with this subpart?
  16. 63.7525 What are my monitoring, installation, operation and maintenance requirements?
  17. 63.7530 How do I demonstrate initial compliance with the emissions limits and work practice standards?

18. 63.7535 How do I monitor and collect data to demonstrate continuous compliance?
  19. 64.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?
  20. 63.7541 How do I demonstrate continuous compliance under the emission averaging provisions?
  21. 63.7545 What notifications must I submit and when?
  22. 63.7550 What reports must I submit and when?
  23. 63.7555 What records must I keep?
  24. 63.7560 In what form and how long must I keep my records?
  25. 63.7565 What parts of the General Provisions apply to me?
  26. 63.7570 Who implements and enforces this subpart?
  27. 63.7575 What definitions apply to this subpart?
- b. The facility is subject to NESHAP, 40 CFR Part 63, Subpart ZZZZ, and shall comply with applicable standards
1. § 63.6580 What is the purpose of subpart ZZZZ?
  2. § 63.6585 Am I subject to this subpart?
  3. § 63.6590 What parts of my plant does this subpart cover?
  4. § 63.6595 When do I have to comply with this subpart?
  5. § 63.6600 What emission limitations and operating limitations must I meet?
  6. § 63.6605 What are my general requirements for complying with this subpart?
  7. § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations?
  8. § 63.6615 When must I conduct subsequent performance tests?
  9. § 63.6620 What performance tests and other procedures must I use?
  10. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
  11. § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
  12. § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?
  13. § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
  14. § 63.6645 What notifications must I submit and when?
  15. § 63.6650 What reports must I submit and when?
  16. § 63.6655 What records must I keep?
  17. § 63.6660 In what form and how long must I keep my records?
  18. § 63.6665 What parts of the General Provisions apply to me?
  19. § 63.6670 Who implements and enforces this subpart?
  20. § 63.6675 What definitions apply to this subpart?

**EUG 2 Primary Carbonizer, Thermal Oxidizer, and Waste Heat Boiler**

EU	Point ID	Name/Model	Const. Date
17	SV-VP-005	Primary Carbonizer	1990

**EUG 3 Secondary Carbonizer, Cyclone, Thermal Oxidizer, and Waste Heat Boiler**

EU	Point ID	Name/Model	Const. Date
17	SV-VP-005	Secondary Carbonizer	1979/2006*

\*Multiclones added 11/2006

COMBINED LIMITS FOR EUG 2 and EUG 3

Pollutant	NO <sub>x</sub>	CO	PM <sub>10</sub>	SO <sub>2</sub>
Lb/hr	34.8	3.97	77.4	*
TPY	152	17.4	339	*

\*part of EUG-6 SO<sub>2</sub> limits.

- a. The permittee is authorized to operate the Primary Carbonizer at a maximum raw material weight short-term rate of nine tons per hour. [88-105-O]
- b. Sulfur, as elemental sulfur, input to the Primary Carbonizer shall not exceed 150 lb/hr, 24-hour average. [98-171-C (M-2)]
- c. Raw material input to the Primary Carbonizer shall not exceed 65,700 tons of coal per 12-month rolling period. [98-171-C (M-2)]
- d. The Primary Carbonizer thermal oxidizer shall be operated: [88-105-O]
  - (1) at a temperature of not less than 1,650°F (rolling three-hour average), with the outlet used as the compliance monitoring point; however, the inlet thermocouple shall be used as the compliance monitoring point from the first introduction of solid feed into the carbonizer until the outlet thermocouple temperature reaches 1,650° or for one hour, whichever comes first;
  - (2) with residence time of the stack gases in the thermal oxidizers at least 2 seconds;
  - (3) with annual calibration of temperature monitoring device;
  - (4) with annual burner inspection;
  - (5) continuously with the carbonizers; and
  - (6) using only natural gas as defined in Part 72 having 20.0 grains/100 scf or less total sulfur.
- e. The Secondary Carbonizer thermal oxidizer shall be operated: [Consent Order]
  - 1) at a temperature of not less than 1,650°F (rolling three-hour average), with the inlet thermocouple used as the compliance monitoring point from the first introduction of solid feed into the carbonizer until the outlet thermocouple temperature reaches 1,650° or one hour, whichever comes first, and the outlet used as the compliance monitoring point thereafter;
  - 2) with annual calibration of temperature monitoring device;
  - 3) with annual burner inspection;
  - 4) continuously with the carbonizer; and
  - 5) using only natural gas as defined in Part 72 having 20.0 grains/100 scf or less total sulfur.
- f. The cyclone(s) shall be operated continuously whenever the waste heat boiler is operated. The waste heat boiler and cyclone(s) may be bypassed. [Consent Order]

- g. The cyclones shall have external visual inspections to assure mechanical integrity and to identify any leaks (weekly).
- h. Recordkeeping requirements are listed in SC #14. [OAC 252:100-8-6 (a)(3)(B)]
- i. The permittee will conduct testing for SO<sub>2</sub>, PM<sub>10</sub> and NO<sub>x</sub> at least every two years. The test protocol will be submitted to DEQ for approval at least 30 days before the scheduled test date.
- j. Combustion gas flows for the Primary Carbonizer waste heat boiler, the Secondary Carbonizer waste heat boiler, and the Secondary Carbonizer thermal oxidizer are combined into a new stack located south of the Primary Carbonizer. These gases vent to atmosphere through a 4' diameter stack at 120' above grade. An air quench system is installed between the thermal oxidizer exhaust and the induced draft fan.
- k. The permittee will conduct performance testing for PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> within 180 days of first operation of the new stack described in (f) above. Testing will demonstrate compliance with the emissions limits for each pollutant. Test protocols will be submitted to DEQ for approval at least 30 days before the scheduled test date. This initial test may be used to satisfy one of the biennial tests required by subcondition i above.
- l. Compliance Assurance Monitoring requirements and specifications: [40 CFR 64]

Parameter	Indicator
Indicator	Operating temperature
Measurement Approach	Temperature shall be monitored using a Type K thermocouple or equivalent
Indicator Range	An excursion is defined as a 3-hour average temperature below 1,650°F. Excursions trigger an inspection, corrective actions, and a reporting requirement.
Data Representativeness Performance Criteria	The thermocouple monitors the thermal oxidizer operating temperature downstream combustion zone of the thermal oxidizer.
QA/QC Practices and Criteria	Accuracy ± 3%; annual calibration or replacement of thermocouples
Monitoring Frequency	temperature is monitored at least once every 15 minutes
Data Collection Procedure	Data are recorded by computer and 3-hour averages are displayed
Averaging Period	3-hour

**EUG 4 Primary Carbonizer Heating Jacket**

EU	Point ID	Name/Model	Const. Date
21	SV-VP-006	Primary Carbonizer Heating Jacket	1990

- a. All fuel burning equipment shall only be fueled with pipeline quality natural gas. [88-105-O]
- b. Recordkeeping requirements are listed in SC #14. [OAC 252:100-8-6 (a)(3)(B)]

**EUG 5 Secondary Carbonizer Heating Jacket**

EU	Point ID	Name/Model	Const. Date
22	SV-VP-008	Secondary Carbonizer Heating Jacket	1979

- a. All fuel burning equipment shall only be fueled with pipeline quality natural gas. [88-105-O]
- b. Recordkeeping requirements are listed in SC #14. [OAC 252:100-8-6 (a)(3)(B)]

**EUG 6 Activator Furnaces (Area 30)**

EU	Point ID	Name/Model	Const. Date
10	SV-VP-009	East Activator Furnace	1979
11		West Activator Furnace	1979

Pollutant	NO <sub>x</sub>	CO	PM <sub>10</sub>	SO <sub>2</sub>
Lb/hr	125	8.15	60.3	210.9
TPY	549	35.7	264	924

- a. The east and west activator furnace thermal oxidizers shall be operated as follows. [OAC 252:100-8-6]
  - 1) Natural gas (NG) shall be used during startup to bring the thermal oxidizer to a sustained temperature of at least 850°F before initiating material flow.
  - 2) After the thermal oxidizers become self-sustaining (no longer requiring NG), they shall be maintained at a temperature of not less than 1,650°F (three-hour average).
  - 3) Emissions of volatile organic carbon (VOC) during startup shall be calculated using the equation  $VOC (lbs) = 0.95 \times (\text{feed rate in lbs/min}) \times (\text{volatile matter content as a decimal}) \times (t - 14.2\{\ln t + 14.2\}_0^t)$ , where t is in minutes, starting at initial material flow. The final value of t is determined by the time at which the thermal oxidizer temperature equals 1,650.
  - 4) Emissions of carbon monoxide (CO) during startup shall be calculated using the equation  $VOC (lbs) = 0 + 38 + 2.81 \times (t - 87)$ , where t is in minutes, starting at initial material flow. The final value of t is determined by the time at which the thermal oxidizer temperature equals 1,650. The first term reflects the fact that there is no measurable flow of CO for the first 60 minutes. The second term reflects the rapid linear increase of CO flow over the next 27 minutes. The third term reflects the constant rate of 1,200 ppm of CO at maximum design flow of the exhausts.
  - 5) The production rate of the furnaces is limited to 4 TPH.

- 6) Startup is defined as the three-hour period following initial flow of material. Any emissions following three hours and before 1,650°F is reached shall be treated as excess emissions and reported per OAC 252:100-9.
- 7) Annual calibration of temperature monitoring device.
- 8) Annual burner inspection.
- 9) Operated continuously with the carbonizers.
- 10) The thermal oxidizers shall be fueled during startup only with pipeline quality natural gas.
- b. The activator furnace heaters shall be fueled only with pipeline quality natural gas.
- c. The cyclones shall have external visual inspections to assure mechanical integrity and to identify any leaks (weekly).
- d. Recordkeeping requirements are listed in SC #14. [OAC 252:100-8-6 (a)(3)(B)]
- e. The permittee will conduct annual testing for PM<sub>10</sub> and NO<sub>x</sub>. The test protocol will be submitted to DEQ for approval at least 30 days before the scheduled test date.
- f. Compliance Assurance Monitoring requirements and specifications for the thermal oxidizers: [40 CFR 64]

<b>Parameter</b>	<b>Indicator</b>
Indicator	Operating temperature
Measurement Approach	Temperature shall be monitored using a Type K thermocouple or equivalent
Indicator Range	An excursion is defined as a 3-hour average temperature below 1,650°F. Excursions trigger an inspection, corrective actions, and a reporting requirement.
Data Representativeness Performance Criteria	The thermocouple monitors the thermal oxidizer operating temperature downstream combustion zone of the thermal oxidizer.
QA/QC Practices and Criteria	Accuracy ± 3%; annual calibration or replacement of thermocouples
Monitoring Frequency	temperature is monitored at least once every 15 minutes
Data Collection Procedure	Data are recorded by computer and 3-hour averages are displayed
Averaging Period	3-hour

**EUG 7 Acid Wash Plant Dryer**

EU	Point ID	Name/Model	Const. Date
23	SV-VP-015	Acid Wash Plant Dryer	1989

Pollutant	NO <sub>x</sub>	CO	VOC	PM <sub>10</sub>	SO <sub>2</sub>	HCl
Lb/hr	0.59	0.50	0.03	1.59	0.01	4.09
TPY	2.58	2.16	0.14	3.48	0.02	9.38

- a. The permittee is authorized to operate the Acid Wash Plant not to exceed production of 15,000,000 pounds per year of activated carbon. [88-050-O (M-1)]

- b. All air discharges from the dryer, bagging operation, screening operation, and associated conveying equipment shall be processed by a baghouse or an equivalent PM emissions control device with a design efficiency of 98% or more. [88-050-O (M-1)]
- c. The permittee shall maintain accessible monitoring equipment to verify that the pressure drop across the baghouse is within the range of 1" to 9" WC, 12-hour rolling average. Each one-hour rolling average of 10" or greater is an excess emission. [98-171-TV (M-5)]
- d. The dryer shall be fired only with natural gas having 4 ppm or less sulfur. [88-050-O (M-1)]
- e. Recordkeeping requirements are listed in SC#15. [OAC 252:100-8-6 (a)(3)(B)]
- f. Compliance Assurance Monitoring requirements and specifications: [40 CFR 64]

Parameter	Indicator No. 1	Indicator No. 2
Indicator	Baghouse pressure differential	Stack visible emissions
Measurement Approach	Differential pressure transducer or manometer	Observers periodically trained in EPA Methods 9 or 22 of 40 CFR 60
Indicator Range	An excursion is defined as a 12-hour average pressure differential below 1.0 inches water column or more than 9.0 inches WC. Excursions trigger an inspection, corrective actions, and a reporting requirement.	Less than or equal to 20% opacity, 6-minute average
Data Representativeness Performance Criteria	The differential pressure transducer monitors the static pressures upstream and downstream of the baghouse.	Observations indicating opacity below 20%
QA/QC Practices and Criteria	Monthly comparison to U-tube manometer. Acceptability criterion is 0.5 inches WC.	Operators that perform the visible emissions opacity observations are trained and certified in accordance with EPA Method 9 of 40 CFR 60 requirements
Monitoring Frequency	pressure differential is monitored at least once every 15 minutes	Weekly
Data Collection Procedure	Data are recorded by computer and 1-hour averages are displayed	The operator records the stack visible emissions in a log.
Averaging Period	12-hours	Weekly

**EUG 8 Material Handling & Transfer – Controlled**

EU	Point ID	Description	Throughput
24	SV-VP-004	Transfer of coal From Area 20 to surge bin	10 TPH

**EUG 9 Coal Processing Plant (Area 20)**

Emissions from the Bowl Mill, Compactor, Crusher, Screener and Double Roll Crusher are processed by a single baghouse. Emissions from the coal dryer are processed by a separate baghouse.

EU	Point ID	Name/Model	Const. Date
8	SV-VP-002	Coal Preparation Plant Dryer	1994
9	SV-VP-003	Coal Preparation Bowl Mill	1994
9	SV-VP-003	Coal Preparation Compactor w/Crusher and Screener	1994
9	SV-VP-003	Coal Preparation Double Roll Crusher	1994

a. Particulate emissions authorized are as follow.

EU #	Equipment	Emissions	
		lb/hr	TPY
8	Dryer	0.22	0.96
9	Preparation equipment	4.91	21.49

b. The permittee shall comply with the Standards of Performance for Coal Preparation Plants, NSPS Subpart Y, for each thermal dryer, coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems in the Coal Preparation Plant. [40 CFR 60.250 *et seq*]

1) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer gases which contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf), or exhibit 20 percent opacity or greater. [§ 60.252(a)(1) & (2)]

2) The owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater. [§ 60.252(c)]

3) The owner or operator shall install, calibrate, maintain, and continuously operate a monitoring device on the thermal dryer for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±3° Fahrenheit and shall be replaced or recalibrated annually in accordance with procedures under §60.13(b). [§ 60.253]

c. Raw coal input shall not exceed 240 tons per day (TPD), monthly average. [93-025-O (M-1)]

d. The coal dryer shall be heated only with steam or other indirect heating such that no fuel-burning equipment becomes part of the unit. [93-025-O (M-1)]

e. All air discharges from the coal drying, milling, crushing, and screening operations shall be processed by a baghouse or an equivalent PM emissions control device with a design efficiency of 99% or more. [93-025-O (M-1)]

f. The permittee shall maintain accessible monitoring equipment to verify that the pressure drop across the Area 20 is within the range of 1" to 9" WC, and the coal dryer baghouse is within the range of 0" to 9" WC, 12-hour rolling average. Each one-hour rolling average of 10" or greater is an excess emission. [98-171-TV (M-5)]

- g. Recordkeeping requirements are listed in Specific Condition (SC)#14. [OAC 252:100-8-6 (a)(3)(B)]
- h. Compliance Assurance Monitoring requirements and specifications: [40 CFR 64]

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>
Indicator	Baghouse pressure differential	Stack visible emissions
Measurement Approach	Differential pressure transducer or manometer	Observers periodically trained in EPA Methods 9 or 22 of 40 CFR 60
Indicator Range	An excursion is defined as a 12-hour average pressure differential below 1.0 inches water column or more than 9.0 inches WC. Excursions trigger an inspection, corrective actions, and a reporting requirement.	Less than or equal to 20% opacity, 6-minute average
Data Representativeness Performance Criteria	The differential pressure transducer monitors the static pressures upstream and downstream of the baghouse.	Observations indicating opacity below 20%
QA/QC Practices and Criteria	Monthly comparison to U-tube manometer. Acceptability criterion is 0.5 inches WC.	Operators that perform the visible emissions opacity observations are trained and certified in accordance with EPA Method 9 of 40 CFR 60 requirements
Monitoring Frequency	pressure differential is monitored at least once every 15 minutes	Weekly
Data Collection Procedure	Data are recorded by computer and 1-hour averages are displayed	The operator records the stack visible emissions in a log.
Averaging Period	12-hours	Weekly

**EUG10 Material Handling, Transfer, Traffic, & Erosion – Uncontrolled**

<b>EU</b>	<b>Point ID</b>	<b>Description</b>	<b>Throughput</b>
1a	VP10-SUB-01	Subbit coal railcar unloading into hopper	20 TPH
1d	VP10-SUB-02	Subbit coal drop to elevator from unloading hopper	20 TPH
1e	VP10-SUB-03	Subbit coal drop from elevator to working subbit coal storage pile adjacent to unloading building	20 TPH
4	VP10-SUB-05	Front end loader drop into subbit coal storage pile in open storage area or in dry coal storage building	20 TPH
7	VP10-SUB-10	Front end loader drop of subbit coal into subbit coal loading hopper	20 TPH
2	VP10-PIT-01	Pitch railcar unloading into hopper	20 TPH
3	VP10-PIT-02	Pitch drop onto elevator from unloading hopper	20 TPH

<b>EU</b>	<b>Point ID</b>	<b>Description</b>	<b>Throughput</b>
10	VP10-BIT-03	Bituminous coal unloading from truck into bituminous unloading pile	200TPH
1	VP10-BIT-05	Front end loader drop of bituminous coal into coal storage area or dry coal storage building	200 TPH
7	VP10-BIT-09	Front end loader drop of bituminous coal into Load Hopper	20 TPH
1	VP10-REC-03	Front end loader drop of Reclaim coal into truck	120 TPH
1	VP10-REC-05	Front end loader drop of Reclaim coal into Load Hopper	20 TPH
28	VP40-PACLD	PAC Bulk loading station into trucks	20 TPH
NA	SV-REGN-004	Truck unloading onto SAC storage pad	40 TPH
NA	REGN-SKUL	Regen F Hopper loading	3 TPH

Note that “subbituminous” is shortened to “subbit” for this table.

**EUG 11 Acid Wash Plant Material Handling & Transfer – Controlled**

<b>EU</b>	<b>Point ID</b>	<b>Description</b>	<b>Throughput</b>
23	SV-VP-015	Acid wash dryer drop to product screener	1.5TPH
23	SV-VP-015	Acid wash screener drop to product bin	1.5TPH
23	SV-VP-015	Acid wash plant product packaging	1.5TPH

**EUG 12 Material Handling & Transfer – Controlled**

<b>EU</b>	<b>Point ID</b>	<b>Description</b>	<b>Throughput</b>
3	SV-VP-001	Pitch drop from elevator onto pitch building distribution conveyor belt	35 TPH
3	SV-VP-003	Pitch drop into Pitch feed Bin	20 TPH
13	SV-VP-012	Activated carbon from activated furnaces transfer into product screener and screening	4 TPH
13	SV-VP-012	Fines transfer from product screener to fines bin	4 TPH
13	SV-VP-012	Fines transfer from product screener to oversize bin	4 TPH
20	SV-VP-013	Transfer activated carbon from fines bin into PAC mill	4 TPH
13	SV-VP-012	PAC mill to packaging	4 TPH
13	SV-VP-012	Product screener transfer into packages	4 TPH
9	SV-VP-003	Activated carbon transfer into acid wash feed hopper	4 TPH
NA	Mobile Equipment	Pneumatic transfer of product from tanker to rail car	8 TPH

**EUG 13 Material Handling, Transfer, Traffic, & Erosion – Uncontrolled**

EU	Point ID	Description	Throughput
4	VP10-SUB-04	Front end loader transfer from working storage to open subbituminous storage or dry coal storage building	20 TPH
5	VP10-SUB-06	Front end loader maintenance of subbituminous open coal storage area or dry coal storage area or dry coal storage building including transfer between open and dry coal storage building and to subbituminous coal loading hopper	20 TPH
4	VP10-SUB-07	Wind erosion of subbituminous coal working storage pile	
6	VP10-SUB-08	Wind erosion of subbituminous coal storage pile	
6	VP10-SUB-09	Wind erosion of subbituminous coal storage pile in dry coal storage building	
3	VP10-PIT-06	Front end loader maintenance of pitch and transport to load hopper	20 TPH
1m	VP10-BIT-01	Travel by truck carrying bituminous coal on unpaved road (Loaded)	
7	VP10-BIT-02	Travel by truck carrying bituminous coal on unpaved road (Empty)	
5	VP10-BIT-04	Movement of bituminous coal from unloading area to coal storage area or dry coal storage building by front end loader	20 TPH
5	VP10-BIT-06	Maintenance of bituminous coal storage pile by front end loader and transfer to loading hopper	20 TPH
6	VP10-BIT-07	Wind erosion of bituminous coal in open coal storage area	
6	VP10-BIT-08	Wind erosion of bituminous coal in dry coal storage building	
5	VP10-REC-01	Loaded reclaim coal truck travel on unpaved roads	
5	VP10-REC-02	Empty reclaim coal truck travel on unpaved roads	
5	VP10-REC-04	Reclaim coal pile maintenance by loader, transfer to loading hopper	
6	VP10-REC-06	Wind erosion of reclaim coal pile	
NA	SV-VP-004	Wind erosion of SAC pile	
NA	Mobile Equipment	Transfer of bulk bag product to tanker via mobile belt conveyor	14 TPH

**EUG 14 Truck Unloading**

EU	Point ID	Description
NA	SV-REGN-001	Truck loading into storage silos and transfer from storage to feed silo
NA	SV-REGN-002	Truck unloading into auxiliary silo and neutralization
NA	SV-REGN-003	Truck unloading into auxiliary silo and neutralization

**EUG 15 Regeneration Kiln/Thermal oxidizer**

Emissions authorized for this EUG follow.

Pollutant	NO <sub>x</sub>	CO	VOC	PM <sub>10</sub>	SO <sub>2</sub>	HCl
lb/hr	1.97	2.68	0.40	1.0	4.88	4.08
TPY	8.62	11.7	1.75	4.38	21.4	17.9

- a. The permittee shall be authorized to operate the regenerator kiln up to an annual production of 29,190,000 pounds per year (dry-basis) of activated carbon. [90-006-O (M-3)]
- b. All air discharges from the spent carbon receiving and product recovery operations shall be processed by a baghouse or an equivalent PM emissions control device with a design control efficiency of 99% or more. [90-006-O (M-3)]
- c. All air discharges from the rotary kiln shall be processed through: [90-006-O (M-3)]
- 1) a baghouse or an equivalent PM emissions control device with an design control efficiency of 99% or more;
  - 2) an thermal oxidizer with a VOC design control efficiency of at least 99.99%;
  - 3) and an acid gas scrubber with a design control efficiency of at least 99% for HCl emissions control and 90% for SO<sub>2</sub> emissions control.
- d. 1) The permittee shall maintain accessible monitoring equipment to verify that the pressure drop across the process offgas baghouse is within the range of 1" to 9" WC, 12-hour rolling average.
- 2) Each one-hour rolling average of 10" or greater is a violation. [98-171-TV (M-5)]
- e. The wet scrubber shall be operated: [90-006-O (M-3)]
- 1) using liquid with a pH of 6.0 or greater, measured at least once each calendar day;
  - 2) with liquid supplied to the wet scrubber at a rate of at least 3 GPM; and
  - 3) with nozzle pressure of at least 20 psig, calculated on a 1-hour rolling average.
- f. Thermal oxidizer requirements follow. [90-006-O (M-4)]
- 1) The thermal oxidizer shall be operated at a temperature not less than 1,600°F, three-hour average. Design of the thermal oxidizer shall provide a residence time of at least two seconds for stack gases.
  - 2) The temperature monitoring device shall be calibrated and the burner shall be inspected no less frequently than annually.
  - 3) The regeneration kiln shall not be operated unless the thermal oxidizer is functioning properly.
  - 4) Only pipeline quality natural gas with sulfur content less than or equal to 4 ppm shall be used as pilot fuel for the thermal oxidizer.
  - 5) If the regeneration kiln handles chlorinated organic waste material, the thermal oxidizer shall be operated at a temperature not less than 1,775°F, 24-hour rolling average. Chlorinated organic waste, as used here, means any material listed in 40 CFR 261.24 that is present in the material to be regenerated in concentrations equal to or greater than the "regulatory level" shown in §261.24.
- g. The facility shall maintain records of all waste stream profiles, sufficient to demonstrate the presence of any chlorinated organic waste in each, along with records sufficient to demonstrate when each such stream was processed through the regeneration kiln and thermal oxidizer. [90-006-O (M-3)]
- h. The permittee shall conduct weekly visual observations of the opacity from the exhausts associated with these emission units using EPA Reference Method 22 and keep a record of these observations. If visible emissions are detected, then the permittee shall conduct a thirty-minute opacity reading in accordance with EPA Reference Method No. 9. [90-006-O (M-3)]
- i. Recordkeeping requirements are listed in SC#15. [OAC 252:100-8-6 (a)(3)(B)]
- j. Compliance Assurance Monitoring requirements and specifications: [40 CFR 64]

(1) Baghouses

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>
Indicator	Baghouse pressure differential	Stack visible emissions
Measurement Approach	Differential pressure transducer or manometer	Observers periodically trained in EPA Methods 9 or 22 of 40 CFR 60
Indicator Range	An excursion is defined as a 12-hour average pressure differential below 1.0 inches water column or more than 9.0 inches WC. Excursions trigger an inspection, corrective actions, and a reporting requirement.	Less than or equal to 20% opacity, 6-minute average
Data Representativeness Performance Criteria	The differential pressure transducer monitors the static pressures upstream and downstream of the baghouse.	Observations indicating opacity below 20%
QA/QC Practices and Criteria	Monthly comparison to U-tube manometer. Acceptability criterion is 0.5 inches WC.	Operators that perform the visible emissions opacity observations are trained and certified in accordance with EPA Method 9 of 40 CFR 60 requirements
Monitoring Frequency	pressure differential is monitored at least once every 15 minutes	Weekly
Data Collection Procedure	Data are recorded by computer and 1-hour averages are displayed	The operator records the stack visible emissions in a log.
Averaging Period	12-hours	Weekly

(2) Thermal oxidizers

<b>Parameter</b>	<b>Indicator</b>
Indicator	Operating temperature
Measurement Approach	Temperature shall be monitored using a Type K thermocouple or equivalent
Indicator Range	An excursion is defined as a 3-hour average temperature below 1,650°F. Excursions trigger an inspection, corrective actions, and a reporting requirement.
Data Representativeness Performance Criteria	The thermocouple monitors the thermal oxidizer operating temperature downstream combustion zone of the thermal oxidizer.
QA/QC Practices and Criteria	Accuracy $\pm$ 3%; annual calibration or replacement of thermocouples
Monitoring Frequency	temperature is monitored at least once every 15 minutes
Data Collection Procedure	Data are recorded by computer and 3-hour averages are displayed
Averaging Period	3-hour

**(3) Wet scrubber**

	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>
Indicator	Scrubber liquid pH	Scrubber liquor flow
Measurement Approach	Scrubber liquid pH is measured using a pH sensor	Scrubber liquid flow is measured using a magnetic flow tube element
Indicator Range	An excursion is defined as an hourly scrubber pH value greater than 6.0. Excursions trigger an inspection, corrective actions, and a reporting requirement.	An excursion is defined as an hourly scrubber liquid flow less than 3.0 GPM. Excursions trigger an inspection, corrective actions, and a reporting requirement.
Data Representativeness Performance Criteria	The scrubber liquid pH is measured on the scrubber liquid recirculation line.	The scrubber liquid flow rate sensor is located on the scrubber liquid recirculation line.
QA/QC Practices and Criteria	pH test kit or pH meter	The flow sensor is calibrated at least annually in accordance with manufacturer specifications.
Monitoring Frequency	Measured daily	Measured continuously
Data Collection Procedure	Recorded in a log da	Recorded at least once per hour either in a log or by computer.
Averaging Period	Daily	Daily

**EUG 16 Regenerator Plant Material Handling**

EU	Point	Description	Throughput (TPH)
19	SV-REGN-003	Packaging area material handling	2
NA	SV-REGN-004	Regeneration product collector	2
NA	REGN-TRKLD	Regen bulk truck loading (drop into top of trucks at facility on northwest side of regeneration plant)	20

Particulate emissions authorized are as follow.

EU #	Equipment	PM <sub>10</sub> Emissions	
		lb/hr	TPY
19	SV-REGN-003	4.80	1.15
NA	SV-REGN-004		
NA	REGN-TRKLD		

- a. The above units shall be operated with a baghouse or equivalent (99% or more efficiency for PM emissions control).
- b. Compliance Assurance Monitoring requirements and specifications: [40 CFR 64]

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>
Indicator	Baghouse pressure differential	Stack visible emissions
Measurement Approach	Differential pressure transducer or manometer	Observers periodically trained in EPA Methods 9 or 22 of 40 CFR 60
Indicator Range	An excursion is defined as a 12-hour average pressure differential below 1.0 inches water column or more than 9.0 inches WC. Excursions trigger an inspection, corrective actions, and a reporting requirement.	Less than or equal to 20% opacity, 6-minute average
Data Representativeness Performance Criteria	The differential pressure transducer monitors the static pressures upstream and downstream of the baghouse.	Observations indicating opacity below 20%
QA/QC Practices and Criteria	Monthly comparison to U-tube manometer. Acceptability criterion is 0.5 inches WC.	Operators that perform the visible emissions opacity observations are trained and certified in accordance with EPA Method 9 of 40 CFR 60 requirements
Monitoring Frequency	pressure differential is monitored at least once every 15 minutes	Weekly
Data Collection Procedure	Data are recorded by computer and 1-hour averages are displayed	The operator records the stack visible emissions in a log.
Averaging Period	12-hours	Weekly

**EUG 17 Regenerator Plant Bulk Handling**

<b>EU</b>	<b>Point ID</b>	<b>Description</b>
27	REGN-PACLD	Regeneration plant PAC mill bulk truck loadout

Particulate emissions authorized are as follow.

<b>EU #</b>	<b>Equipment</b>	<b>PM<sub>10</sub> Emissions</b>	
		<b>lb/hr</b>	<b>TPY</b>
27	Regeneration plant PAC mill bulk truck loadout	1.46	6.57

- a. The above unit shall be operated with a baghouse or equivalent (99% or more efficiency for PM emissions control).
- b. Compliance Assurance Monitoring requirements and specifications: [40 CFR 64]

(1) Baghouses

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>
Indicator	Baghouse pressure differential	Stack visible emissions
Measurement Approach	Differential pressure transducer or manometer	Observers periodically trained in EPA Methods 9 or 22 of 40 CFR 60
Indicator Range	An excursion is defined as a 12-hour average pressure differential below 1.0 inches water column or more than 9.0 inches WC. Excursions trigger an inspection, corrective actions, and a reporting requirement.	Less than or equal to 20% opacity, 6-minute average
Data Representativeness Performance Criteria	The differential pressure transducer monitors the static pressures upstream and downstream of the baghouse.	Observations indicating opacity below 20%
QA/QC Practices and Criteria	Monthly comparison to U-tube manometer. Acceptability criterion is 0.5 inches WC.	Operators that perform the visible emissions opacity observations are trained and certified in accordance with EPA Method 9 of 40 CFR 60 requirements
Monitoring Frequency	pressure differential is monitored at least once every 15 minutes	Weekly
Data Collection Procedure	Data are recorded by computer and 1-hour averages are displayed	The operator records the stack visible emissions in a log.
Averaging Period	12-hours	Weekly

**EUG 18 Hydrochloric Acid Storage Tank**

<b>EU</b>	<b>Point ID</b>	<b>Description</b>	<b>Const. Date</b>
15	SV-VP-016	Storage tank	Unknown

**EUG 19 NSPS Subpart Dc Boiler (Permit No. 98-171-C (M-1))**

In addition to NSPS Dc, this boiler is an affected source under 40 CFR 63 Subpart DDDDD, and shall comply with the tune-up provisions of that subpart.

<b>EU</b>	<b>Point</b>	<b>Description</b>	<b>Const. Date</b>
19	SV-VP-019	24.5 MMBTUH Cleaver-Brooks CBLE600	1/18/2008



5. The permittee shall keep operation and maintenance (O&M) records for all emission units that have not been modified. Such records shall at a minimum include the dates of operation, and maintenance, type of work performed, and the increase, if any, in emissions as a result.

[OAC 252:100-8-6 (a)(3)(B)]

6. Performance testing for various pollutants shall be performed at certain vents to atmosphere no less frequently than every five years for the Primary and Secondary Carbonizer and every two years for the Activator Furnaces (EUG-6). Testing shall occur downstream from all control devices. Pollutants to be tested include oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), oxides of sulfur (SO<sub>x</sub>), volatile organic compounds (VOC), and particulate matter (PM). PM testing shall address those aerodynamic diameters for which standards have been set, such as PM<sub>10</sub> and PM<sub>2.5</sub>. PM testing shall include both filterable (front half) and condensable (back half) emissions. Testing shall be performed in a timely manner so that results will be supplied to DEQ in subsequent applications for Title V renewal. In the event that continuous emissions monitoring (CEMs) equipment is installed on any vent, RATA testing of the CEMs shall demonstrate compliance with this Condition. In addition to the above testing, the permittee shall conduct performance testing for PM, with particle size analysis for PM<sub>10</sub> and PM<sub>2.5</sub>, and NO<sub>x</sub> every year with a minimum of 180 days between tests. This test will not be required in the same year in which the five year test is conducted since PM and NO<sub>x</sub> are included.

[OAC 252:100-8-6 (a)(3)(A)]

7. When periodic compliance testing shows emissions in excess of the lb/hr emission limits in Specific Condition Number 1, the permittee shall comply with the provisions of OAC 252:100-9 for excess emissions. Requirements of OAC 252:100-9 include immediate notification and written notification of Air Quality.

[OAC 252:100-9]

8. The permittee shall conduct weekly visual observations of the opacity from eight controlled emission points in the facility using EPA Reference Method (RM) 22, and keep a record of these observations. The emission points include the thermal oxidizers and various operations with potential for particulate emissions. The points are identified as Sequence Numbers 2, 3, 6, 11, 12, 14, 15, and 16 on the 2009 annual emission inventory. The points are described in various ways, depending on the source document, so only sequence numbers are used here. If visible emissions are detected, then the permittee shall make whatever equipment adjustments are necessary and conduct a follow-up RM 22 opacity reading within 24 hours. If the second RM 22 shows visible emissions, RM 9 testing shall follow as soon as technically possible.

[OAC 252:100-43]

9. The 24.5 MMBTU boiler of EUG 19 is an affected facility under 40 CFR 60, Subpart Dc, and is subject to the following requirements.

[98-171-C (M-1), 40 CFR 60.48c]

- a) Consumption of natural gas not to exceed 214,620 MMBTUs per rolling 12-month total.
- b) Records of amount of fuel combusted. (daily, monthly and 12-month rolling total).

10. Emissions of SO<sub>2</sub> from the VAC shall be calculated based on material balance for the entire process. The sulfur content of the raw material (feed) is known or measurable, as is the sulfur content of the product. Each coal shipment shall be tested for sulfur content using ASTM D4239. The difference in total sulfur between feed and product shall be considered to have been converted to sulfur dioxide stoichiometrically and emitted. The permittee may assign portions of the total to each of the primary carbonizer, secondary carbonizer, and activator hearths, based on reasonable assumptions about sulfur lost in each. Product has been tested for sulfur content to determine both the amount of sulfur present and the ratio of sulfur in the product to sulfur in the feed. Bituminous and subbituminous coals were tested twice each during calendar years 2011 and 2012, with no test for each type of feed occurring sooner than 120 days after the preceding test. The average product sulfur retention for the four bituminous tests was 104.7% while the average product sulfur retention for the four sub bituminous tests was 96.0%. Accordingly, permittee may use the conservative retention of rate of 90% in the material balance calculations for both coal types. Because test data and emission calculations may reveal proprietary information relative to the process, only the results shall be necessary for emission inventory purposes. However, all confidential data and supporting assumptions and calculations shall be made available to DEQ for inspections and as otherwise required. [OAC 252:100-43]

11. Emissions of particulate matter (PM) from the VAC shall be calculated as PM<sub>10</sub> or PM<sub>2.5</sub> based on material balance for the entire process. The permittee shall provide an analysis demonstrating the calculation of emissions, showing the ash content at various stages of the VAC process and explaining each calculation. ASTM D3174 shall be used to determine ash content. Because test data and emission calculations may reveal proprietary information relative to the process, only the results shall be necessary for emission inventory purposes. However, all confidential data and supporting assumptions and calculations shall be made available to DEQ for inspections and as otherwise required. [OAC 252:100-43]

12. The following records shall be maintained on site to verify Insignificant Activities. No recordkeeping is required for those operations that qualify as Trivial Activities. [OAC 252:100-8-6 (a)(3)(B)]

- a) For stationary reciprocating engines used exclusively for emergency power generation or for peaking power service, records of the size of engines, type of fuel used, and number of hours operated (annual).
- b) For fuel storage/dispensing equipment operated solely for facility owned vehicles, records of the type and amount of fuel dispensed (annual).
- c) For fluid storage tanks with a capacity of less than 39,894 gallons and a true vapor pressure less than 1.5 psia, records of the capacity of the tanks and the contents.
- d) For activities (except for trivial activities) that have the potential to emit less than 5 TPY (actual) of any criteria pollutant, the type of activity and the amount of emissions or a surrogate measure of the activity (annual).

13. The permittee shall maintain records of operations as listed below. These records shall be maintained on site or at a local field office for at least five years after the date of recording and shall be provided to regulatory personnel upon request. [OAC 252:100-8-6 (a)(3)(B)]

- a) Natural gas usage for each combustion unit – EUGs 2, 3, 4, 5, 6, 7 & 15 (monthly and 12-month rolling total)
- b) Analysis of feed coals – EUG 9 (each coal shipment received); also see SC #11.
- c) Thermal dryer outlet temperature – EUG 9 (at least once each 15 seconds)
- d) Process weight rates for each Carbonizer – EUGs 2 & 3 (hourly). The process weight rates for the Secondary Carbonizer may be estimated based on expected yields from the Primary Carbonizer.
- e) Hours of operation for each Carbonizer – EUGs 2 & 3 (daily).
- f) Sulfur content of the coal being processed, including sulfur weight percent and sulfur mass feed rates – EUGs 2 & 3 (each change of input and hourly sulfur feed rates – 24-hr average)
- g) Temperature of the thermal oxidizers during operation – EUGs 2, 3, 6, & 15 (at least once each 15 seconds).
- h) Activated carbon production – EUGs 6, 7 & 15 (monthly and 12-month rolling total).
- i) Baghouse pressure differentials – EUGs 7, 9, 15 (12-hour rolling), EUGs 8, 10, 12, 16 (daily).
- j) Process weight rates and hours of operation for each furnace – EUG 6 (daily). Process weights can be estimated based on the expected yields from the carbonizers.
- k) Scrubber nozzle pressures - EUG 15 (1-hour rolling average).
- l) Acid gas scrubber liquor pH and liquid flow - EUG 15 (1-hour rolling average).
- m) Operation, maintenance, and inspection log for each control device – all EUGs.
- n) Records of the date and time of Reference Method (RM) No. 22 visual emission observations, stack or emission point observed, operational status of the emission unit, observed results and conclusions, and any RM No. 9 results - the points are identified as Sequence Numbers 2, 3, 6, 8, 9, 11, 12, 14, 15, and 16 on the 2009 annual emission inventory.
- o) Amount of fuel combusted – EUG 19 (daily, monthly and 12-month rolling total).
- p) The facility shall maintain records of all waste stream profiles, sufficient to demonstrate the presence of any chlorinated organic waste in each, along with records sufficient to demonstrate when each such stream was processed through the regeneration kiln and thermal oxidizer.
- q) Records of weekly external inspections of cyclones and of O&M, per SC #1, EUG 3 and EUG 6.
- r) Boiler tune-ups required by SC # 10.
- s) Records required by NSPS Subpart IIII.
- t) Records required by NSPS Subpart Dc.
- u) Records required by NESHAP Subpart ZZZZ.
- v) Records required by NESHAP Subpart DDDDD.
- w) Records required by SC #2, #3, #6, #7, #9, #14.
- x) The permittee shall maintain a record of GHG emissions using the methodology described in the PSD application. The permittee may use AP-42 factors for natural gas combustion and carbon material balances for coal-produced CO<sub>2</sub> emissions.

- y) Amount of coal feed to the Primary Carbonizer (12-month rolling total).
- z) Records as required by 40 CFR Part 64 (CAM).
- aa) Emissions of SO<sub>2</sub> from EUG-6 (monthly).
- bb) Records of operating times when the cyclones in EUG-3 and EUG-6 are bypassed.

14. On issuance, Permit No. 2015-0689-TVR replaces and supersedes Permit No. 98-171-TV (M-8).



# PART 70 PERMIT

AIR QUALITY DIVISION  
STATE OF OKLAHOMA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
707 N. ROBINSON STREET, SUITE 4100  
P.O. BOX 1677  
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2015-0689-TVR

Cabot Norit Americas USA, Inc,

having complied with the requirements of the law, is hereby authorized to operate their activated carbon facility at 1432 6<sup>th</sup> Street, Mid-America Industrial Park, Pryor, Mayes County, Oklahoma subject to standard conditions dated June 21, 2016, and specific conditions, both attached

This permit shall expire five years from the issuance date below, except as authorized under Section VIII of the Standard Conditions.

\_\_\_\_\_  
Director, Air Quality Division

\_\_\_\_\_  
Date

Chris Soap, Plant Manager  
Cabot Norit Americas, Inc.  
1432 6<sup>th</sup> Street, Mid-America Industrial Park  
Pryor, OK 74361-4434

SUBJECT: Permit Number: 2015-0689-TVR  
Facility: Pryor Activated Carbon Plant  
FAC ID: 469

Dear Mr. Soap:

Enclosed is the permit authorizing operation of the referenced facility. Please note that this permit is issued subject to certain standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at (405) 702-4198.

Sincerely,

David S. Schutz, P.E.  
New Source Permits Section  
Air Quality Division

**MAJOR SOURCE AIR QUALITY PERMIT  
STANDARD CONDITIONS  
(June 21, 2016)**

**SECTION I. DUTY TO COMPLY**

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

**SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS**

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

**SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING**

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards ("NSPS") under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants ("NESHAPs") under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be

maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality. [OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM<sub>10</sub>). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

#### SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source. [OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and

shall contain the following language: “I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.” [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

#### **SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM**

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

#### **SECTION VI. PERMIT SHIELD**

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

#### **SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT**

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

#### **SECTION VIII. TERM OF PERMIT**

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration.

[OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced.

[OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation.

[OAC 252:100-8-4(b)(5)]

### **SECTION IX. SEVERABILITY**

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

### **SECTION X. PROPERTY RIGHTS**

A. This permit does not convey any property rights of any sort, or any exclusive privilege.

[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued.

[OAC 252:100-8-6(c)(6)]

### **SECTION XI. DUTY TO PROVIDE INFORMATION**

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.

[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.

[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

**SECTION XII. REOPENING, MODIFICATION & REVOCATION**

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.

[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances:

[OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
- (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
- (4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d).  
[OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited.

[OAC 252:100-8-6(c)(6)]

**SECTION XIII. INSPECTION & ENTRY**

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
  - (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.
- [OAC 252:100-8-6(c)(2)]

#### SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance.

[OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

[OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that:

[OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof.

[OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.

[OAC 252:100-8-6(a)(3)(C)(iv)]

#### SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date.

[OAC 252:100-8-6(a)(4)]

**SECTION XVI. INSIGNIFICANT ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

**SECTION XVII. TRIVIAL ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

**SECTION XVIII. OPERATIONAL FLEXIBILITY**

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

**SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS**

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter.  
[OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU.  
[OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for:  
[OAC 252:100-25]
  - (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
  - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
  - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
  - (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards.  
[OAC 252:100-29]
- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide.  
[OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system.  
[OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs.  
[OAC 252:100-37-36]

**SECTION XX. STRATOSPHERIC OZONE PROTECTION**

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
- (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
- (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

**SECTION XXI. TITLE V APPROVAL LANGUAGE**

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source’s Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).
- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

## **SECTION XXII. CREDIBLE EVIDENCE**

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [OAC 252:100-43-6]