# SUNCOKE ENERGY SOUTH SHORE FACILITY

# APPLICATION FOR A CERTIFICATE TO CONSTRUCT A MERCHANT ELECTRIC GENERATING FACILITY AND NON-REGULATED ELECTRIC TRANSMISSION LINE

Prepared for: SunCoke Energy South Shore LLC 1011 Warrenville Road, Suite 600 Lisle, Illinois 60532



Prepared by:



525 Vine Street, Suite 1800 Cincinnati, Ohio 45202

Case #: 2014-00162

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SunCoke Energy



# CONTENTS

SECTI	ON	PAGE
1.0	APPLICANT INFORMATION KRS 278.706(2)(a) KRS 278.714(2)(a) Contact Person: David Schwake - (215) 384-5920	1
2.0	PROPOSED SITE DESCRIPTION KRS 278.706(2)(b) KRS 278.714(2)(b) KRS 278.714(2)(c) KRS 278.714(2)(d) Contact Person: David Schwake - (215) 384-5920 2.1 Proposed Electric Generating Facility – General Information 2.2 Plant Site Location 2.3 Proposed Facility Process Description 2.4 Proposed Radial Tie Line 2.5 Radial Tie Line Route 2.6 Site Conditions and Vicinity	2 2 3 4 5 5 8
3.0	PUBLIC NOTICE EVIDENCE KRS 278.706(2)(c) KRS 278.714(2)(e) KRS 278.714(2)(f) Contact Person: David Schwake - (215) 384-5920	10
4.0	COMPLIANCE WITH LOCAL ORDINANCES AND REGULATIONS KRS 278.706(2)(d) Contact Person: David Schwake - (215) 384-5920	11
5.0	SETBACK REQUIREMENTS KRS 278.706(2)(e) Contact Person: David Schwake - (215) 384-5920	12
6.0	PUBLIC INVOLVEMENT ACTIVITIES KRS 278.706(2)(f) Contact Person: David Schwake - (215) 384-5920	15
7.0	EFFORT TO LOCATE NEAR EXISTING ELECTRIC GENERATING FACILITIES KRS 278.706(2)(g) Contact Person: David Schwake - (215) 384-5920	18
8.0	PROOF OF SERVICE KRS 278.706(2)(h) Contact Person: David Schwake - (215) 384-5920	19
9.0	EFFECT ON KENTUCKY'S ELECTRICITY TRANSMISSION SYSTEM KRS 278.706(2)(i) Contact Person: David Schwake - (215) 384-5920	20
10.0	LOCAL ECONOMIC IMPACT KRS 278.706(2)(j) Contact Person: David Schwake - (215) 384-5920	21
11.0	ENVIRONMENTAL VIOLATION RECORD KRS 278.706(2)(k) Contact Person: David Schwake - (215) 384-5920	23

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



12.0	SITE ASSESSMENT REPORT KRS 278.706(2)(I) Contact Person: David Schwake - (215) 384-5920	24
13.0	ENVIRONMENTAL PERMIT LIST KRS 278.704(1) Contact Person: David Schwake - (215) 384-5920	25
14.0	SIGNATURE 807 KAR 5:110 §1(3) Contact Person: George L. Seay, Jr (859) 288-7448	27

#### LIST OF FIGURES

#### Figures

- 1 Site Location Map KRS 278.706(2)(b) Contact Person: David Schwake - (215) 384-5920
- 2 Conceptual Site Plan KRS 278.706(2)(b) Contact Person: David Schwake - (215) 384-5920
- Plant Layout Map KRS 278.706(2)(b)
   Contact Person: David Schwake - (215) 384-5920
- Setback Requirements Map KRS 278.704(2), Contact Person: David Schwake - (215) 384-5920
- 5 Two-Mile Site Vicinity Map KRS 278.706(2)(b) Contact Person: David Schwake - (215) 384-5920
- Radial Tie Line Route and One-Mile Vicinity Plan KRS 278.714(2)(b)
   Contact Person: David Schwake - (215) 384-5920
- Radial Tie Line Plan and Profile Sheets
  KRS 278.714(2)(b)
  KRS 278.714(2)(c)
  Contact Person: David Schwake (215) 384-5920



#### LIST OF EXHIBITS

#### Exhibits

- A Property Survey Map KRS 278.706(2)(b) Contact Person: David Schwake - (215) 384-5920
- B Public Notice
  B1 Letters to Property Owners
  KRS 278.706(2)(c)
  Contact Person: David Schwake (215) 384-5920

B2 Affidavit of Publication – Public Notice KRS 278.714(2)(e) Contact Person: David Schwake - (215) 384-5920

B3 Proof of Service of Application to County Judge Executive KRS 278.714(2)(f) Contact Person: David Schwake - (215) 384-5920

C Compliance with Local Ordinances and Regulations C1 Confirmation of No Ordinances for Zoning or Noise KRS 278.706(2)(d) Contact Person: David Schwake - (215) 384-5920

> C2 Greenup County Noise Ordinance KRS 278.706(2)(d) Contact Person: David Schwake - (215) 384-5920

- D Land Option Agreement with DGGG Realty Company, LLC KRS 278.706(2)(e) Contact Person: David Schwake - (215) 384-5920
- E Public Involvement Activity E1 Affidavit of Publication – Public Notice KRS 278.706(2)(f) Contact Person: David Schwake - (215) 384-5920

E2 Letters to Property Owners - Public Meeting KRS 278.706(2)(f) Contact Person: David Schwake - (215) 384-5920

E3 Public Meeting Presentation KRS 278.706(2)(f) Contact Person: David Schwake - (215) 384-5920

F PJM Interconnection Study KRS 278.706(2)(i) Contact Person: David Schwake - (215) 384-5920

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



#### LIST OF EXHIBITS (continued)

#### Exhibits

- G Kentucky Economic Development Finance Authority Application for Incentives for Energy Independence Act Tax Incentive Program KRS 278.706(2)(j) Contact Person: David Schwake - (215) 384-5920
- H Site Assessment Report KRS 278.706(2)(I) Contact Person: David Schwake - (215) 384-5920
- I Air Permit KRS 278.706(2)(f) KRS 278.704(1) Contact Person: David Schwake - (215) 384-5920
- J Proposed South Shore 138 kV Radial Tie Line Feasibility Study KRS 278.714(2)(b) KRS 278.714(2)(c) Contact Person: David Schwake - (215) 384-5920
- K Heat Recovery Coke Plant Description KRS 278.706(2)(b)
   Contact Person: David Schwake - (215) 384-5920
- L Cumulative Environmental Assessment KRS 224.10-280 Contact Person: David Schwake - (215) 384-5920

iv



### 1.0 APPLICANT INFORMATION

#### KRS 278.706(2)(a) KRS 278.714(2)(a)

The name, address, and telephone number of the person proposing to construct and own the merchant electric generating facility and the person proposing construction of the nonregulated electric transmission line;

SunCoke Energy South Shore LLC (SESS) owned by Sun Coal and Coke LLC, which is owned by SunCoke Energy, Inc. (SunCoke), is submitting this application to the Kentucky State Board on Electric Generation and Transmission Siting ("Siting Board") to request approval for a certificate to construct and operate a merchant electric generating facility in Greenup County, Kentucky and an associated 138 kilovolt (kV) non-regulated electric transmission line (referred to as radial tie line throughout this application), which connects to American Electric Power's (AEP) Millbrook Park, Ohio substation.

The principal contact person, name, address and telephone number for this application are provided below:

David Schwake Director of Business Development – North America (215) 384-5920 SunCoke Energy South Shore LLC 1011 Warrenville Road, Suite 600 Lisle, IL 60532

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



# 2.0 PROPOSED SITE DESCRIPTION

#### KRS 278.706(2)(b)

A full description of the proposed site, including a map showing distance of the proposed site from residential neighborhoods, the nearest residential structures, schools and public and private parks that are located within a two (2) mile radius of the proposed facility.

### KRS 278.714(2)(b)

A full description of the proposed route of the electric transmission line and its appurtenances. The description shall include a map or maps showing;

- The location of the proposed line and all proposed structures that will support it;
- The proposed right-of-way limits;
- Existing property lines and the names of persons who own the property over which the line will cross; and
- The distance of the proposed line from residential neighborhoods, schools, and public and private parks within one (1) mile of the proposed facilities.

#### KRS 278.714(2)(c)

A full description of the proposed electric transmission line and appurtenances, including the following:

- Initial and design voltages and capacities;
- Length of line;
- Terminal points; and
- Substation connections.

### KRS 278.714(2)(d)

A statement that the proposed electric transmission line and appurtenances will be constructed and maintained in accordance with accepted engineering practices and the National Electric Safety Code.

# 2.1 Proposed Electric Generating Facility – General Information

SESS is proposing to construct and operate a merchant electric generating facility in Greenup County, Kentucky and a 138 kV radial tie line that would connect to AEP's Millbrook Park, Ohio substation. The merchant electric generating facility would be contained within the SESS proposed heat recovery coke plant, as detailed below and in **Exhibit K - Heat Recovery Coke Plant Description.** Power produced from the proposed merchant electric generating facility would be transmitted on an independent radial tie line between the merchant electric generating facility and the Millbrook Park substation, with no ties or impact to the existing Kentucky power transmission system. The SESS proposed coke plant would purchase plant power from Kentucky Power via the nearby 69 kV transmission line. The proposed coke plant would consist of a heat recovery coke facility (including heat recovery coke ovens, a common tunnel to transfer heat, flue gas desulfurization, and a final stack to emit the desulfurized flue gas) as the source of steam to the merchant electric generating facility (see **Exhibit K** for full description and a Simplified Process Diagram). Waste heat converted to high-pressure, high-temperature steam at the heat recovery coke facility would feed the merchant electric generating facility's

2

steam turbine generator (STG) to convert the steam to electricity. To maximize the amount of power produced, the STG includes a vacuum condenser which subcools condensate from the steam to create a vacuum to extract the maximum amount of power. The merchant electric generating facility would include the STG, the vacuum condenser, cooling tower, extraction steam systems, related process and instrument control systems, and a generator step up unit and associated electrical equipment. Because there is no independent footprint for the merchant electric generating facility separate from the proposed heat recovery coke plant, for purposes of this application, the central STG is utilized for defining the location of the merchant electric generating facility.

No fuel is direct-fired at the merchant electric generating facility as it is converting steam (generated from waste heat at the coke plant) to power. Steam is the only source of feed to produce power provided to the merchant electric generating facility; no additional sources of fuel are used in the generation of steam. Therefore, there is no exhaust stack for the merchant electric generating facility. As noted above, the proposed heat recovery coke plant includes the final stack, or main stack, which emits the coke oven flue gas after treatment by the flue gas desulfurization system. For purposes of this application, we are nevertheless applying the criteria of KRS 278.704(2) and KRS 278.706(2)(e) to the final stack for the coke plant, as if it were an exhaust stack. A nominal 40-80 megawatts (MW) of electricity would be produced from the steam generated.

SESS also proposes to construct a new 138 kV electric radial tie line sufficient to transmit the electric power generated to the existing AEP Millbrook Park substation, located approximately one (1) mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky, traversing only facility property and the Ohio River.

# 2.2 Plant Site Location

The proposed merchant electric generating facility and coke plant would be located on approximately 250 acres of land in an industrial area near South Shore, Kentucky in Greenup County (refer to **Figure 1 - Site Location Map**). Approximate coordinates for the center of the site are:

3

Latitude 38° 44' 19.661" N Longitude 82° 55' 27.382" W

The site is not within the boundaries of any city. The subject property is in the jurisdiction of the Greenup County Fiscal Court. The site is approximately two (2) miles east-northeast of South Shore, Kentucky and across United States (US) Highway 23 from the unincorporated area of Frost. Three other population centers are located within five (5) miles of the proposed facility, including the Village of New Boston, Ohio, the City of Portsmouth, Ohio, and the City of Wheelersburg, Ohio. See Figure 4 - Setback Requirements Map and Figure 5 - Two-Mile Site Vicinity Map.

The subject site property is comprised of the Siloam property (west) and the Reid property (east). The Siloam property to the north of the CSX Corporation (CSX) rail line is used for agricultural purposes, and the portion of the Siloam property to the south of the CSX rail line and north of US Highway 23 is used for cattle grazing. The portion of the subject property owned by Reid is used for agricultural purposes. A copy of the property survey has been included as **Exhibit A - Property Survey Map**.

# 2.3 Proposed Facility Process Description

High-temperature, high-pressure steam would be received by the merchant electric generating facility from the heat recovery coke plant. The steam would be converted to electricity across the STG. A STG extracts the thermal energy of the steam to create mechanical work, rotating the turbine, which in turn is used to generate electricity. This is accomplished using a series of blades and allowing the steam to expand, which increases the velocity. Extraction steam (at lower than inlet steam pressure) is removed from the STG and utilized for various uses such as heating the deaerator. The steam is condensed and cooled in the vacuum condenser, which is cooled by a circulating water loop. The circulating water loop runs to the cooling tower to remove the temperature added at the vacuum condenser. A vacuum condenser allows the STG to extract the most electricity from the steam. Recovered condensate is then recycled back to the heat recovery coke plant facility as boiler feed water for the heat recovery steam generators.

The STG would produce power at 13.8 kV and be rated for roughly 90 MW capacity. Due to the batch process of the heat recovery coke plant the typical nominal power production is expected to vary in the 40 to 80 MW range as the steam supply varies. A generator step up would be utilized to step the voltage up from 13.8 kV to 138 kV. The power would then be transmitted at 138 kV to the Millbrook Park, Ohio substation via the proposed radial tie line.

A conceptual site plan and plant layout figure is provided as Figure 2 and Figure 3, respectively.

# 2.4 Proposed Radial Tie Line

SESS proposes to construct a new 138 kilovolt (kV) electric radial tie line to transmit the electric power generated to the existing AEP Millbrook Park substation, located approximately one (1.0) mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio.

There are existing transmission and distribution lines near the proposed coke plant and merchant electric generating facility (the "Project Site"). These lines are located near the south side of the proposed Project Site and head east for approximately one (1) mile, turn north and cross the Ohio River, and then head west to connect to the Millbrook Park substation. The lines are Kentucky Power (AEP) 69 kV Tap to Millbrook Park and the East Kentucky Power (AEP) 138 kV Millbrook Park Tap. The proposed 138 kV radial tie line would require the construction of new radial tie line structures between the proposed SESS facility and the Millbrook Park substation.

A majority of the radial tie line, approximately 0.7 mile, would be located in Kentucky. For portions of the radial tie line located in Kentucky, the proposed radial tie line structures would be located solely within the Project Site. Radial tie line structures in the northeastern portion of the SESS property would be strategically placed to avoid a previously recorded archaeological site (15Gp183). The radial tie line would exit the Project Site in the northeast corner of the SESS property then proceed to traverse the Ohio River. The remaining portion of the line would be located in Ohio and would cross over a highly-developed and disturbed area before terminating at the AEP Millbrook Park substation. The proposed radial tie line route is depicted on **Figure 6** - **Radial Tie Line Route and One-Mile Vicinity Plan Map**. Design drawings depicting the structures and appurtenances are included as **Figure 7 - Radial Tie Line Plan and Profile Sheets**.

Pursuant to KRS 278.714(2)(d), the proposed radial tie line and appurtenances would be constructed and maintained in accordance with accepted engineering practices and the National Electric Safety Code.

# **Structure Details**

# 2.5 Proposed Radial Tie Line

Figure 7 - Radial Tie Line Plan and Profile Sheets provides the profile of the radial tie line configuration looking east. The arrangement is conceptual but would be representative of the

anticipated final design. In general, the radial tie line is supported by 10 steel structures (STR #1 – STR #10; north to south numeric configuration), which would span between approximately 125 feet at a minimum distance near the AEP Millbrook Park substation (between STR #1 and STR #2), and approximately 2,100 feet crossing the Ohio River at the maximum distance (between STR #4 and STR #5). STR #1 through STR #5 are three pole-type structures and STR #6 through STR #10 are single pole-type structures. The structures range in height from 85 feet (STR #9 and STR #10) to 180 feet (STR #4 and STR #5) Radial Tie Line Route

The proposed radial tie line routing is shown on **Figures 6** and **7**. **Figure 6 - Radial Tie Line Route and One-Mile Vicinity Plan Map** imposes the proposed radial tie line route on an area map. **Figure 7 - Radial Tie Line Plan and Profile Sheets** shows the profile of the proposed line and the structure locations along the route. The proposed route for the radial tie line would have minimal ecological impact, minimal impact on property parcels, minimal overall route length, a minimal number of line angles, the most suitable engineering constraints, and would be consistent with similar surrounding land use.

As shown on Figure 6 - Radial Tie Line Route and One-Mile Vicinity Plan Map and Figure 7 - Radial Tie Line Plan and Profile Sheets, the line would head north-northwest from the plant switchyard at STR-10 for approximately 0.6 miles to the northern portion of the proposed subject property boundary. The line would then turn almost due north at STR-05 for approximately 220 feet before leaving the subject property. The line would traverse the Ohio River for approximately 0.4 mile to STR-04 and then travel approximately 0.3 mile before terminating at the AEP Millbrook Park substation. For portions of the radial tie line located in Kentucky, the proposed radial tie line structures would be located solely within the SESS proposed site, thereby eliminating the need for easement agreements. Figure 6 - Radial Tie Line Route and One-Mile Vicinity Plan Map shows existing property lines and the names of persons who currently own the property over which the line would cross, although SESS would exercise its existing options to purchase such property in Kentucky prior to constructing the radial tie line and appurtenances. Right-of-way and easement agreements with Infra-Metals Company, Southern Ohio Port Authority, Norfolk Southern Railway Company, and any other applicable parties owning land in Ohio over which the radial tie line would cross would be in effect prior to construction of the line. The distance from the line to residential neighborhoods is also shown on Figure 6 - Radial Tie Line Route and One-Mile Vicinity Plan Map. There are no schools or public or private parks within one mile of the proposed line.

The portion of the proposed radial tie line that would be located within Ohio (Scioto County) is approximately 0.3 mile; therefore, a Letter of Notification (LON) would be submitted to the Ohio

Power Siting Board (OPSB). In Ohio, the construction of less than two (2) miles of new-build 138 kV radial tie line would require only the filing of a LON, as opposed to a Certificate of Environmental Compatibility and Public Need, as outlined in the Ohio Administrative Code (OAC) 4906-11-01.

# **Radial Tie Line Route Alternatives**

On the original PJM Interconnection studies it was anticipated the radial tie line from the plant would connect to the Kentucky Power 138 kV line. However, upon further investigation of the Kentucky grid and South Portsmouth, it was determined that the cost for upgrades would be significant, and that a river crossing to provide redundancy to AEP's Millbrook Park, Ohio substation would be required. This later led to a modification to the study to consider only a direct radial tie line to AEP's Millbrook Park, Ohio substation to reduce impacts to the Kentucky grid and reduce cost.

Prior to selecting the route for the radial tie line to AEP's Millbrook Park, Ohio substation described in this application and seen on **Figure 6 - Radial Tie Line Route and One-Mile Vicinity Plan Map**, SESS analyzed several alternative routes. This study, further described in **Exhibit J - Proposed South Shore 138 kV Radial Tie Line Feasibility Study**, was conducted by URS Corporation (URS) in March 2012. Initially, four primary routes were chosen for analysis: the selected route (Route 1), which travels northward through the subject property, across the Ohio River to the AEP Millbrook Park substation, as well as three alternative routes (Routes 2-4), which generally extended east for approximately one (1) mile from the proposed SESS facility, turned north and crossed the Ohio River, before heading back west to connect to the AEP Millbrook substation. This study was designed to identify and compare suitable routes that would minimize the overall effects on ecology, sensitive land uses, and cultural features to the greatest extent possible, while maintaining economic and technical feasibility. The results of this process were the identification and assessment of potential permitting challenges to the various route alternatives.

Based on the quantitative evaluations, Route 1 was selected the most viable and beneficial route for the radial tie line. Route 1 had the least amount of ecological impacts (i.e. no National Wetland Inventory (NWI) wetlands, least amount of stream crossings and woodlots), the most suitable engineering constraints, and similar surrounding land use. Route 1 was also the most direct route.

7

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

# 2.6 Site Conditions and Vicinity

The subject property, currently utilized for agricultural purposes, is bordered by properties that have a history of being used for industrial purposes. To the west is the MarkWest Energy Appalachia, LLC (MarkWest) Hydrocarbon plant that produces natural gas and liquids from fractionation. To the east of the Reid property is the former Hooker Chemical/Kentucky Ohio Transportation Inc./South Shore Terminal/Eastern Terminal (Hooker Chemical) site. Also to the east of the Siloam property and south of the Reid property is the land owned by DGGG Realty, LLC and occupied by Graf Brothers Flooring and Lumber (Graf Brothers), which manufactures and stores hard wood flooring and lumber.

# **Residential Neighborhoods and Structures**

There are no residential structures or neighborhoods adjacent to the facility or within 1,000-feet of the facility's proposed main exhaust stack (refer to **Figure 4 - Setback Requirements Map**). One residence is located to the adjacent south of the CSX rail line and approximately 400 feet east of the Siloam property that is located south of the CSX rail line and north of US Highway 23. A residential structure is also located to the south of the CSX rail line and north of US Highway 23 along the western side of Johnson's Lane. Various residences are located along the southern side of US Highway 23.

Pursuant to KRS 278.706(2)(b), **Figure 5 - Two-Mile Site Vicinity Map** depicts the closest residential parcels and those residential neighborhoods located within a two (2)-mile radius of the merchant electric generating facility. (As noted above, for purposes of this application, the central STG is utilized for defining the location of the merchant electric generating facility.) The closest residential structures are the aforementioned residences located to the adjacent south of the CSX rail line, approximately 1,700 feet south-southeast and approximately 2,200 feet southeast, respectively, from the proposed central STG. The next closest residential structure is located on the south side of US Highway 23, approximately 2,500 feet south from the proposed central STG.

"Residential neighborhood" is defined by KRS 278.700(6) as "a populated area of five (5) or more acres containing at least one (1) residential structure per acre." Five residential neighborhoods, located to the south, east, and west of the subject property are within two (2) miles of the proposed central STG in Kentucky. SESS has been conservative in defining areas as meeting the definition of residential neighborhood and has included any area that potentially meets the definition.



### Schools

There are two schools within two (2) miles of the proposed central STG in Kentucky. The nearest schools are McKell Elementary School and McKell Middle School, approximately 1.7 miles southwest of the proposed central STG.

# **Hospitals and Nursing Homes**

There are no hospitals or nursing homes within two (2) miles of the proposed central STG in Kentucky.

### Public and Private Parks

There are no public or private parks within two (2) miles of the proposed central STG in Kentucky. The nearest public park in Kentucky is Legion Park in the city of South Shore, approximately 2.6 miles to the southwest from the proposed central STG. The closest state park or nature preserve in Kentucky is Greenbo Lake State Resort Park, approximately 14 miles southeast of the subject property and the nearest federal park or nature preserve in Kentucky is the Daniel Boone National Forest, approximately 35 miles southwest of the subject property.



### 3.0 PUBLIC NOTICE EVIDENCE

#### KRS 278.706(2)(c)

Evidence of public notice that shall include the location of the proposed site and a general description of the project, state that the proposed construction is subject to approval by the board, and provide the telephone number and address of the Public Service Commission. Public notice shall be given within thirty (30) days immediately preceding the application filing to:

- 1. Landowners whose property borders the proposed site; and
- 2. The general public in a newspaper of general circulation in the county or municipality in which the facility is proposed to be located;

#### KRS 278.714(2)(e)

Evidence that public notice has been given by publication in a newspaper of general circulation in the general area concerned. Public notice shall include the location of the proposed line, shall state that the proposed line is subject to approval by the board, and shall provide the telephone number and address of the Public Service Commission.

#### KRS 278.714(2)(f)

Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed line is to be located; and upon the chief executive officer of each public agency charged with the duty of planning land use in the general area in which the line is proposed to be located.

Notification letters to landowners whose properties border the proposed site and radial tie line were mailed by registered mail, return receipt requested, on October 13, 2014. Copies of the letters are provided in **Exhibit B1 - Letters to Property Owners**.

Affidavits from The Independent (circulated throughout Boyd County, Kentucky), the Portsmouth Daily Times (circulated throughout the City of Portsmouth and Scioto County, Ohio), and The Greenup News Times (circulated throughout Greenup County, Kentucky) of publication of the public notices on October 9, 2014 and are provided in **Exhibit B2 - Published Public Notice**.

This application was delivered to Greenup County Judge Executive Robert W. Carpenter, and proof of delivery is included in **Exhibit B3 - Proof of Service of Application**. There is no public agency charged with the duty of planning land use in the general area in which the line is proposed to be located.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



# 4.0 COMPLIANCE WITH LOCAL ORDINANCES AND REGULATIONS

#### KRS 278.706(2)(d)

A statement certifying that the proposed plant will be in compliance with all local ordinances and regulations concerning noise control and with any local planning and zoning ordinances. The statement shall also disclose setback requirements established by the planning and zoning commission as provided under KRS 278.704(3);

**Exhibit C1** includes certifications by the Applicant and Applicant's Counsel that there are no local planning and zoning ordinances and no local setback requirements established by local planning and zoning commissions which would be applicable to the proposed SESS project location. There is a Noise Ordinance (**Exhibit C2**) for the unincorporated boundaries of Greenup County but that noise ordinance would not be applicable to the proposed SESS project since the noise ordinance only applies to homes or residences.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



#### 5.0 SETBACK REQUIREMENTS

#### KRS 278.706(2)(e)

If the facility is not proposed to be located on site of a former coal processing plant and the facility will use on-site waste coal as a fuel source or in an area where a planning and zoning commission has established a setback requirement pursuant to KRS 278.704(3), a statement that the exhaust stack of the proposed facility and any wind turbine is at least one thousand (1,000) feet from the property boundary of any adjoining property owner and all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility, unless facilities capable of generating ten megawatts (10MW) or more currently exist on the site. If the facility is proposed to be located on site of a former coal processing plant and the facility will use on-site waste coal as a fuel source, a statement that the proposed site is compatible with the setback requirements provided under KRS 278.704(5). If the facility is proposed to be located in a jurisdiction that has established setback requirements pursuant to KRS 278.704(3), a statement that the proposed site is in compliance with those established setback requirements;

The proposed merchant electric generating facility would not be located on the site of a former coal processing plant, so the latter part of KRS 278.706(2)(e) requiring a statement that the site is compatible with setback requirements provided under KRS 278.704(5) is inapplicable to the SESS project. Likewise, the facility would not be located in a jurisdiction that has established setback requirements pursuant to KRS 278.704(3), so the last sentence of KRS 278.706(2)(e) is also inapplicable to the project.

With regard to the first sentence set forth in KRS 278.706(2)(e), while the proposed facility would not be located on the site of a former coal processing plant, it would <u>not</u> be using on-site waste coal as a fuel source, and it is therefore unclear whether the statement regarding the 1,000-foot requirement for the exhaust stack and the 2,000-foot requirement for all proposed structures or facilities used for the generation of electricity applies to the SESS project.

Nevertheless, in order to ensure compliance with the statute and because, pursuant to KRS 278.704(2), no construction certificate shall be issued to construct a merchant electric generating facility unless the exhaust stack of the proposed facility will be at least one thousand (1,000) feet from the property boundary of any adjoining property owner and all proposed structures or facilities used for generation of electricity will be 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility, SESS makes the statements set forth below with regard to the location of the proposed exhaust stack and applicable structures. With regard to the SESS project, all proposed structures or facilities used for generation of electricity are located more than 2,000-feet from any residential neighborhoods, schools, hospitals or nursing home facilities; and, therefore the project is in compliance with the 2,000-foot setback requirement under either KRS 278.706(2)(e) or KRS 278.704(2).

In terms of any setback requirement for the "exhaust stack" under the statute, as noted above, the proposed heat recovery coke plant includes the final stack, or main stack, which emits the coke oven flue gas after treatment by the flue gas desulfurization system. For purposes of this application and in order to ensure full compliance with the statute, we are nevertheless applying the criteria of KRS 278.706(2)(e) and KRS 278.704(2) to the final stack for the coke plant, as if it were an exhaust stack. The proposed exhaust stack is less than 1,000 feet from one adjacent property owned by DGGG realty and populated by Graf Brothers. The property within the 1,000-foot radius is operating as a commercial and industrial facility and is depicted on **Figure 4** - **Setback Requirements Map**.

KRS 278.704(4) allows the Siting Board to grant a deviation from these setback requirements if the proposed facility is designed to and, as located, would meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716 at a distance closer than those specified above. A separate motion requesting a deviation pursuant to KRS 278.704(4) will be filed by the Applicant.

The legislative history and statutory language of the statute suggest that the primary purpose of the setback requirements is to protect the assumptions and expectations of property owners who had no reason to expect the construction of a merchant power plant near their property.

As evidenced by **Exhibit D - Land Option Agreement**, DGGG Realty and Graf Brothers have been aware of the proposed project for roughly four (4) years. Originally, SESS had a purchase option agreement to purchase a portion of the Graf Brothers' land when a larger plant was under consideration. The bridge overpass spanning the CSX rail was originally intended for Johnson's lane which caused concern to Graf Brothers. In response, Graf Brothers added a clause in the last unexecuted land option extension agreement which would not allow for construction of a bridge overpass on Johnson's lane. In an attempt to alleviate the concern Graf Brothers raised, even though SESS chose not to accept the terms of the option extension, SESS relocated the overpass onto the proposed plant property.

Additionally, the exhaust stack for a typical merchant power plant is for the venting of combustion products from direct fired fuels solely for the purpose of power production. The proposed final stack, or main stack, for the heat recovery coke plant that is the subject of this application is distinguishable, in that it exists to vent coke oven flue gas after treatment by the flue gas desulfurization system (See **Exhibit K.**)

Given that the adjacent property owners are aware, and have been aware, of the proposed SESS project, the coke plant and merchant electric generating facility have been designed in accordance with emissions compliance requirements, and the property within 1,000 feet of the stack is an industrialized zone, in its motion, SESS will request that a deviation from the setback requirements be issued based upon a finding that the proposed project is designed and located to meet the goals of applicable statutes at a distance closer than 1,000 feet.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



# 6.0 PUBLIC INVOLVEMENT ACTIVITIES

#### KRS 278.706(2)(f)

A complete report of the applicant's public involvement program activities undertaken prior to the filing of the application, including:

- 1. The scheduling and conducting of a public meeting in the county or counties in which the proposed facility will be constructed at least ninety (90) days prior to the filing of an application, for the purpose of informing the public of the project being considered and receiving comment on it;
- 2. Evidence that notice of the time, subject, and location of the meeting was published in the newspaper of general circulation in the county, and that individual notice was mailed to all owners of property adjoining the proposed project at least two (2) weeks prior to the meeting; and
- 3. Any use of media coverage, direct mailing, fliers, newsletters, additional public meetings, establishment of a community advisory group, and any other efforts to obtain local involvement in the siting process;

SESS has engaged with the public, with local officials, and with various agencies since the inception of this important project. The following list identifies the public involvement activities that SESS has undertaken prior to the filing of this application.

- SESS met with Shawn Tolle (Columbia Gas of Kentucky), Mike Hurley (AEP Kentucky Power), Cheryl Moore (Mayor of South Shore, Kentucky), Alan Beaty (CSX), Gary Boyd (Greenup County Building Department), Rick Hemann (US Army Corps of Engineers (USACE)), Tony Hatton (Kentucky Department of Environmental Protection (KDEP)), Bart Bryant (Kentucky Department of Transportation (KYDOT)), Dave and Tom Graf (adjacent property owners), and John McGinnis and Mike Arrington (adjacent Siloam property owners) on September 29, 2011 in South Shore, Kentucky to discuss pertinent details of the project, including utilities, railroad, access, neighboring land owners, and environmental matters.
- SESS met with Robert Carpenter (Greenup County Judge Executive), Rusty Olsen (CSX), Steve Davis (CSX), Jim Purgerson (Ashland Alliance), Bob Hammond (Ashland Alliance), Bart Bryant (KYDOT), and Darrin Eldridge (KYDOT) on December 12, 2011 in South Shore, Kentucky to discuss site access options.
- SESS met with Grant Chaney (CSX), Louis Muldrow (CSX), and Rusty Olson (CSX) on February 27, 2012 in South Shore, Kentucky to discuss the proposed railroad at the facility.
- SESS met with Ron Smith (Mark West), Bob Wadall (Mark West), and Louis Muldrow (CSX) on June 6, 2012 in South Shore, Kentucky to further discuss the proposed railroad at the facility.



- SESS met with Robert Carpenter (Greenup County Judge Executive), Joe Taylor (County Engineer), Bob Hammond (Ashland Alliance), Bill Hanna (Ashland Alliance), Brad Hall (AEP - Kentucky Power), Scott Mann (AEP), Bart Bryant (KYDOT), and Darrin Eldrige (KYDOT) on December 12, 2012 in South Shore, Kentucky to discuss site access options and utilities.
- SESS met with Robert Carpenter (Greenup County Judge Executive) and Bob Hammond (Ashland Alliance) on March 13, 2013 in South Shore, Kentucky to discuss the status of the project.
- SESS met with Robert Carpenter (Greenup County Judge Executive), Joe Taylor (County Engineer), Bob Hammond (Ashland Alliance), Bill Hanna (Ashland Alliance), Joe Taylor (Greenup County Roadway Department), Rusty Olson (CSX), and Mike Ward (CSX) on September 11, 2013 in South Shore, Kentucky to discuss rail, road, and logistics.
- SESS met with Robert Carpenter (Greenup County Judge Executive) on January 21, 2014 in Ashland, Kentucky to discuss the status of the project.
- SESS met with Doug Moore (Reid Property representative), John McGinnis and Jim Armstrong (Siloam Property), Greg Pauley (AEP - Kentucky Power), Brad Hall (AEP -Kentucky Power), and Scott Mann (AEP) on January 22, 2014 in Ashland, Kentucky to discuss land options and power interconnection.
- SESS met with Ron Smith (Mark West) on January 23, 2014 in South Shore, Kentucky to discuss the status of the project.

Each of the officials that URS has contacted during the permitting process has expressed their support for the project.

SESS held a public meeting on July 8, 2014 between 5:30 pm and 6:30 pm at McKell Middle School in South Shore, Kentucky to inform the public of the proposed project and to receive comments. **Exhibit E1** provides evidence that notice of the time, subject, and location of the public meeting was published in the newspapers of general circulation in the county (the Portsmouth (Ohio) Daily Times on June 19, 2014; The Greenup County News-Times on June 19, 2014; and The Independent (Ashland, Kentucky) on June 19, 2014 and June 22, 2014.) **Exhibit E2** provides evidence that individual notice of the public meeting was mailed to all owners of property adjoining the proposed project, and beyond, at least two (2) weeks prior to the public meeting. SESS's Proposed Coke Plant Information Meeting presentation held on July 8, 2014 at McKell Middle School is provided in **Exhibit E3**.

The following list briefly describes SESS's regulatory required Public Notice submittals associated with environmental permits applied for, or received to date.



- The USACE Huntington District issued an electronic Public Notice, via the USACE website, of the proposed project in May 2013 in response to SESS's Section 10/404 permit application. This Public Notice was available for 30 days and comments were received by the Kentucky Division for Air Quality, KDOW, the Kentucky State Nature Preserves Commission, the US Fish and Wildlife Service, Columbia Gas Transmission, LLC, the Ohio Archaeological Council, the Office of State Archaeology (Kentucky) and the Kentucky Heritage Council. Formal responses to each of these comments have been submitted to the USACE.
- SESS advertised its intent to construct a heat recovery coke plant, including placing fill and constructing minor features within the 100-year floodplain of the Ohio River, in The Daily Independent, a newspaper in Ashland, Kentucky, between August 15, 2013 and August 17, 2013. The intent of the advertisement was to satisfy a requirement set forth by the KDOW prior to issuing the Stream Construction Permit. Any comments or objections concerning the application were to be directed to the KDOW, Flood Plain Management Section. SESS was not informed of any such comments made by the public.
- The KDOW issued an electronic Public Notice, via the KDEP's website, of the proposed project in November 2013 in response to SESS's request for a Water Quality Certification. This Public Notice was available for 30 days and, to SESS's knowledge, no comments or objections were received.
- The Kentucky Division of Air Quality (KDAQ) issued an electronic Public Notice, via the KDEP website, of the proposed project in December 2013 in response to SESS's application for a Title V (operating) air permit authorizing construction and operation of the facility as a new major source. This Public Notice was available for 30 days, no public hearing was requested, and the comments received were formally responded to by SESS and URS to KDAQ with copies to the respective parties.



# 7.0 EFFORT TO LOCATE NEAR EXISTING ELECTRIC GENERATING FACILITIES

#### KRS 278.706(2)(g)

A summary of the efforts made by the applicant to locate the proposed facility on a site where existing electric generating facilities are located;

SESS's advanced heat recovery coke making process has numerous advantages over byproduct coke making, one of which is converting the waste heat from the coking process into steam to generate derivative energy for onsite consumption and resale.

Given the symbiotic relationship of generating electricity from steam recovered by waste heat from the coke making process, SESS believes the requirement of locating the proposed facility on a site where existing electric generating facilities are located, as stated in KRS 278.706(2)(g), is not applicable to the proposed SESS facility. The access to barge transportation for supply of metallurgical coal, approximately 50% of which may be sourced from Kentucky, access to the rail line that would be used to carry the finished coke product offsite, the ability to utilize surface water from the Ohio River for the project's process and non-process operations, and the industrial setting all make the proposed facility location ideal.



# 8.0 **PROOF OF SERVICE**

#### KRS 278.706(2)(h)

Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed facility is to be located, and upon the chief officer of each public agency charged with the duty of planning land use in the jurisdiction in which the facility is proposed to be located;

Proof of service of a copy of the Application on County Judge Executive Robert W. Carpenter is included in **Exhibit B3**. The Project Site is not located within an incorporated city, and is not subject to a planning land use agency.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



### 9.0 EFFECT ON KENTUCKY'S ELECTRICITY TRANSMISSION SYSTEM

#### KRS 278.706(2)(i)

An analysis of the proposed facility's projected effect on the electricity transmission system in Kentucky;

Multiple PJM interconnection studies as referenced in **Exhibit F** have been completed, and such studies ultimately led to the selection of the radial tie line to Millbrook Park Substation in Ohio. Earlier interconnection studies tying into the Kentucky power grid indicated that significant upgrades would be required in Kentucky, as would the building of a river crossing to Millbrook Park, Ohio, based on the contingency studies. PJM/AEP approved reducing to a radial tie line to Millbrook Park, Ohio with ownership by SESS and with SESS responsible for upgrades required at Millbrook Park, Ohio. As proposed, therefore, the proposed merchant electric generating facility would have no impact on the electricity transmission system in Kentucky from the produced power.



### 10.0 LOCAL ECONOMIC IMPACT

#### KRS 278.706(2)(j)

An analysis of the proposed facility's economic impact on the affected region and the state;

The overall economic impact of the project to the surrounding area would be significant and positive for the community. This impact would occur in two distinct phases: the construction phase – expected to last 24 to 27 months – and the operating phase. During construction, the average work load would likely be on the order of 400 workers with a peak loading of roughly 600 workers. Construction wages and benefits would likely be on the order of \$150MM. During normal operation, the facility would directly employ approximately 100 to 120 full-time employees. Wages and benefits for these full-time employees would likely be approximately \$9MM annually. Full time contractor wages and benefits could equate to on the order of an additional \$1MM annually.

According to the U.S. Department of Labor's Local Area Unemployment Statistics Program, the seasonally adjusted unemployment rates for the Commonwealth of Kentucky and nationwide for August 2014 were approximately 7.1% and 6.1%, respectively. The non-adjusted unemployment rate for Greenup County for the same time period was 8.1%.

The most recent income data available for Greenup County and the Commonwealth of Kentucky (2013, 2nd quarter), per the U.S. Department of Labor's Quarterly Census of Employment and Wages Program, indicates that the average annual per capita income is \$35,672 and \$40,716, respectively. Greenup County would benefit from the increase in employment and above-average annual salaries for facility employees that would result from the project.

In support of discussions with the Kentucky Department of Economic Development concerning the Kentucky Economic Development Finance Authority (KEDFA) application for Incentives for Energy Independence Act (IEIA) Tax Incentive Program, SESS hired Fluor Global Locating Strategies to perform an economic impact study (**refer to Exhibit G**). Highlights from this study include such direct and indirect economic impacts as the expectancy of over \$2MM in home sales, approximately \$2.5MM per year of utility purchases, and indirect employment related to supporting the plant, its employees, and employee's families estimated at approximately 130 jobs, including construction, manufacturing, transportation, utilities, retail, services, etc. The study also explains that the SESS facility may utilize approximately 1MM tons per year of coal, 50% of which may be sourced from Kentucky, as limited by quality and economics. As part of the KEDFA IEIA program SESS would be incentivized to utilize Kentucky coal.



The proposed KEDFA IEIA Tax incentives are required to make the project economics viable to supply competitive coke pricing for customers.



### 11.0 ENVIRONMENTAL VIOLATION RECORD

#### KRS 278.706(2)(k)

A detailed listing of all violations by it, or any person with an ownership interest, of federal or state environmental laws, rules, or administrative regulations, whether judicial or administrative, where violations have resulted in criminal convictions or civil or administrative fines exceeding five thousand dollars (\$5,000). The status of any pending action, whether judicial or administrative, shall also be submitted.

SESS has received no violations of federal or state environmental laws, rules, or administrative regulations. Two other SunCoke facilities, Haverhill Coke Company, LLC, and Gateway Energy & Coke Company, LLC (neither of which has an ownership interest in SESS), have received notices of violation from the Environmental Protection Agency (EPA) and Ohio Environmental Protection Agency (OEPA), all of which stem from alleged violations of the air operating permits for these facilities. These facilities are currently working in a cooperative manner with the EPA, OEPA and the Illinois Environmental Protection Agency (IEPA) to address the allegations, and have lodged a consent decree in federal district court that is undergoing review.

The consent decree, titled United States of America et al. v. Gateway Energy & Coke Company, LLC, et al., Civil Action No. 3:13-cv-00616-DRH-SCW (S.D. III. 2013), lists the notices of violation, states that the facilities do not admit the violations, and then sets forth how the facilities, EPA, OEPA, and IEPA have worked cooperatively to resolve the matter. The consent decree may require payment of a penalty for alleged past violations in excess of five thousand dollars, as well as capital projects to improve the reliability of the energy recovery systems and enhance environmental performance at these facilities.



### 12.0 SITE ASSESSMENT REPORT

#### KRS 278.706(2)(I)

A site assessment report as specified in KRS 278.708. The applicant may submit and the board may accept documentation of compliance with the National Environmental Policy Act (NEPA) rather than a site assessment report.

The Site Assessment Report, as specified in KRS 278.708, is included as Exhibit H.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



#### 13.0 ENVIRONMENTAL PERMIT LIST

### KRS 278.704(1)

The certificate shall be conditioned upon the applicant obtaining necessary air, water and waste permits.

The following necessary environmental permits have either been obtained, or would be obtained prior to the construction/operation of the proposed SESS Project:

PERMIT	REGULATORY AGENCY	REGULATED ACTIVITY	AUTHORITY	STATUS	
Prevention of Significant Deterioration	DAQ	Construction of a major source of air pollution and air pollution control equipment. Required in attainment areas or unclassifiable areas.	401 KAR 51:017	Application was completed August 8, 2013. The air dispersion modeling was completed on December 10, 2013. The Public Notice Comment period closed January 27, 2014. KDAQ responded to the	
Title V Operating Permit	DAQ	Construction and operation of a major source of air pollution and pollution control equipment.	401 KAR 52:020	comments. KDAQ issued the "proposed" permit on May 6, 2014 that allowed construction activities while USEPA reviewed the Title V (operating) portion of the permit. The final permit was awarded on August 8, 2014. See Exhibit I for Title V Operating Permit.	
Kentucky Pollutant Discharge Elimination System (KPDES) Individual Permit	DOW	Discharge of process wastewater, non- process wastewater or stormwater from a point source.	KRS 224.10-100, 224.16-050, 224.70-110, 224.70-120, 401 KAR 5:001, and 401 KAR 5:055- 5:080	Application was submitted March 22, 2013. The final Socioeconomic Demonstration and Alternatives Analysis was amended per KDOW and resubmitted September 17, 2014.	
KPDES Construction Storm Water Discharge General Permit	DOW	Stormwater discharges from construction activities that disturb one or more acres.	KRS 224.16-050, 224.16-060, 401 KAR 5:055 and 5:060	Would be applied for prior to construction.	
KPDES Wastewater Facility Construction Permit	DOW	If installation of sewers or pump stations is involved, a Wastewater Facility Construction Permit	KRS 224.10-100, 224.16-050, 224.70-110, and 401 KAR 5:005	Would be submitted following completion of sanitary sewer system design (conveying sanitary wastewaters to POTW)	
Water Withdrawal Permit	DOW	Withdrawal of public water.	KRS 151.140 401 KAR 4:010 and 4:200	Issued July 14, 2014.	

25

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



PERMIT	REGULATORY AGENCY	REGULATED ACTIVITY	AUTHORITY	STATUS
Section 404 Clean Water Act Permit / Section 10 Rivers and Harbors Act Permit (Individual)	USACE	Permit for structures and/or work in or affecting navigable waters of the US.	33 CFR 322.3	Application submitted January 2013. Public notice process complete. Anticipating draft permit in near future.
Section 401 Water Quality Certification (WQC)	DOW	Any discharge into waters of the Commonwealth. associated with any federally licensed or permitted activity.	§ 401 CWA KRS 224.16-050 401 KAR Ch. 5	Issued January 24, 2014.
Stream Construction Permit	DOW	Required prior to the construction, reconstruction, relocation, or improvement of any dam, bridge, culvert, placement of fill, residential and commercial buildings, or other obstruction across or along any stream or in the floodway of any stream.	KRS 151.250, 151.260, 151.280 151.310 and 401 KAR 4:020 through 4:060.	Issued November 20, 2013.
FAA Form 7460-1, Notice of Proposed Construction or Alteration	FAA	Any proposed construction greater than 200' above ground level.	14 CFR 77	To be submitted

Agency abbreviations:

DAQ – Kentucky Division for Air Quality DOW – Kentucky Division of Water USACE – United States Army Corps of Engineers KDWM – Kentucky Division of Waste Management FAA – Federal Aviation Administration

Pursuant to KRS 224.10-280, a Cumulative Environmental Assessment summarizing environmental assessments and permitting activities performed for the proposed SESS Project and describing provisions to control the emission of pollutants from the facility to air, water and land, is included as **Exhibit L.** 

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



# 14.0 SIGNATURE

807 KAR 5:110 §1(3)

Signing of pleadings. Every pleading of a party represented by an attorney shall be signed by at least one (1) attorney of record in his individual name and shall state his address.

The foregoing application is signed this the 24<sup>th</sup> day of October, 2014 by the undersigned counsel for the applicant.

27

George L. Seay, Jr. Wyatt, Tarrant & Combs, LLP 250 West Main Street, Suite 1600 Lexington, KY 40507 Phone: (859) 288-7448 Fax: (859) 259-0649 gseay@wyattfirm.com 61246732.1
















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# EXHIBIT A PROPERTY SURVEY MAP



EXHIBIT B PUBLIC NOTICE EXHIBIT B1 LETTERS TO PROPERTY OWNERS



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

James E. Armstrong Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

## RE: SunCoke Energy South Shore, LLC

Dear Mr. Armstrong:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

The proposed construction of the merchant electric generation facility portion of the coke plant and radial tie line is subject to approval by the Kentucky State Board on Electric Generation and Transmission Siting, which may be contacted through the Kentucky Public Service Commission at P.O. Box 615, 211 Sower Boulevard, Frankfort, Kentucky 40602-0615 or (502)564-3940.

A person who wishes to become a party to a proceeding before the board may, by written motion filed no later than thirty (30) days after the application has been submitted, request leave to intervene.

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A party may, upon written motion filed no later than thirty (30) days after an application has been filed, request the board to schedule an evidentiary hearing at the offices of the Kentucky Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky, 40601.

A request for a local public hearing shall be made by at least three (3) interested persons who reside in the county or municipal corporation in which the plant or transmission line is proposed to be located. The request shall be made in writing and shall be filed within thirty (30) days following the filing of a completed application.

Any comments or questions may be directed to the above referenced board.

Sincerely,

George L. Seav, Jr.

GLS/vh



**CERTIFIED MAIL** 

Lexington Financial Center 250 West Main Street, Suit 🗖 Lexington, Kentucky 40507 m 859.233.2012 Fax: 859.259.0649

CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Instance Coverage Provided) For delivery information visit our website at www.uspa m Ŧ m л П П \$ Postage Certified Fee 1000 Return Receipt Fee (Endorsement Required) Here October 13, 2014 Restricted Delivery Fee Endorsement Required) Total P James E. Armstrong 90 **Corner of Main & Harrison Streets** Sent To P.O. Box 347 m 701. Street, A Greenup, KY 41144 or PO Bo City, Sta See Reverse for Instructions PS Form 3800, August 2006

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# **RETURN RECEIPT REQUESTED**

James E. Armstrong **Corner of Main & Harrison Streets** P.O. Box 347 Greenup, KY 41144

#### RE: SunCoke Energy South Shore, LLC

Dear Mr. Armstrong:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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Any comments or questions may be directed to the above referenced board.

Sincerely, Slay George L. Seay, Jr.

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Michael Arrington (as Registered Agent of Storm Inc.) 320 Bellefonte Drive Ashland, KY 41101

## RE: SunCoke Energy South Shore, LLC

Dear Mr. Arrington:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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Any comments or questions may be directed to the above referenced board.

Sincerely, George 🗅 eav.

GLS/vh

WYATT, TARRANT & COMBS, LLP	Lexington Financial Center 250 West Main Street, Suit Lexington, Kentucky 40507 = 859.233.2012 Fax: 859.259.0649	For delivery Information visit our we	cre Coverage Provided)
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Michael Arrington (as Registered A	gent of Storm Inc.)	City, Ste	
320 Bellefonte Drive		PS Form 3800, August 2006	See Reverse for Instructions
Ashland, KY 41101	·		

## RE: SunCoke Energy South Shore, LLC

Dear Mr. Arrington:

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Sincerely, ieorge

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

J.D. Atkinson Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

## RE: SunCoke Energy South Shore, LLC

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LOUISVILLE, KY

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NASHVILLE.TN



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GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

CSX Transportation, Inc. c/o Corporate Creations Network, Inc. (as Registered Agent) 101 North Seventh Street Louisville, KY 40202

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Deay fr.

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

#### **VIA FIRST CLASS MAIL**

Jeff W. Styron CSX Transportation Inc. 500 Water Street Jacksonville, FL 32202

# RE: SunCoke Energy South Shore, LLC

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Sincerely Seav. Jr. "George L

GLS/vh



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**CERTIFIED MAIL RETURN RECEIPT REQUESTED** 

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GLS/vh



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October 13, 2014

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October 13, 2014

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U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No insurance Coverage Provided) For delivery information visit our website at '<del>\_</del> m а ц п п Postage Certified Fee Postmark 1000 Return Receipt Fee (Endorsement Required) Here Restricted Delivery Fee (Endorsement Required) 0090 Total PC CSX Railway Sent To CSX Transportation Inc. m 500 Water Street Street, At 707 or PO Bo Jacksonville, FL 32202 City, State PS Form 3500, August 2005

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George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Attorney General Jack Conway Office of the Attorney General 700 Capitol Avenue, Suite 118 Frankfort, KY 40601

# RE: SunCoke Energy South Shore, LLC Commonwealth of Kentucky Adjoining Property Owner

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October 13, 2014

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Sincerely,

GLS/vh



October 13, 2014

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### CERTIFIED MAIL RETURN RECEIPT REQUESTED

Jack Conway Office of the Attorney General Kentucky Transportation Cabinet 700 Capitol Avenue, Suite 118 Frankfort, KY 40601

RE: SunCoke Energy South Shore, LLC

Dear Mr. Conway:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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Sincerely,

George 🖒

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

County of Greenup, Kentucky Robert W. Carpenter, Judge Executive 301 Main Street, Room 102 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Judge Carpenter:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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GLS/vh



**CERTIFIED MAIL** 

RE:

**RETURN RECEIPT REQUESTED** 

County of Greenup, Kentucky

301 Main Street, Room 102

Robert W. Carpenter, Judge Executive

Lexinaton Financial Center 250 West Main Street, Suite Lexington, Kentucky 40507 859.233.2012 Fax: 859.259.0649

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# Greenup, KY 41144

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GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

DGGG Realty, LLC Johnson Lane P.O. Box 458 South Shore, KY 41175

### RE: SunCoke Energy South Shore, LLC

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October 13, 201

CERTIFIED MAIL RETURN RECEIPT REQUESTED

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Sincerely George L. Seav,

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Paul Don Gibson and Kimberly G. Gibson 164 Gibson Trail South Shore, KY 41175

### RE: SunCoke Energy South Shore, LLC

Dear Mr. Gibson and Ms. Gibson:

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**CERTIFIED MAIL RETURN RECEIPT REQUESTED** 

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George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Mahala Grimm Right of Way Agent Transportation Cabinet Division Right of Way, District 9 P.O. Box 347 Flemingsburg, KY 41041

## RE: SunCoke Energy South Shore, LLC Commonwealth of Kentucky Adjoining Property Owner

Dear Ms. Grimm:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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October 13, 2014

#### U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided) Sit our website at www.usps.com For delivery information 'n Ħ m \$ 375 Postade Certified Fee Postmark 7000 Here Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) 0900 Total Postagr Mahala Grimm Right of Way Agent Sent To Transportation Cabinet ELD Division Right of Way, District 9 Street, Apt. No or PO Box No. City, State, ZIF P.O. Box 347 Flemingsburg, KY 41041 PS Form 3800

CERTIFIED MAIL RETURN RECEIPT REQUESTED

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Sincerely,

Day

GLS/vh 61189124.3



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

#### **VIA FIRST CLASS MAIL**

Markwest Energy Appalachia, LLC Attn: MEA ALPS/3300 1515 Arapahoe St., Tower 1, Suite 1600 Denver, CO 80202

### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

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October 13, 2014

# CERTIFIED MAIL RETURN RECEIPT REQUESTED

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Sincerely,

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Markwest Energy Partners LP 2 Mark West Drive South Shore, KY 41175

### RE: SunCoke Energy South Shore, LLC

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Sincerely, George L. Séay, Jr.

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

W. Terry McBrayer Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

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October 13, 2014

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Sincerely, George

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

John R. McGinnis (as Registered Agent of Siloam Land Inc. and individually) Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

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GLS/vh


George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Anna M. Neal P.O. Box 617 Greenup, KY 41144

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October 13, 2014

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Sincerely, George L.Seay, Jr.

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Norfolk Southern Railway Company c/o CSC-Lawyers Incorporating Service (Corporation Service Company) 50 W. Broad St., Suite 1800 Columbus, OH 43215

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George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Kathy Reid P. O. Box 7 Louisa, KY 41230

### RE: SunCoke Energy South Shore, LLC

Dear Ms. Reid:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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Sincerely,

Alay K

GLS/vh



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/George L

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Siloam Land Inc. P.O. Box 616 Greenup, KY 41144-0616

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GLS/vh



Lexington Financial 250 West Main Str Lexington, Kentucky 859.233.2012 Fax: 859.259.064

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**CERTIFIED MAIL RETURN RECEIPT REQUESTED** 

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GLS/vh



October 13, 2014

Southern Ohio Port Authority P.O. Box 577 Portsmouth, OH 45662

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Sincerely,

(Alay)

GLS/vh



CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Goverage Provided) 514 For delivery information visit our website at w Ŧ m п П П \$ Postage Certified Fee Postmark 1000 Here Return Receipt Fee (Endorsement Required) October 13, 2014 Restricted Delivery Fee (Endorsement Required) 0090 Total Posta: Southern Ohio Port Authority P.O. Box 577 Sent To Portsmouth, OH 45662 m 7015 Street, Apt. N or PO Box Nc City, State, ZI See Reverse for Instructi PS Form 3800, August 2006

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**CERTIFIED MAIL RETURN RECEIPT REQUESTED** 

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Sincerely, lay George L. Seay, Jr.

GLS/vh



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October 13, 2014

Storm Inc. 320 Bellefonte Drive Ashland, KY 41011

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Day George L

GLS/vh

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WYATT, TARRANT & COMBS, LLP	Lexington Financial Center 250 West Main Street, Suit Lexington, Kentucky 40507 859.233.2012 Fax: 859.259.0649	For delivery information visit our website at www.usps.com OFFICIALUSE Postage \$ ID[3]14.
<u>CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED	October 13, 2014	Certified Fee       Postmark         Return Receipt Fee       Postmark         (Endorsement Required)       Here         Total Pc       Storm Inc.         Sent To       320 Bellefonte Drive         Street, Ar       Ashland, KY 40100
Storm Inc. 320 Bellefonte Drive Ashland. KY 41011		PS Form 3800, August 2006 See Reverse for Instruction

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Way

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Carolyn P. Warnock P.O. Box 617 Greenup, KY 41144

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George L.

GLS/vh



October 13, 2014

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Carolyn P. Warnock P.O. Box 617 Greenup, KY 41144

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(CERTEED)

MAIL RECEIPT

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Lexington Fir 250 West N Lexington, K 859.233.20 Fax: 859.25

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Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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A party may, upon written motion filed no later than thirty (30) days after an application has been filed, request the board to schedule an evidentiary hearing at the offices of the Kentucky Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky, 40601.

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Any comments or questions may be directed to the above referenced board.

Sincerely,

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

Matthew Warnock P.O. Box 617 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Mr. Warnock:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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Sincerely,

George L

GLS/vh



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**CERTIFIED MAIL RETURN RECEIPT REQUESTED** 

Matthew Warnock P.O. Box 617 Greenup, KY 41144

#### SunCoke Energy South Shore, LLC RE:

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Sincerely,

GLS/vh


Lexington Financial Center 250 West Main Street, Suite 1600 Lexington, Kentucky 40507-1746 859.233.2012 Fax: 859.259.0649

George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

October 13, 2014

William D. Zabel (Trustee of the Trust under Article Three (D) of the Will of David Sawyer, deceased, f/b/o Lucas H.S. McFarland) c/o Schulte Roth & Zabel LLP 919 Third Avenue New York, NY 10022

RE: SunCoke Energy South Shore, LLC

Dear Mr. Zabel:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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October 13, 2014 Page 2

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Sincerely,

GLS/vh

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Lexington Financial Center 250 West Main Street, Suite Lexington, Kentucky 40507-1 859.233.2012 Fax: 859.259.0649

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US Postal Service

October 13, 2014

# CERTIFIED MAIL RETURN RECEIPT REQUESTED

William D. Zabel (Trustee of the Trust under Article Three (D deceased, f/b/o Lucas H.S. McFarland) c/o Schulte Roth & Zabel LLP 919 Third Avenue New York, NY 10022

RE: SunCoke Energy South Shore, LLC

Dear Mr. Zabel:

Wyatt, Tarrant & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke proposes to build a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2358, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke also proposes to build an associated 138 kV radial tie line to transmit the electric power generated to American Electric Power's ("AEP") existing Millbrook Park Substation, which is located approximately one mile and nearly due north across the Ohio River, in the City of New Boston, in Scioto County, Ohio. Roughly 0.7 miles of the radial tie line would be located in Kentucky and would run directly from the merchant electric generation facility to the AEP Millbrook Park Substation, traversing only facility property and the Ohio River. The proposed heat recovery coke plant would consist of 120 heat-recovery coke ovens. At full capacity, the plant could carbonize 1,226,400 tons per year of coal and produce up to 831,100 tons per year of coke product. Excess heat from the proposed coke plant would be converted to steam through heat recovery steam generators, the steam would be converted to electricity via a steam turbine generator. A nominal 40-80 megawatts of electricity would be produced from the steam.

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October 13, 2014 Page 2

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Any comments or questions may be directed to the above referenced board.

Sincerely,

George L. Seav

GLS/vh

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EXHIBIT B2 AFFIDAVIT OF PUBLICATION – PUBLIC NOTICE

# CERTIFICATE OF AFFIDAVIT OF PUBLICATION PORTSMOUTH DAILY TIMES Portsmouth, OH 45662

Name: Case No: Ad: Wyatt, Tarrant & Combs, LLP

Sun Coke Energy

Printer Fee: \$ Affidavit Fee: Total \$ Account Number 184222 227.55 5.00 232.55

# State of Ohio, Scioto County, SS

Publisher of Portsmouth Daily Times Portsmouth, Ohio

ALLING THULL

A Newspaper printed daily and general circulation throughout the City of Portsmouth and the County of Scioto, State of Ohio, being duly sworn, says that the advertisement (a copy of which is hereunto affixed) was published in said Newspaper for the term of

No. Of Times: (1) once from and after the 9th day of October, 2014

Circulation –over 8,000 The price charged does not exceed the rate provided in Section 7.10 of the Revised Code of the Newspaper Laws of Ohio

2 RComel

Subscribed and sworn to before me on this 9<sup>th</sup> day of October, 2014

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WYATT, TARRANT & COMBS LLP SUITE 1600 250 WEST MAIN STREET LEXINGTON KY 40507-1746

#### NEWSPAPER AFFIDAVIT

I, NICOLEE HARTWIG-CLAY, ADVERTISING DIRECTOR OF THE GREENUP NEWS TIMES PUBLISHED IN ASHLAND, AND HAVING THE LARGEST CIRCULATION OF ANY NEWSPAPER IN THE GREENUP COUNTY, KENTUCKY, DO HEREBY CERTIFY THAT FROM MY OWN KNOWLEDGE AND A CHECK OF THE FILES OF THIS NEWSPAPER THAT THE FOLLOWING ADVERTISEMENT WAS INSERTED IN THE GREENUP NEWS TIMES.

SIGNATURE:

SUBSCRIBED AND SWORN TO BEFORE ME BY THE ABOVE, THIS 9th DAY OF October, 2014

Catherine Nichell NOTARY PUBLIC





COMMENTS EXPIRED DATE AD CAPTION #TIMES AMOUNT THE GREENUP NEWS 10/09/2014 SUN COKE 1 161.21 10/09/2014

#### LEGAL NOTICE

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Published: October 9, 2014



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WYATT, TARRANT & COMBS LLP **SUITE 1600 250 WEST MAIN STREET** LEXINGTON KY 40507-1746

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SIGNATURE:

SUBSCRIBED AND SWORN TO BEFORE ME BY THE ABOVE, THIS 9th DAY OF October, 2014

NOTARY PUBLIC Catherine Nichell

**MY COMMISSION EXPIRES** 2018



COMMENTS EXPIRED DATE AD CAPTION THE INDEPENDENT 10/09/2014 SUN COKE 10/09/2014

**#TIMES** 1

AMOUNT 314.87

#### LEGAL NOTICE

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Published: October 9, 2014

EXHIBIT B3 PROOF OF SERVICE APPLICATION TO COUNTY JUDGE EXECUTIVE

# KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

# IN RE: Application of SunCoke Energy South Shore LLC CASE NO. 2014-00162

# AFFIDAVIT OF SERVICE UPON COUNTY JUDGE EXECUTIVE

Comes the undersigned Affiant, and after first being duly sworn upon his oath states as follows:

1. That my name is George L. Seay, Jr.;

2. That I am an attorney duly licensed to practice law within the Commonwealth of Kentucky;

3. That I represent SunCoke Energy South Shore LLC, in its Application to the Kentucky State Board on Electric Generation and Transmission Siting. In compliance with the requirements of KRS 278.706(2)(h), I hereby certify that a copy of the Application in this proceeding has been served upon Judge Robert W. Carpenter, County Judge Executive, Greenup County, Kentucky, by placing a copy with Federal Express Corporation for delivery to his office at the Greenup County Courthouse, 301 Main Street, Suite 102, Greenup, Kentucky 41144-1055, on this the \_\_\_\_\_ day of October, 2014.

4. That there are no other municipal corporations or public agencies with land use planning jurisdiction over the proposed facility.

Further, Affiant sayeth naught, this the day of October, 2014.

George L. Seay, Jr. Wyatt, Tarrant & Combs, LLP 250 West Main Street, Suite 1600 Lexington, KY 40507-1746

#### COMMONWEALTH OF KENTUCKY ) ) :S COUNTY OF FAYETTE )

The foregoing instrument was subscribed and sworn to before me this day of October, 2014, by George L. Seay, Jr.

My commission expires: .

NOTARY PUBLIC

PREPARED BY:

George L. Seay, Jr. WYATT, TARRANT & COMBS, LLP 250 West Main Street, Suite 1600 Lexington, KY 40507 (859) 288-7448

(859) 288-7448

EXHIBIT C COMPLIANCE WITH LOCAL ORDINACES AND REGULATIONS EXHIBIT C1 CONFIRMATION OF NO ORIDINACES FOR ZONING

# KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

# IN RE: Application of SunCoke Energy South Shore, LLC. CASE NO. 2014-00162

#### AFFIDAVIT RE CERTIFICATIONS REQUIRED BY KRS 278.706(2)(d)

Comes the Affiant, David Schwake, and after first being duly sworn upon his oath states as follows:

1. That my name is David Schwake.

2. That I am the Director of Business Development for North America of SunCoke Energy, Inc.

3. That I am over the age of twenty one years and am otherwise qualified to execute the Certification on behalf of SunCoke Energy South Shore, LLC.

4. That I have conducted an inquiry into the facts contained in this Affidavit and believe them to be true to the best of my knowledge.

5. That there is no independent planning and/or zoning commission in Greenup County, Kentucky with jurisdiction over the site of the proposed facility.

6. There is a noise regulation for unincorporated areas of Greenup County, but that regulation only applies to residences and residential neighborhoods. There is no local noise ordinance which applies to the facility which is the subject of this application.

7. That the proposed SunCoke Energy South Shore, LLC facility will therefore be in compliance with any and all local ordinances and regulations concerning noise control, and will also be in compliance with any and all applicable local planning and zoning ordinances as provided in KRS 278.704(3) since no such ordinances or regulations exist. Further, Affiant sayeth naught, this the \_\_\_\_ day of \_\_\_\_\_, 2014.

David Schwake SunCoke Energy, Inc. 1011 Warrenville Road, Suite 600 Lisle, IL 60532 (215) 384-5920

\_\_\_\_\_

COMMONWEALTH OF ILLINOIS )

) :S

The foregoing instrument was subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014 by David Schwake, Director of Business Development for SunCoke Energy, Inc.

My commission expires \_\_\_\_\_\_.

NOTARY PUBLIC State at Large

PREPARED BY:

George L. Seay, Jr. WYATT, TARRANT & COMBS, LLP 250 West Main Street, Suite 1600 Lexington, KY 40507 (859) 288-7448

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# KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

# IN RE: Application of SunCoke Energy South Shore, LLC. CASE NO. 2014-00162

#### AFFIDAVIT RE CERTIFICATIONS REQUIRED BY KRS 278.706(2)(d)

Comes the Affiant, George L. Seay, Jr., and after first being duly sworn upon his oath states as follows:

1. That my name is George L. Seay, Jr.

2. That I am an attorney at Wyatt, Tarrant & Combs, LLP and counsel to the applicant herein.

3. That I am over the age of twenty one years and am otherwise qualified to execute the Certification.

4. That I have conducted an inquiry into the facts contained in this Affidavit and believe them to be true to the best of my knowledge.

5. Upon researching the local ordinances of Greenup County and confirming with the Local Authorities, I found that there are no local planning and zoning ordinances, and no local setback requirements which are applicable to the proposed SunCoke Energy South Shore LLC project.

6. That research also determined that there is a Noise Ordinance for the unincorporated boundaries of Greenup County (see the attached copy of that Ordinance) but that ordinance is not applicable to the proposed SunCoke Energy South Shore LLC project since the ordinance only applies to homes or residences.

7. Therefore, I hereby certify that there are no planning and zoning requirements, local setback requirements, and no regulations or ordinances concerning noise control for Greenup County, Kentucky, which would apply to the project for which this application is submitted.

Further, Affiant sayeth naught, this the \_\_\_\_ day of \_\_\_\_\_, 2014.

George L. Seay, Jr. Wyatt, Tarrant & Combs, LLP 250 West Main Street, Suite 1600 Lexington, KY 40507-1746

# COMMONWEALTH OF KENTUCKY ) ) :S

COUNTY OF FAYETTE

The foregoing instrument was subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014 by George L. Seay, Jr.

My commission expires \_\_\_\_\_\_.

)

NOTARY PUBLIC

PREPARED BY:

George L. Seay, Jr. WYATT, TARRANT & COMBS, LLP 250 West Main Street, Suite 1600 Lexington, KY 40507 (859) 288-7448

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EXHIBIT C2 GREENUP COUNTY ORDIANCE

#### COMMONWEALTH OF KENTUCKY GREENUP COUNTY FISCAL COURT

#### ORDINANCE NO. 01-2013

#### AN ORDINANCE RELATING TO THE ESTABLISHMENT OF STATUTORY CONTROLS TO RESTRICT AND REDUCE THE NUISANCE CAUSED BY GENERAL NEIGHBORHOOD NOISE

WHEREAS, the Greenup County Fiscal Court desires to establish statutory controls to restrict and reduce the emission of noise between the hours of 11:00 PM and 7:00 AM which is audible in the interior of a dwelling one hundred (100) feet from the property line of the property on which the source of the noise is located for a period exceeding fifteen (15) minutes cumulatively.

WHEREAS, the Kentucky Revised Statutes grant to the Fiscal Court of Greenup County, Kentucky, the power and authority to enact ordinances in the interest of its citizens.

WHEREAS, this Ordinance shall apply to any home or residence of any kind lying within the unincorporated boundaries of Greenup County.

WHEREAS, the following noises shall be exempt:

- (a) Noises originating from any safety signals, warning devices and emergency relief valves
- (b) Noises resulting from any authorized emergency or law enforcement vehicle or training facilities
- (c) Noises emanating from festivals or other periodic activities and celebrations
- (d) Noises originating from the production of crops or livestock
- (e) Noises originating from a permitted industrial or commercial activity

WHEREAS, citations may be issued by any sworn police officer for the enforcement of the provisions of this Ordinance.

WHEREAS, should any part of this Ordinance be held invalid by a court of competent jurisdiction, the remaining parts shall be severable and shall continue to be in full force and effect. This Ordinance shall be in full force and effect immediately upon adoption and after being published pursuant to law.

NOW, THEREFORE, BE IT ORDAINED by the Greenup County Fiscal Court that it does hereby approve establishing statutory controls to restrict and reduce the emission of noise between the hours of 11:00 PM and 7:00 AM.

GIVEN SECOND READING, APPROVED, ADOPTED AND PASSED at the regular meeting of the Fiscal Court of Greenup County, Kentucky, held on this 9<sup>th</sup> day of July, 2013.

Robert W. Carpenter Ø Greenup County Judge/Executive

Attest:

onter) R. Diane Carpenter

Fiscal Court Clerk

First Reading: June 11, 2013 Second Reading: July 9, 2013 EXHIBIT D LAND OPTION AGREEMENT WITH DGGG REALTY COMPANY, LLC

#### PURCHASE OPTION AGREEMENT

THIS PURCHASE OPTION AGREEMENT ("Agreement") is made this 1/2 "day of November, 2010 (the "Effective Date") between DGGG Realty Company, LLC, an Ohio limited liability company (the "Seller"), and SunCoke Energy, Inc., a Delaware corporation (the "Purchaser"). The Seller and the Purchaser are sometimes referred to collectively as the "Parties".

In consideration of paid by Purchaser to Seller (the "Option Payment"), the amount paid, if at all, pursuant to Section 3 below, and other good and valuable consideration, the receipt of which is acknowledged, the Parties agree as follows:

1. <u>GRANT OF OPTION</u>. Seller grants to Purchaser, on the terms and conditions set forth in this Agreement, the exclusive option (the "Option") to purchase approximately 10± acres of real estate located in South Shore, Kentucky in the County of Greenup shown as a strip of land approximately 200 feet wide along the western boundary of the property owned by Seller at DB516, page 14 and shown as Parcel "A" in Exhibit A attached to this Agreement, (the "Property").

### 2. <u>OPTION PERIOD</u>.

(a) The Option shall be exercised by Purchaser, if at all, within one hundred eighty (180) days after the Effective Date (as may be extended pursuant to Section 2(b) below, the "**Option Period**") by the Parties. Purchaser may elect to exercise the Option during the Option Period in Purchaser's sole and absolute discretion, without cause or reason, and upon written notice to Seller.

(b) Prior to the end of the Option Period, Purchaser may elect to extend the Option Period for an additional three hundred sixty-five (365) days by written notice and the payment of an additional

to Seller (the "Extension Payment").

(c) If Purchaser does not exercise the Option during the Option Period (as may be extended pursuant to Section 2(b) above), Seller shall have no obligation to refund, and may retain, the Option Payment and, if paid, the Extension Payment.

- 3. <u>PURCHASE PRICE AND PAYMENT</u>. The purchase price for the Property (the "Purchase Price") shall be:
  - (a) per Net Acre (the "Cash Purchase Price"). All payments made in accordance with this Paragraph 3 shall be payable as follows:

(i) The Option Payment and, if paid, the Extension Payment shall be applied as a credit toward the Cash Purchase Price at the Closing. (ii) The balance of the Cash Purchase Price shall be paid at closing, subject to the prorations and adjustments described in this Agreement. The balance of the Cash Purchase Price due at closing shall be paid by certified or cashier's check or by wire transfer of immediately available federal funds to a bank account designated by Seller.

(b) Conveyance of the following properties to the Seller (the "Transferred **Properties**"):

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(i) The approximately  $14.35\pm$  acres of real estate shown as Parcel "B" in <u>Exhibit A</u> attached to this Agreement; and

(ii) The approximately  $5\pm$  acres of real estate located in South Shore, Kentucky in the County of Greenup as a piece of land along Route 23 listed in Deed Book 309 on Page 566 and shown as Parcel "C" in Exhibit A attached to this Agreement.

- 4. SURVEY. Prior to the closing, Purchaser will, at its cost, obtain a survey and metes and bounds description of the Property to be prepared by a registered surveyor selected by Purchaser. The legal description prepared from the survey shall be used in Seller's deed; provided, that the description is approved by all appropriate governmental authorities and by the Title Company. The survey shall be prepared in accordance with the minimum standard detail requirements for land surveys most recently adopted by ALTA/ACSM, shall be certified to Purchaser and, if requested, to Purchaser's title insurer and lender, and shall be sufficient for purposes of deleting the printed "survey exception" from the title insurance policy. The Property is being divided from a larger parcel of land owned by Seller; Purchaser shall obtain all governmental approvals necessary for the division. The Net Acreage of the Property determined by the survey shall be used to calculate the Cash Purchase Price under Section 3 and the legal description prepared from the survey shall be used in Seller's deed. The "Net Acreage" shall mean the total acreage less only land within a public right-of-way.
- 5. <u>**DEED</u>**. At the closing, Seller shall execute and deliver a transferable, recordable general warranty deed (the "**Deed**") conveying to Purchaser, or its nominee, marketable title to the Property in fee simple, free from all defects, liens, easements, restrictions, covenants, encroachments, and any other encumbrances, except the following "**Permitted Encumbrances**": (a) real estate taxes (and assessments) not yet due and payable, (b) existing public highways and utility easements; (c) zoning and building laws, codes and ordinances; (d) the recoupment to real estate taxes by reason of Current Agricultural Use Valuation; and, (e) any matters waived or deemed waived by Purchaser pursuant to Section 6, below.</u>
- 6. <u>TITLE</u>. Within ninety (90) days of the Effective Date, Purchaser shall obtain a commitment for an owner's policy of title insurance (the "Commitment") issued

by a title company selected by Purchaser, the "Title Company" and dated as of a current date, pursuant to which the Title Company shall commit to issue an ALTA Policy, 2006 Form, owner's policy of title insurance insuring Purchaser's title to the Property in the full amount of the Purchase Price. If the Commitment shows that Seller does not have marketable, fee simple title to the Property with reference to the Kentucky State Bar Association Standards of Title Examination, or that there are any defects, liens, easements, restrictions, covenants, encroachments or any other encumbrances, other than those exceptions described in Section 5, then Purchaser shall notify Seller of its objection to any such matter(s) (the "Title Objections"). To the extent that the Property is subject to any monetary liens, Seller shall take all actions necessary to satisfy and eliminate the liens at or before the Closing, whether or not Purchaser has specifically objected to the monetary liens. With respect to the Title Objections other than monetary liens, Seller may, but shall have no obligation to, remedy or remove the Title Objections. However, if Seller fails or is unable to remove any such Title Objections prior to the expiration of this Option, or, if this Option is exercised, prior to the Closing Date, then Purchaser's sole remedy shall be either to (a) terminate this Agreement, whether or not the Option has been exercised, in which event Seller shall immediately refund the Option Payment and, if paid, the Extension Payment to Purchaser, without interest, at which time the Parties shall be released from all further obligations under this Agreement, except that Purchaser's obligations under paragraph 7 shall survive, or (b) waive the Title Objections and accept such title as Seller is able to convey, without abatement of the Purchase Price. Notwithstanding the foregoing provisions, if Seller causes or permits any additional title matters to become of record or otherwise come into existence against the Property between the Effective Date of this Agreement and the Closing Date. Seller shall have the affirmative obligation to remove such title matters and if it fails to do so, Purchaser shall have the right, at Purchaser's option, to take all steps necessary to remove those matters and deduct all resulting costs and expenses including attorneys' fees from the Purchase Price or to exercise any other remedies available to Purchaser in the case of Seller's default. At the Closing, Seller shall furnish Purchaser and the Title Company with an owner's affidavit as to mechanics' and materialmen's liens, persons in possession of the Property, and similar title matters required by the Title Company as a condition of its deletion of the standard printed general exceptions from the title policy (the "Title Affidavit"). All costs, fees and premiums of the Commitment and the title certificates shall be paid by Purchaser.

7. <u>**RIGHT OF ENTRY.</u>** At all times either (a) prior to the expiration of this Agreement, or (b) subsequent to the exercise of the Option but prior to the Closing, Purchaser, its agents, employees, contractors and representatives, shall have the right, at reasonable times so as not to interfere with Seller's use of the Property, to enter upon the Property for the purposes of conducting soil tests, engineering studies, land planning, environmental review and other testing and exploration work necessary or appropriate to formulate plans and determine the suitability of the Property for Purchaser's use of the Property. Purchaser shall defend, indemnify and save harmless Seller from any and all claims, losses,</u>

damages and expenses arising from the entry onto the Property by Purchaser, its agents, employees, contractors and representatives. Purchaser agrees to return or restore the Property to substantially its original state within a reasonable time after the tests are conducted, not to exceed sixty (60) days after the later of: (i) completion of the tests; or (ii) Purchaser's decision not to exercise the Option. Purchaser shall have no obligation to restore the Property if Purchaser exercises the Option unless Purchaser fails to close for reasons other than Seller's default. If Purchaser does not exercise the Option, Purchaser shall provide to Seller, without cost, a copy of the survey, all inspection reports, studies and similar information obtained by Purchaser with respect to the Property; *provided*, *however*, that Purchaser shall not be obligated to provide any such reports which are provided by third party vendors and are subject to confidentiality agreements or might otherwise subject such third party vendors to liability to anyone other than Purchaser.

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- 8. <u>TAXES</u>. Prior to the closing, Seller shall pay all real property taxes which became due and payable with respect to the Property on or before the Closing Date. At Closing, Seller shall pay or credit against the Purchase Price a pro rata share of the taxes and assessments becoming due and payable after the Closing, prorated through the Closing Date in accordance with the customary method of prorating taxes in Greenup County, Kentucky. If the taxes and assessments to be prorated are not known as of the Closing, the proration shall be based on the tax bills for the previous year and there shall be no subsequent readjustment. Purchaser shall assume the obligation to pay the accrued tax when the Property is converted to nonagricultural use.
- 9. <u>SELLER'S ASSISTANCE</u>. From time to time at the request of Purchaser, whether before, at or after the Closing, and without further consideration, Seller shall execute and deliver, and/or join with Purchaser in executing and delivering, such applications for licenses, variances, zoning changes, approvals, permits and consents from governmental bodies, utility companies, financial institutions and other entities and shall supply such information, arrange such meetings, and execute such forms and take such action as Purchaser may reasonably request in order to proceed with and fully implement Purchaser's use of the Property or to effectuate the transactions contemplated by this Agreement; *provided, however*, that Seller shall not be required to incur any expenses in connection with these matters, except for reasonable attorneys' fees. Seller shall not file an objection to or oppose Purchaser's intended use of the Property.
- 10. <u>SELLER'S REPRESENTATIONS AND WARRANTIES</u>. Seller represents and warrants to Purchaser that as of the Effective Date and as of the date of Closing:
  - (a) That no orders of any public authority are pending against the Property.

- (b) That no work has been performed or improvements constructed that may result in future assessments or the filing of mechanic's liens or materialmen's liens against the Property.
- (c) That no notices have been received from any public agency with respect to condemnation or appropriation, change in zoning, proposed future assessments, correction of conditions, environmental conditions or other matters affecting the Property.
- (d) To the best of Seller's knowledge, no hazardous substances, hazardous waste or other toxic or dangerous materials are present on the Property.
- (e) Seller warrants that Seller shall not, without Purchaser's prior written consent, during the Option Period:
  - (A) convey or agree to convey, encumber or grant any rights in the Property to any party other than Purchaser,
  - (B) permit or allow any removal, alteration or other change to the physical character of the Property, or
  - (C) permit any waste, impairment or deterioration of the Property.
- (f) The execution and delivery of this Agreement by Seller, the execution and delivery of every other document and instrument delivered pursuant hereto by or on behalf of Seller, and the consummation of the transactions contemplated hereby have been duly authorized and validly executed and delivered by Seller, and will not (i) constitute or result in the breach of or default under any oral or written agreement to which Seller is a party or which affects the Property; (ii) constitute or result in a violation of any order, decree, or injunction with respect to which the Seller and/or the Property is bound; (iii) cause or entitle any party to have a right to accelerate or declare a default under any oral or written agreement to which Seller is a party or which affects the Property; and/or (iv) violate any provision of any municipal, state or federal law, statutory or otherwise, to which Seller is or may be subject.
- (g) To the best of Seller's knowledge, the entering into of this Agreement and the consummation of the sale of the Property will not require Seller to obtain (either before or after the Closing) any consent, license, permit, waiver, approval, authorization, or other action of, by, or with respect to any nongovernmental or governmental person or entity.
- (h) There is no pending or threatened litigation, arbitration, administrative action or examination, claim, or demand whatsoever relating to the Property. No attachments, execution proceedings, liens, assignments, or insolvency proceedings are pending or threatened against Seller or the

Property or contemplated by Seller. Seller is not contemplating the institution of insolvency proceedings.

#### 11. <u>CLOSING DATE/CLOSING DELIVERIES.</u>

- (a) The closing for the delivery of the Deed and other instruments contemplated by this Agreement and payment of the balance of the Purchase Price in accordance with the provisions of Paragraph 3 (the "Closing") shall be on a date thirty (30) days after the exercise of the Option (the "Closing Date"). However, if that date falls on a Saturday, Sunday or a legal holiday, then the Closing Date shall be on the next business day. The closing shall be held at a time and place in Greenup County, Kentucky, mutually agreed upon by the Parties.
- (b) In addition to the Deed and Title Affidavit to be provided by Seller, the Parties agree to provide or execute the following documentation at closing:
  - (A) Seller:
    - (i) Foreign Investment Real Property Tax Act filing as required by the Internal Revenue Service ("IRS");
    - (ii) IRS Form 1099 for reporting of the subject transaction to the IRS; and
    - (iii) a Closing Statement.
  - (B) Purchaser:
    - (i) a general warranty deed and new metes and bounds survey description for each of the Transferred Properties;
    - (ii) Foreign Investment Real Property Tax Act filing as required by the IRS, for each of the Transferred Properties; and
    - (iii) a Closing Statement.
- 12. <u>POSSESSION</u>. Seller shall deliver exclusive possession of the Property to Purchaser and Purchaser shall deliver or cause delivery of exclusive possession of the Transferred Properties to Seller on the Closing Date.

#### 13. **DEFAULT AND NONEXERCISE OF OPTION**. The Parties agree that:

(a) Should Seller default in the performance of any of its obligations set forth in this Agreement or should there be a breach of any of the Seller's representations and warranties, then, whether or not this Option is exercised, Seller shall promptly return the Option Payment and, if paid, the Extension Payment to Purchaser and Purchaser may pursue specific performance of Seller's obligations under this Agreement. If Purchaser elects to terminate this Agreement due to Seller's default, Seller shall be liable to Purchaser for damages in the amount of Purchaser's out-ofnocket costs incurred in connection with this Agreement, not to exceed and in no event shall Seller's naounty for damages incrude consequential damages, loss of profits or the like. The Parties acknowledge that should Seller default in the performance of any of its obligations under this Agreement, there will be no adequate remedy at law available to Purchaser and if Purchaser so elects, Purchaser shall be entitled to specific performance of all of Seller's obligations under this Agreement.

- (b) Seller shall have the right to retain the Option Payment and, if paid, the Extension Payment if Purchaser fails to exercise the Option prior to the expiration of the option period(s) provided in Paragraph 2, above. Further, if Purchaser exercises the Option, but following exercise, Purchaser fails to close the purchase by the Closing Date, unless the failure is caused by Seller's default or breach by Seller of any of his representations or warranties, then this Agreement shall terminate and Sellers shall have the right to retain the Option Payment and, if paid, the Extension Payment as full and complete compensation for Seller's granting of the Option. Upon termination, the Parties shall be released from all further liabilities and obligations under this Agreement except for Purchaser's obligations under Paragraph 7, above. Receipt of the Option Payment and, if paid, the Extension Payment shall be Seller's sole and exclusive remedy in the event of Purchaser's default after exercise of the Option, and, except for any liabilities of Purchaser under Paragraph 7, Seller waives all other claims, rights, and remedies, either at law or in equity, against Purchaser.
- 14. **NOTICES.** This Option shall be exercised, if at all, by giving written notice of exercise prior to the expiration of the option period(s) as provided in Paragraph 2, above. The notice of exercise and any notice or other writing required or permitted to be given to a Party under this Agreement shall be deemed given when delivered to that Party's address as set forth below or when mailed by certified United States mail, postage prepaid, return receipt requested, or when deposited with a nationally recognized overnight courier service addressed as follows:
  - (a) Purchaser:

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Attn: Legal Department SunCoke Energy, Inc. 11400 Parkside Dr., Suite 500 Knoxville, TN 37934 (b) Seller:

Attn: Mr. David R. Graf Post Office Box 436 South Portsmouth, Kentucky 41174

(c) With Copy to:

Joshua D. Howard, Esq. 701 Sixth Street, P.O. Box 1505 Porstmouth, Ohio 45662

- 15. **BROKERAGE**. Each Party represents to the other that there is no broker or other person who may be entitled to a commission or similar fee in connection with this transaction. Each of the Parties agrees to defend, indemnify and save harmless the other from and against all other claims for commissions or fees from any other broker or brokers resulting from actions by the indemnifying Party.
- 16. CASUALTY; CONDEMNATION. Seller shall at all times prior to and including the Closing Date, have insurance coverage in effect with respect to the Property, as such coverage was in effect as of the Effective Date. In the event that (a) during the Option Period specified in Paragraph 2 or (b) after the exercise of the Option but before the Closing, the Property or any portion of the Property shall be damaged or destroyed by fire, or taken or condemned by any governmental authority or other entity having the power of eminent domain, or Seller shall receive a notice of a proposed taking or condemnation, Seller shall immediately notify Purchaser in writing. Purchaser shall then have the option either to (x) terminate this Agreement by giving written notice to Seller, in which event Seller shall refund the Option Payment and, if paid, the Extension Payment to Purchaser, without interest, and the Parties shall be released from all further obligations, except for any liabilities of Purchaser under Paragraph 7, or (y) require Seller to assign to Purchaser at the Closing, if the Option is exercised, all of Seller's right, title and interest in any proceeds of insurance payable in connection with the damage or destruction or any awards that may be made by reason of such condemnation, in which event there shall be no adjustment or abatement of the Purchase Price.
- 17. **MISCELLANEOUS.** The Parties agree that:
  - (a) This Agreement constitutes the entire agreement between Seller and Purchaser and no change in this Agreement may be made except by an agreement in writing signed by the Party against whom enforcement of any change is sought.

- (b) This Agreement shall be binding upon and inure to the benefit of Seller and Purchaser and their respective heirs, personal representatives, successors and assigns. This Agreement is assignable by either Party.
- (c) This Agreement shall be construed without reference to the titles of the various paragraphs, which are inserted for convenience of reference only.
- (d) The covenants, agreements, representations, warranties and obligations of the Parties in this Agreement shall survive the Closing for a period of two (2) years.
- (e) Time is of the essence of this Agreement.
- (f) In any action brought to enforce this Agreement, the prevailing Party shall be entitled to reasonable attorney's fees and other expenses incurred in connection with such action.
- (g) Whenever used in this Agreement, the singular shall be deemed to include the plural, and vice versa, and the use of any gender shall be deemed to include all others.
- (h) The Parties agree not to issue or make any public announcement, whether oral or written, of the sale of the Property without first giving the other Party the opportunity to review and comment upon the contents of the notice or other statement. Seller, prior to Closing, shall make no public disclosure of the terms of this transaction without the prior written consent of Purchaser.
- (i) No provisions of this Agreement shall be construed by any court of other judicial authority against any Party hereto by reason of such Party being deemed to have drafted or structured such provisions.
- (j) This Agreement shall be construed, and the rights and obligations of Seller and Purchaser hereunder shall be determined, in accordance with the laws of the State of Kentucky.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

Executed by the Seller in <u>Portsmouth</u>, Ohio on this <u>30th</u> day of November, 2010.

#### SELLER: DGGG Realty Company, LLC By: Hugh Its Member Its M

The foregoing instrument was acknowledged before me this <u>30th</u> day of November, 2010 by <u>Gregory P. Graf</u>, a Member of the Seller, on behalf of the company.



AMY C. SAND NOTARY PUBLIC. My C. Same STATE OF OHIONotary Public Comm. Expires November 13, 20 My commission expires: Recorded In Scioto County

The foregoing instrument was acknowledged before me this <u>30th</u> day of November, 2010 by <u>David R. Graf</u>, a Member of the Seller, on behalf of the company.



Band

STATE OF OHIO Comm. Expires November 13, 2015 My commission expires:

[PURCHASE OPTION AGREEMENT] [GRAF PROPERTY] Executed by the Purchaser in Knoxville, Tennessee on this  $\frac{18}{18}$  day of November, 2010.

PURCHASER:

SunCoke Energy, Inc. By

Name: Matthew J. McGrath Title: Senior Vice President

STATE OF TEMPESSEE ) SS

The foregoing instrument was acknowledged before me this <u>18</u> day of November, 2010 by <u>Matthew J. Mcgrath</u>, the <u>Sk. Vice</u> <u>Preside</u> of the Purchaser, on behalf of the Purchaser.

Notary Public

My commission expires:

10.9.2013

# **EXHIBIT A**



EXHIBIT E PUBLIC INVOLVEMENT ACTIVITY
EXHIBIT E1 AFFIDAVIT OF PUBLICATION – PUBLIC NOITCE

### CERTIFICATE OF AFFIDAVIT OF PUBLICATION PORTSMOUTH DAILY TIMES Portsmouth, OH 45662

Name: Case No: Ad: Wyatt, Tarrant & Combs, LLP

Sun Coke Public Meeting

Printer Fee: \$ Affidavit Fee: Total \$ Account Number: 184222 72.15 5.00 77.15

### State of Ohio, Scioto County, SS

Publisher of Portsmouth Daily Times Portsmouth, Ohio

A Newspaper printed daily and general circulation throughout the City of Portsmouth and the County of Scioto, State of Ohio, being duly sworn, says that the advertisement (a copy of which is hereunto affixed) was published in said Newspaper for the term of

No. Of Times: (1) once from and after the 19<sup>th</sup> day of June, 2014

Circulation –over 8,000 The price charged does not exceed the rate provided in Section 7.10 of the Revised Code of the Newspaper Laws of Ohio

Hope RComer

Subscribed and sworn to before me on this 19<sup>th</sup> day of June, 2014

athenin h.



Katherine L. Venturino Notary Public, State of Ohio My Commission Expires Feb. 19, 2019

LEGAL NOTICE SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session. The public is invited to attend and participate. AD: June 19, 2014

# Independent

226 Seventeenth Street Post Office Box 311 Ashland, Kentucky 41105-0311 606-326-2600 • 1-800-955-5860 www.dailyindependent.com

WYATT, TARRANT & COMBS LLP, (PP) SUITE 2800 500 WEST JEFFERSON STREET LOUISVILLE KY 40202

No 1 Sector Sector

**NEWSPAPER AFFIDAVIT** 

I, NICOLEE HARTWIG-CLAY, ADVERTISING DIRECTOR OF THE GREENUP NEWS TIMES PUBLISHED IN ASHLAND, AND HAVING THE LARGEST CIRCULATION OF ANY NEWSPAPER IN THE GREENUP COUNTY, KENTUCKY, DO HEREBY CERTIFY THAT FROM MY OWN KNOWLEDGE AND A CHECK OF THE FILES OF THIS NEWSPAPER THAT THE FOLLOWING ADVERTISEMENT WAS INSERTED IN THE GREENUP NEWS TIMES.

143 SIGNATURE:

SUBSCRIBED AND SWORN TO BEFORE ME BY THE ABOVE, THIS 26th DAY OF June, 2014

NOTARY PUBLIC Catherine nichell

MY COMMISSION EXPIRES ma 26 2018



(1,1,1)

COMMENTSEXPIRED DATEAD CAPTION#TIMESAMOUNTTHE GREENUP NEWS06/19/2014SUN COKE139.9006/19/201406/19/2014SUN COKE139.90

### Thursday, June 19, 2014

## 530. LAND & ACREAGE

ACREAGE-2/3 acre, beautiful country setting, Hillview Ave. off Caroline Road, Raceland School district, water & sewer available. 614-871-3365 or 614-329-8713.

### 610. HOMES FOR RENT

ASHLAND-4BR, 1BA, Avail. \$475/mo.+ dep. immediately. 473-7359. DOUBLEWIDE- 3BR, 2BA FP, deck, priv. setting, \$670 + dep. & util. Lo-cated 3 miles from miles from Speedway Catlettsburg. 606-922-4739, 831-5783 THREE BR- very clean, near park, dead-end st., no pets, Ig. out bldg., drive-in gar. 836-6327.

TWO BR TOWNHOME for rent, 1.5 BA, \$600 mo. Call 859-322-5648.

## 630. APARTMENTS FOR RENT

ASH.- 4535 Valley View/ Rt. 168, 2BR TH, all elec. \$550 mo. 606-923-4928 ASHLAND- 1BR, extra nice, 1144 Belmont St. Call 922-8500.

ASHLAND- 2BR, 2617 Lincoln Ave. 922-8500. ASHLAND/RACELAND 2BR-2BA, \$465 mo. Hud, Lease, dep. 571-2145.

ONE OR TWO BR- 1BA, \$500/mo. plus dep. 606-232-0639.

RCLD-1BR, wat pd. \$425 \$300 dep, nice, no pets/ smoking. 606-706-1506

### Tygart Creek Townhomes 3BR - \$555 **Move-In Special** Pay \$200 on Deposit, Balance due in 90 Days Call (606)932-2500 or (606)833-1800 Email: laurelmgmt@ windstream.net Equal Housing Opportunity

### **645.** MANUFACTURED HOMES RENT

BOYD CO.- 3BR, 2 full BA, \$550/mo. + dep. 615-3694 or 465-4811.

## 645. MANUFACTURED HOMES RENT

DOUBLEWIDE-3BR, 2BA, \$650/mo. 1st & last month's. 606-694-5357. FW- 3BR, 2BA, covered porch, stor. bldg.-\$600 mo. \$600dep. 923-5942.

### 660. TOWNHOUSES & CONDOS RENT

ASH.- 1700 Oakview Rd. 2BR/2BA, HW floors, all appl., C/A. No pets/no smoking. \$675/mo. 606-922-5347.

### 715. AIRCRAFT

**CESSNA 182 AIRPLANE** 1975, excellent condi-tion, based at Tri-State Airport, too many extras to list, \$98,500. Call 606-923-4932.

### **730. AUTOS**

CAR DETAILING- Cars hand washed & waxed, \$50. Call 606-329-8200.

CHEVY- Spark, 2013, blue, gray interior, 4 dr., auto., AC, PW, PL, 14k miles, 35MPG, rebuilt vehicle. like new. \$9,500.606-465-2124.

CHRYSLER 300M- 2000. fully loaded, garage kept, low mileage, exc. cond. Asking \$5,800 cond. Asking \$5,800 OBO. 606-928-2058 or 606-922-9480

## 735. BOAT ACCESS & EQUIPMENT

**BERKSHIRE PONTOON** 2011, 20 ft., with trailer, 50hp 4 stroke Mercury Big Foot engine, 29.5 hours, very nice \$16,500. 606-325-2140. nice,

CREST PONTOON- 2003, 22ft., with trailer, 50HP Mercury motor, cover, trolling motor, depth & fish finder, exc. cond. \$9,000 OBO. 606-928-0212.

SEA RAY- 1965 17 ft. runabout, closed bow, 85hp Mercury 0/6 power trim, all original tops, beautiful boat inside & out! Always garage kept, runs perfect, nice original trailer, \$4,800. 606-232-9117.

745. MOTORCYCLES, **ATVS** 

### BMC CHOPPER- 2002, low miles, like new, \$7,500. HD trades wel-come. 606-232-6319.

HARLEY DAVIDSON 2009 Sportster Custom 1200 XL, 7,070 miles, garage kept, mint condi-tion, \$5,900. Call 606-371-4167; 606-331-1555

HARLEY DAVIDSON- 883 Sportster, 2008, less than 2,000 miles, miles, garage kept, exc. cond. A must see! \$3,800. Call 606-471-8238.

### **PUBLIC NOTICE**

Sealed bids will be received by the City of Russell, Kentucky at the City Building until 4:00 p.m. on June 23, 2014, to hire an Animal Control Officer for the City of Russell. Bid Specifications may be picked up at the City Building at 410 Ferry Street between 8:30 a.m. and 4:00 p.m. Successful bid-der must show evidence of liability/property damage insurance and workman's compensation. The City of Russell reserves the right to reject any and all bids and waive informalities and make awards in a manner deemed to be in the best interest of the City of Russell. All bids will be opened at the Russell City Council Meeting on June 23, 2014 at 6:00 p.m.

2 Conley Joy Conley City Clerk/Treasurer P. O. Box 394 Russell, KY 41169 Published: June 19, 2014

### THE GREENUP COUNTY NEWS-TIMES

## 745. MOTORCYCLES, ATVS

HARLEY- 1999 Softail, custom wheels, lots of extras, 57,000 miles, runs good, \$7,000 OBO. Call 606-922-2277. miles, HONDA

2-tone Goldwing Trike, red, Special Anniversary Edition, California kit, 36,465 miles, excellent condition, lots of extras, \$18,500. 606-836-4014.

### 750. CAMPER/RV

**KEYSTONE 2007 Everest** 5th wheel, 34 ft., special order customized camper, 4 slides, full size shower, entertainment center, \$25,000 Consider trade. Call 606-922-8572

### 765. SUV

KIA- 2004 Sorento LE, 4x4, needs motor put together, \$1,800. 606-571-5035. Ċall

**DODGE DAKOTA - 1997** 8-cylinder, cab, matching fiberglass garage kept, topper, original owner, MINT condition, 71,262 miles, MINT \$9,500.606-836-4014.

775. TRUCKS

FORD F250 2005, 8 cyl., extended cab, great condition, 155,000 highway miles, extended \$16,900. 606-923-4928. www.dailyindependent.com

### LEGAL NOTICE

proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. Sun-Coke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session. The public is invited to attend and participate.

Published: June 19, 2014

### **PROPOSED AMENDMENT TO ORDINANCE 02-2003 GREENUP COUNTY FISCAL COURT GREENUP COUNTY, KENTUCKY**

A PROPOSED AMENDMENT TO ORDINANCE 02-2003 OF THE GREENUP COUNTY FISCAL COURT, GREENUP COUNTY, KENTUCKY, RELATING TO THE PERMIT FEES OF THE GREENUP COUNTY BUILD-ING DEPARTMENT.

WHEREAS, the Greenup County Fiscal Court desires to establish the following rates of the Greenup County Building Department:

\$100.00

\$200.00

\$100.00

\$200.00

\$100.00

.12 cents per sq. ft.

.08 cents per sq. ft.

.25 cents per sq. ft.

.12 cents per sq. ft.

.50 cents per sq. ft.

Residen	tial Construction
Residen	tial Rehab
Residen	tial Minimum
Comme	rcial Construction
Comme	rcial Rehab
Comme	rcial Minimum
Signs ar	id Billboards
	d Billboards Minimum
	rcial Demolition
	of Structure

The full text of said proposed Ordinance Amendment is available for public inspection at the office of the County Judge/Executive, Robert W. Carpenter, during regular business hours at the Greenup County Courthouse, Greenup, Kentucky.

The Greenup County Fiscal Court meeting for consideration of the proposed Ordinance Amendment will be held at the Greenup County Courthouse at Greenup, Kentucky, at 9:30 a.m., on Tuesday, July 15, 2014.

R. Deane Carpenter R. Diane Carpenter

Greenup County Fiscal Court First Reading: June 10, 2014 Published: June 19, 2014

VS.: NOTI SunCoke Energy South Shore, LLC ("SunCoke")

775. TRUCKS

CHARLES D SHERRY L. ASSET ACC In pursuanc entered in the 2014, I will ( of 1:00 p.m.

highest and door of the Kentucky, th wit:

FOR GREAT P

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COMPANY

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Lying on the and on the r up said left h described as Fronting 82

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The abov whole on te (30) days. I er shall be the purchas good surety being payal shall bear i (12%) per a and shall ha upon which maturity. A estate so so

Out of th the Master further Ord made to all with the C Greenup, K

Pub



226 Seventeenth Street Post Office Box 311 Ashland, Kentucky 41105-0311 606-326-2600 • 1-800-955-5860 www.dailyindependent.com

WYATT, TARRANT & COMBS LLP, (PP) SUITE 2800 500 WEST JEFFERSON STREET LOUISVILLE KY 40202

NEWSPAPER AFFIDAVIT

I, NICOLEE HARTWIG-CLAY, ADVERTISING DIRECTOR OF THE DAILY INDEPENDENT NEWSPAPER PUBLISHED IN ASHLAND, AND HAVING THE LARGEST CIRCULATION OF ANY NEWSPAPER IN THE BOYD COUNTY, KENTUCKY, DO HEREBY CERTIFY THAT FROM MY OWN KNOWLEDGE AND A CHECK OF THE FILES OF THIS NEWSPAPER THAT THE FOLLOWING ADVERTISEMENT WAS INSERTED IN THE DAILY INDEPENDENT.

SIGNATURE:

SUBSCRIBED AND SWORN TO BEFORE ME BY THE ABOVE, THIS 26th DAY OF June, 2014

. MEWSPAPER

Cathenie nichell NOTARY PUBLIC

MY COMMISSION EXPIRES May 26 2018



COMMENTS EXPIRED DATE AD CAPTION #TIMES AMOUNT THE INDEPENDENT 06/19/2014 SUN COKE 1 89.13 06/19/2014 A NEPACER

### THE INDEPENDENT | Ashland | Kentucky

Willis, who had a natural love of coaching himself. said he showed Don the fundamentals and he could almost immediately do it perfectly.

"Going back for a ball over the right shoulder, you drop your right foot back." he said. "Don was already doing it. I'd never seen anything like him."

Twelve years after being given that first black glove. that same Don Gullett who chased down grounders on the Lynn Elementary field was the No. 1 choice of the Cincinnati Reds in the 1969 June Amateur Draft.

Walter Willis wasn't the least bit surprised.

### LEGAL NOTICE

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partment's Main Station, 29019 Mayo Trail Road, Catlettsburg, KY for the purpose of electing a member to the Department's Board of Trustees. Candidate for Trustee is Jack McCloud.

> Published: June 19, 20 & 21, 2014

PUBLIC NOTICE FLATWOODS DOG LICENSE The City of Flatwoods Dog License for the 2014-2015 period are due by July 1, 2014. After

July 1, 2014, owners can be cited per Ordinance #1-2008. License may be purchased from the Police Department between 8:00 am - 4:30 pm. Kenny Duty Animal Control Officer Published: June 16, 19, 22, 23 & 29, 2014



Becky Mannon,

RN.

H.H.A.

REGION

enior Home

Independent Deal of the Day



No facsimilies please. Valid at participating locations only. Coupon expires September 30, 2014.

PERSONAL CARE, HOMEMAKER,

LIVE IN, and **OVERNIGHT SERVICES** 

606-615-3677 or 606-327-2701

www.tlchomecarekyohwv.com

### Thursday, June 19, 2014 A5



# **Independent**

226 Seventeenth Street Post Office Box 311 Ashland, Kentucky 41105-0311 606-326-2600 • 1-800-955-5860 www.dailyindependent.com

WYATT, TARRANT & COMBS LLP, (PP) SUITE 2800 500 WEST JEFFERSON STREET LOUISVILLE KY 40202

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4.3 SIGNATURE:

SUBSCRIBED AND SWORN TO BEFORE ME BY THE ABOVE, THIS 26th DAY OF June, 2014

NOTARY PUBLIC Catherine Milel

MY COMMISSION EXPIRES ma 26 2018



EVV3PATER

COMMENTS EXPIRED DATE AD CAPTION #TIMES AMOUNT THE INDEPENDENT 06/22/2014 SUN COKE 1 0.00 06/22/2014

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### THE INDEPENDENT | Ashland | Kentucky

## NATION

Sunday, June 22, 2014 A5

### **BID INVITATION** The Greenup County Fiscal Court is seeking bids for the following: Ductless Heating/Air Conditioning System

avid J Jenkinson, J Osthopaedic Surgery

onnie puoneanons and newspapers. She is also a photographer and has written a book about hikes in western Washington.

She was working on a story when she disappeared, Wold said.

Her disappearance comes weeks after six climbers are believed to have fallen to their deaths while attempting to climb a challenging route to the summit of the 14,410-foot peak southeast of Seattle.

### LEGAL NOTICE

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Published: June 22, 2014

kamc.com/gethelp and we'll put you in touch with one of our experts.

Compassionate care: King's Daughters has affordable payment plans so you can address your health needs. We also can help you navigate insurance issues. For assistance, call (606) 408-4118

David Jenkinson, M.D. orthopaedic surgeon

1-888-377-KDMC kdmc.com

# KING'S DAUGHTERS



PRES OUS LLGI ODINS A.C. seen anything like this on generation of kids who have concentrations before make flavors currently on the mare "We're looking at the first tion and progressed to lower trates. There are some 7,700 TV airwaves since 1971. concen- co has been banned from the

ket, she said.

ing the big step, he said. And the second of the second o

day clearence many, and that A major motivator was day cigarette habit, and that helped him quit his pack-a-Damron said e-cigarettes Dack."

ino to doin or

## **Albuquerque protesters** put police chief 'on trial'

ALBUQUERQUE, N.M. (AP)

Protesters advocating for drastic changes within a police agency criticized by the U.S. Justice Department the public." over its use of force put the embattled police chief "on four months ago while the trial" during a rally Saturday.

cluding some who brought said in a statement that pochildren, marched from lice talked to protest organ-Roosevelt Park with signs izers and officers would proand a makeshift coffin in- vide traffic escorts for the scribed with names of peo- marchers. ple killed by Albuquerque officers in recent years.

under scrutiny for more than said. "Our job will be to pro-40 police shootings -26 of them fatal — since 2010, and time they are in Roosevelt the Justice Department has Park and while they are issued a harsh report over marching. Additional offithe agency's use of force.

The protesters marched they are needed. peacefully Saturday before returning to the park to con- have roiled New Mexico's tinue the rally.

how police Chief Gorden toward a violent crowd. An-Eden has failed to stop his other officers from using excessive prompted city councilors to force, said David Correia, abruptly end a scheduled one of the protest's organiz- meeting.

charges," Correia said. "They'll all be read before

Eden, who took the job ing weeks. Justice Department was wrapping up its investiga-Dozens of protesters, in- tion into the department,

"We acknowledge their First Amendment rights to The Police Department is voice their concerns," Eden tect public safety during the cers will be on call in case

Previous demonstrations largest city. At one protest, The mock trial outlined riot police deployed tear gas demonstration

Albuquerque and Justice federal authorities are ex-

Meanwhile, the Police De-"He has to answer to these Department officials are ne- partment has announced a gotiating over reforms that number of new changes to training and has ordered ofpected to order in the com- ficers to stop shooting at Greenup County Fiscal Court Clerk moving vehicles.

### **BID INVITATION**

The Greenup County Fiscal Court is seeking bids for the following: Ductless Heating/Air Conditioning System

Specifications and information may be obtained at the County/Judge Executive's Office, Room 102, Courthouse, or at the office of Stanley Hays, Maintenance Department, Room 111, Courthouse, Greenup, Kentucky, during regular business hours

Sealed bids will be accepted until 9:30 am, Tuesday, July 15, 2014. Bids will be opened at the regular court meeting on that date. After examination and comparison, bids will be awarded at a later date to the lowest and best bidder.

Interested bidders must be in compliance with County Ordinance No. 166. The Fiscal Court reserves the right to reject any and all bids and all other rights granted under the Kentucky Model Procurement Code.

R. Diane Carpenter

### R. Diane Carpenter

Published June 22, 2014

Remember when mom and dad spent more time with friends?

## They still can.

Encouraging social interaction is one of the many ways Morning Pointe relieves the challenges of providing care for your loved one. Our full time Life Enrichment Director works closely with residents and families to ensure that all planned activities enhance the residents' quality of life!

### Come meet our staff and take a personal tour.

(606) 833-1120

## Search ongoing for missing writer

MOUNT RAINIER NATIONAL PARK, Wash. (AP) Rescuers had planned to hike with on Mount Rainier spent a Sykes this weekend. third day Saturday searching for well-known, 70-year- Kemp said Friday in an old outdoors writer Karen email. Sykes, who hasn't been seen since she separated from her hiking partner on Wednesday.

The National Park Service said six ground crews, including two dog teams, were combing an expanded search area near the Owyhigh Lakes Trail on Rainier's east side. Rescuers also searched by air.

Sykes was reportedly working on a story when she and her partner encountered snow at about 5,000 feet. Her partner stayed as she went on, with the idea that they'd reconvene, but she never turned up.

The partner, who made it safely back to the trailhead, reported her missing at 10:30 Close friend Lola Kemp "She is the guru of trails,"

RIDGE Morning Residence

services and policies is available upon request. **1000 Addington Drive** 

Morning Pointe

also offers Alzheimer's and

Memory Care in a separate,

secure environment.

Written information relating to this community or facility's

Russell, KY 41169

www.morningpointe.com

## Is it the right time for JOINT **REPLACEMENT?**

### Over 30 plus years, orthopaedic surgeon David Jenkinson, M.D., has witnessed a revolution in joint



Wednesday

Sykes had adequate survival gear to camp overnight in an emergency, said Mount Rainier National Park spokeswoman Patti Wold.

Her friends remained anxious but hopeful that searchers will find her safely sheltered.

Safety concerns for Sykes and search crews include snow bridges, tree wells and steep, wet, slippery terrain, Wold said. A searcher was hurt Thursday when he punched through a snow bridge and was airlifted out of the search area.

Sykes is well-known in the Northwest hiking community and has written numerous hiking stories for online publications and newspapers. She is also a photographer and has written a book about hikes in western Washington.

She was working on a story when she disappeared, Wold said.

Her disappearance comes weeks after six climbers are believed to have fallen to their deaths while attempting to climb a challenging route to the summit of the 14,410-foot peak southeast of Seattle.

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Published: June 22, 2014

replacement surgery. And there's very little he hasn't diagnosed or treated in some form or another.

His decades of experience help ensure patients considering joint replacement know exactly what they're getting in to ... and have the greatest opportunity for successful surgery.

Is it the right time for you to think about joint replacement? If pain and limits on your activities are keeping you from enjoying life, it's time to find out.

Give us a call today at 1-888-377-KDMC to arrange an appointment with one of our orthopaedic specialists, or fill out a simple online form at kdmc.com/gethelp and we'll put you in touch with one of our experts.

**Compassionate care:** King's Daughters has affordable payment plans so you can address your health needs. We also can help you navigate insurance issues. For assistance,

call (606) 408-4118

David Jenkinson, M.D. orthopaedic surgeon

1-888-377-KDMC kdmc.com

# KING'S DAUGHTERS

wid J Jenkinson, M Orthopaedic Surgery

EXHIBIT E2 LETTERS TO PROPERTY OWNERS – PUBLIC MEETING



Dear Ms. Reid:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

The public is invited to attend and participate in this public meeting. This letter is sent in accordance with the requirements of KRS 278.700 - KRS 278.716 and the regulations promulgated pursuant thereto.

Sincerely, Muga Alay L George L. Seav. Jr.

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

Kathy Reid P. O. Box 7 Louisa, KY 41230

RE: SunCoke Energy South Shore, LLC

Dear Ms. Reid:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

Xean the

George L. Seay, Jr

GLS/vh

WYATT, TARRANT & COMBS, LLP		For delivery information visit our website at w	rage Provided)
	June 19, 2014	(Endorsement Required)	6120/14 Postmark Here
CERTIFIED MAIL RETURN RECEIPT REQUESTED		Sent To Sent To Sent To Sent To P.O. Box 616 Street, Abt. Greenup, KY 41144-0616	
Siloam Land Inc. P.O. Box 616 Greenup, KY 41144-0616	r	City, State, . PS Form 38	ons

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

wy Keang f George L. Seav. Jr

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

June 19, 2014

### **VIA FIRST CLASS MAIL**

Siloam Land Inc. P.O. Box 616 Greenup, KY 41144-0616

RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely, Deary

GLS/vh

WYATT, TARRANT & COMBS, LLP	Lexington Financial Center 250 West Main Street, Sui Lexington, Kentucky 40507 859.233.2012 Fax: 859.259.0649		U.S. Postal Service TM CERTIFIED MAIL (Domestic Mail Only; No Insura For delivery information visit our w	ance Coverage Provided)
		ШП Ш	Postage \$	6(20/14
	June 19, 2014	1000 00	Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required)	Postmark Here
CERTIFIED MAIL		090	John R. McGinnis	
<u>RETURN RECEIPT REQUESTED</u> John R. McGinnis (as Registered Ag	ent of Siloam Land Inc	7073	Sent To Corner of Main & Street, Apt. Nc P.O. Box 347 Or PO Box No. City, State, Zilf	Harrison Streets .44
Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144			PS Form 3800,	6

SunCoke Energy South Shore, LLC RE:

Dear Mr. McGinnis:

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Sincerely,

Deary

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

John R. McGinnis (as Registered Agent of Siloam Land Inc. and individually) Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Mr. McGinnis:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely

George L. Seay, Jr.

GLS/vh



Dear Mr. Atkinson:

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Sincerely. George L<sup>C</sup>Seay, Jr.

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

June 19, 2014

### VIA FIRST CLASS MAIL

J.D. Atkinson Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Mr. Atkinson:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

GLS/vh



Dear Mr. Armstrong:

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Sincerely,

Heary George L. S<del>e</del>áy

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

June 19, 2014

### **VIA FIRST CLASS MAIL**

James E. Armstrong Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Mr. Armstrong:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

The public is invited to attend and participate in this public meeting. This letter is sent in accordance with the requirements of KRS 278.700 - KRS 278.716 and the regulations promulgated pursuant thereto.

Sincerely,

George L. Seay, Ji

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W. Terry McBrayer		~	or PO Box Nc Greenup, KY 41144	
<b>Corner of Main &amp; Harrison Streets</b>			PS Form 380.	as
P.O. Box 347				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Greenup, KY 41144				

Dear Mr. McBrayer:

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Sincerely.

George L. Seav, Jr.

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George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

June 19, 2014

### **VIA FIRST CLASS MAIL**

W. Terry McBrayer Corner of Main & Harrison Streets P.O. Box 347 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Mr. McBrayer:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely, Durge Alay George L. Seav, Jr.

GLS/vh

WYATT, TARRANT & COMBS, LLP	Lexington Financial Cei 250 West Main Street, Lexington, Kentucky 40 859.233.2012 Fax: 859.259.0649	U.S. Postal Service TM CERTIFIED MAILTM RECEN (Domestic Mail Only; No Insurance Cover For delivery information visit our website at wo	rage Provided)
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Storm Inc. 320 Bellefonte Drive Ashland, KY 41011	۲-	City, State, Zi PS Form 380	hs

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Sincerely ( Secury )

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

Storm Inc. 320 Bellefonte Drive Ashland, KY 41011

RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

GLS/vh

WYATT, TARRANT & COMBS, LLP	Lexington Financial Center 250 West Main Street, Suil Lexington, Kentucky 40507 859.233.2012 Fax: 859.259.0649		For delivery information visit our websit	Coverage Provided
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Michael Arrington (as Registered A	gent of Storm Inc.)	r-1	City, State, ZIP4	
320 Bellefonte Drive	- /		PS Form 3800.	
Ashland, KY 41101		<u>B</u>		

Dear Mr. Arrington:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

George

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

Michael Arrington (as Registered Agent of Storm Inc.) 320 Bellefonte Drive Ashland, KY 41101

RE: SunCoke Energy South Shore, LLC

Dear Mr. Arrington:

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Sincerely,

George L. Seay, Jr.

GLS/vh



Dear Mr. Zabel:

New York, NY 10022

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Sincerelv

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

William D. Zabel (Trustee of the Trust under Article Three (D) of the Will of David Sawyer, deceased, f/b/o Lucas H.S. McFarland) c/o Schulte Roth & Zabel LLP 919 Third Avenue New York, NY 10022

RE: SunCoke Energy South Shore, LLC

Dear Mr. Zabel:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely

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<u>CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED		P.O. Box 617
Frank H. Warnock P.O. Box 617 Greenup, KY 41144	٦	City, State, ZiP PS Form 3800

Dear Mr. Warnock:

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Sincerely,

LADay -

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

June 19, 2014

### **VIA FIRST CLASS MAIL**

Frank H. Warnock P.O. Box 617 Greenup, KY 41144

### RE: SunCoke Energy South Shore, LLC

Dear Mr. Warnock:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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GLS/vh



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Sincerely, George L. Seav, Jr

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

Matthew Warnock P.O. Box 617 Greenup, KY 41144

RE: SunCoke Energy South Shore, LLC

Dear Mr. Warnock:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely George L. Seay

GLS/vh

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Anna M. Neal P.O. Box 617 Greenup, KY 41144	102	Street, Apt. N. Greenup, KY 41144 or PO Box Nc City, State, Zi PS Form 3800, accessor and	  /1S

Dear Ms. Neal:

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Sincerely, Day f

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

Anna M. Neal P.O. Box 617 Greenup, KY 41144

RE: SunCoke Energy South Shore, LLC

Dear Ms. Neal:

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Carolyn P. Warnock P.O. Box 617 Greenup, KY 41144		PS Form 380.		

#### SunCoke Energy South Shore, LLC RE:

Dear Ms. Warnock:

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Sincerelv. lang George L. Seay, Jr.

GLS/vh



June 19, 2014

### **VIA FIRST CLASS MAIL**

Carolyn P. Warnock P.O. Box 617 Greenup, KY 41144

RE: SunCoke Energy South Shore, LLC

Dear Ms. Warnock:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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DGGG Realty, LLC Johnson Lane P.O. Box 458 South Shore, KY 41175	F	~	or PO Box No. 71:01 BOX 430 <u>City, State, ZiP</u> , South Shore, KY 41175 PS Form 3800,

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Sincerely,

GLS/vh



June 19, 2014

#### **VIA FIRST CLASS MAIL**

DGGG Realty, LLC Johnson Lane P.O. Box 458 South Shore, KY 41175

#### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

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Sincerely,

Day

GLS/vh



Dear Judge Carpenter:

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Sincerely,	<i>(</i> .	
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XJunge	ZNE	u,
George L. Seay, J	ŕ.	/ -

GLS/vh



June 19, 2014

#### **VIA FIRST CLASS MAIL**

County of Greenup, Kentucky Robert W. Carpenter, Judge Executive 301 Main Street, Room 102 Greenup, KY 41144

#### RE: SunCoke Energy South Shore, LLC

Dear Judge Carpenter:

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Sincerely,

George L. Seav.

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Paul Don Gibson and Kimberly G. Gibson 164 Gibson Trail		5013	Street, Apt. No. 164 Gibson Trail or PO Box No. South Shore, KY 4117 City, State, Zif PS Form 3800, August 2000	5
South Shore, KY 41175				

Dear Mr. Gibson and Ms. Gibson:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

The public is invited to attend and participate in this public meeting. This letter is sent in accordance with the requirements of KRS 278.700 - KRS 278.716 and the regulations promulgated pursuant thereto.

Sincerely

GLS/vh



June 19, 2014

#### **VIA FIRST CLASS MAIL**

Paul Don Gibson and Kimberly G. Gibson 164 Gibson Trail South Shore, KY 41175

#### RE: SunCoke Energy South Shore, LLC

Dear Mr. Gibson and Ms. Gibson:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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GLS/vh



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Sincerely,	(	
Albert	X Cay	F
George L. Seav. Jr		/

GLS/vh



June 19, 2014

#### **VIA FIRST CLASS MAIL**

Markwest Energy Appalachia, LLC Attn: MEA ALPS/3300 1515 Arapahoe St., Tower 1, Suite 1600 Denver, CO 80202

#### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

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GLS/vh



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Nand		
George L. Seay,	Jr. / *	

GLS/vh



June 19, 2014

#### **VIA FIRST CLASS MAIL**

CSX Railway CSX Transportation Inc. 500 Water Street Jacksonville, FL 32202

#### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

GLS/vh

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June 19, 2014

#### **VIA FIRST CLASS MAIL**

Jeff W. Styron CSX Transportation Inc. 500 Water Street Jacksonville, FL 32202

#### RE: SunCoke Energy South Shore, LLC

Dear Mr. Styron:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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/George L. Se	ay, Jr.	1 1	

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Dear Mr. Conway:

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Sincerely George L.

GLS/vh

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NASHVILLE, TN



June 19, 2014

#### **VIA FIRST CLASS MAIL**

Jack Conway Office of the Attorney General Kentucky Transportation Cabinet 700 Capitol Avenue, Suite 118 Frankfort, KY 40601

RE: SunCoke Energy South Shore, LLC

Dear Mr. Conway:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,	$\left( \right)$
Man	au to
George L. Seay, Jr.	

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Attorney General Jack Conway		∽	City, State,	
Office of the Attorney General			PS Form 3800, August 2006 See Beverse for Instructions	
700 Capitol Avenue, Suite 118			PS Form 3800, August 2006 See Reverse for Instructions	
Frankfort, KY 40601				

#### RE: SunCoke Energy South Shore, LLC Commonwealth of Kentucky Adjoining Property Owner

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Sincerely, Dear

GLS/vh



June 19, 2014

#### **VIA FIRST CLASS MAIL**

Attorney General Jack Conway Office of the Attorney General 700 Capitol Avenue, Suite 118 Frankfort, KY 40601

#### RE: SunCoke Energy South Shore, LLC Commonwealth of Kentucky Adjoining Property Owner

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Sincerely,	$\langle \rangle$
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George L. Seay, Jr.	

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Columbus, OH 43215			

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Sincerely,	$\frown$
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George L. Seay, Jr.	
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GLS/vh



June 23, 2014

#### **VIA FIRST CLASS MAIL**

Norfolk Southern Railway Company c/o CSC-Lawyers Incorporating Service (Corporation Service Company) 50 W. Broad St., Suite 1800 Columbus, OH 43215

#### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

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Sincerely

George L. Seay, Jr

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Southern Ohio Port Authority P.O. Box 577 Portsmouth, OH 45662		707	Street, Apt. No.; Portsmouth, OH 45662 or PO Box No. <i>City, State, ZIP</i> . PS Form 3800,

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Sincerely,
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Goorgo Sony Ir

George L. Seay, Jr.

GLS/vh



George L. Seay, Jr. 859.288.7448 gseay@wyattfirm.com

June 23, 2014

#### **VIA FIRST CLASS MAIL**

Southern Ohio Port Authority P.O. Box 577 Portsmouth, OH 45662

RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

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Markwest Energy Partners LP		~	or PO Box No. City, State, ZIP+4
2 Mark West Drive South Shore, KY 41175			PS Form 3800, August 2006 See Reverse for Instructions

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George L. Seav,	r. / /

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June 24, 2014

#### **VIA FIRST CLASS MAIL**

Markwest Energy Partners LP 2 Mark West Drive South Shore, KY 41175

#### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Transportation Cabinet			PS Form 3800, August 2006 See Reverse for Instructions
Division Right of Way, District 9			
P.O. Box 347			

RE: SunCoke Energy South Shore, LLC Commonwealth of Kentucky Adjoining Property Owner

Dear Ms. Grimm:

Flemingsburg, KY 41041

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

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Sincerely,

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June 24, 2014

#### **VIA FIRST CLASS MAIL**

Mahala Grimm Right of Way Agent Transportation Cabinet Division Right of Way, District 9 P.O. Box 347 Flemingsburg, KY 41041

#### RE: SunCoke Energy South Shore, LLC Commonwealth of Kentucky Adjoining Property Owner

Dear Ms. Grimm:

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CSX Transportation, Inc. c/o Corporate Creations Network, Ir 101 North Seventh Street Louisville, KY 40202	nc. (as Registered Agen	70	<i>Gripson No.</i> 101 North Seventh Street <i>City, State, ZIP</i> Louisville, KY 40202	

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

The public is invited to attend and participate in this public meeting. This letter is sent in accordance with the requirements of KRS 278.700 - KRS 278.716 and the regulations promulgated pursuant thereto.

Sincerely,				
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Xler	$\nabla \checkmark$	10an	/ -	•
George L. S	eay, Yr. V	pug	$\subseteq$	-
	cuy, 51.	10		

GLS/vh



June 24, 2014

#### **VIA FIRST CLASS MAIL**

CSX Transportation, Inc. c/o Corporate Creations Network, Inc. (as Registered Agent) 101 North Seventh Street Louisville, KY 40202

#### RE: SunCoke Energy South Shore, LLC

To Whom It May Concern:

Wyatt, Tarrant and & Combs, LLP serves as counsel for SunCoke Energy South Shore, LLC ("SunCoke"). SunCoke Energy South Shore, LLC ("SunCoke") proposes to construct a heat recovery coke plant with a derivative energy generation facility on U.S. Route 23 between Johnson Lane and Kentucky Route 2538, two miles east of the city of South Shore, Greenup County, Kentucky. SunCoke has scheduled, and will conduct, a public meeting for the purpose of informing the public of the project that is being considered and to receive comments. This meeting will be held in the gymnasium of the McKell Middle School, located at 129 Bulldog Lane, in South Shore, Kentucky on the 8th day of July, 2014, from the hours of 5:30 p.m. until 6:30 p.m. SunCoke will present a project overview and then allow time for a question and answer session.

The public is invited to attend and participate in this public meeting. This letter is sent in accordance with the requirements of KRS 278.700 - KRS 278.716 and the regulations promulgated pursuant thereto.

Sincerely,
A. A.
LACK Ray P
George & Seay, Jr.

GLS/vh

EXHIBIT E3
PUBLIC MEETING PRESENTATION



## SunCoke Energy South Shore Proposed Coke Plant Informational Meeting

July 8<sup>th</sup>, 2014



SunCoke Energy<sup>™</sup>

SXCP

### **Forward-Looking Statements**



Some of the information included in this presentation constitutes "forward-looking statements" as defined in Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. All statements in this presentation that express opinions, expectations, beliefs, plans, objectives, assumptions or projections with respect to anticipated future performance of SunCoke Energy, Inc. ("SunCoke") or SunCoke Energy Partners, L.P. ("Partnership"), in contrast with statements of historical facts, are forward-looking statements. Such forward-looking statements are based on management's beliefs and assumptions and on information currently available. Forward-looking statements include information concerning possible or assumed future results of operations, business strategies, financing plans, competitive position, potential growth opportunities, potential operating performance improvements, the effects of competition and the effects of future legislation or regulations. Forward-looking statements include all statements that are not historical facts and may be identified by the use of forward-looking terminology such as the words "believe," "expect," "plan," "intend," "anticipate," "estimate," "predict," "potential," "continue," "may," "will," "should" or the negative of these terms or similar expressions.

Although management believes that its plans, intentions and expectations reflected in or suggested by the forward-looking statements made in this presentation are reasonable, no assurance can be given that these plans, intentions or expectations will be achieved when anticipated or at all. Moreover, such statements are subject to a number of assumptions, risks and uncertainties. Many of these risks are beyond the control of SunCoke and the Partnership, and may cause actual results to differ materially from those implied or expressed by the forward-looking statements. Each of SunCoke and the Partnership has included in its filings with the Securities and Exchange Commission (including, in the case of the Partnership, its Form S-1) cautionary language identifying important factors (but not necessarily all the important factors) that could cause actual results to differ materially from those expressed in any forward-looking statement. For more information concerning these factors, see the Securities and Exchange Commission filings of SunCoke and the Partnership. All forward-looking statements included in this presentation are expressly qualified in their entirety by such cautionary statements. Although forward-looking statements are based on current beliefs and expectations, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date hereof. Neither SunCoke nor the Partnership has any intention or obligation to update publicly any forward-looking statement (or its associated cautionary language) whether as a result of new information or future events or after the date of this presentation, except as required by applicable law.

This presentation includes certain non-GAAP financial measures intended to supplement, not substitute for, comparable GAAP measures. Reconciliations of non-GAAP financial measures to GAAP financial measures are provided in the Appendix at the end of the presentation. Investors are urged to consider carefully the comparable GAAP measures and the reconciliations to those measures provided in the Appendix.

#### SunCoke Business Confidential Information

### About SunCoke

### Raw materials processing and handling

**company** serving steel and utility customers

### **Cokemaking business**

- ~6 million tons of capacity:
  - ✓ 4.2m tons in U.S.
  - 1.7m tons in Brazil
  - ~0.4m tons via India JV
- Secure, long-term take-or-pay contracts
- General Partner and 54% owner of SunCoke Energy Partners LP (SXCP)

### **Coal logistics**

 4 terminals located on Great Lakes and Ohio River system with capacity to blend and transload 30 million tons annually

### **Coal mining operations**

- ~114 million tons of reserves primarily of midvol. coal in Virginia and West Virginia
- ~1.3 million tons mined in 2013







## **Our Operations**



Our cokemaking and coal logistics operations are strategically advantaged to serve customers in the steel and power industries



SunCoke Business Confidential Information



Location: Placed in Service: Ovens: Capacity, ktpy: Power, MW:	Vansant, VA 1962 162 720 N/A	Customer ArcelorMittal	Location: Placed in Service: Ovens: Capacity, ktpy: Power, MW:	Indiana Harbor, IN 1998 268 1,220 94	Customer ArcelorMittal

The first horizontal non-recovery coke plant in North America, a portion of the flue gas is used to dry coal The first horizontal heat recovery coke plant in the US where waste heat generates steam to generate power, also includes flue gas desulfurization



Location: Placed in Service: Ovens: Capacity, ktpy: Steam, kpph:	Haverhill I, Ohio 2005 100 550 400	Customer Arcelor/Mittal	Location: Placed in Service: Ovens: Capacity, ktpy: Power, MW:	Vitoria, Brazil 2007 320 1,700 155	Customer ArcelorMittal
				#	



The first of the current generation heat recovery coke plants supplying plant steam to a nearby chemical plant The first SunCoke international plant owned mostly by AM and operated by SunCoke



Location: Haverhill II, Ohio Location: Granite City, IL Customer Placed in Service: 2009 2008 Placed in Service: Customer 100 Ovens: Ovens: 120 Capacity, ktpy: 550 Capacity, ktpy: 660 Steam, kpph: Power, MW: 50 480

Expansion of existing plant with full heat recovery to power

Heat recovery plant producing high quality steam and coke for neighboring steel mill





Most recent heat recovery plant producing power and coke for neighboring steel mill

# The Cokemaking Opportunity



### We forecast a U.S. and Canada coke shortage in excess of 1M tons by 2017



Source: CRU - The Annual Outlook for Metallurgical Coke 2013, company



### **Aging Cokemaking Facilities**

### 56% of coke capacity is at facilities >30 years old

Source: CRU - The Annual Outlook for Metallurgical Coke 2013, company estimates

estimates

## **Coke Process Overview**




# **Environmental Performance**







	SunCoke Heat Recovery	Traditional By-Product
Pressurization	Negative pressure	Positive pressure
Air Emissions	Maximum Achievable Control Technology (MACT) standard for new coke batteries	Emission of hazardous air pollutants
Power Generation	Cogenerates power (Green House Gas (GHG) benefit)	Power consuming process
Hazardous Inputs	None	Sulfuric acid
Volatile Organic Compounds	Complete combustion within process	No combustion
Solid Wastes	Minimal to none	Process produces hazardous waste streams (Resource Conservation and Recovery Act (RCRA))
Wastewater	No Waste Water Treatment Plant, non – process water discharge	Waste Water Treatment plant required which produces waste water discharge streams (Clean Water Act National Pollution Discharge Elimination System (CWA NPDES))



- No chemical by–products
  - Products include Coke, Steam and Power
- Process thermally combusts coal volatile matter, virtually non-detectable hazardous air pollutants
- Negative pressure instead of pollutants escaping the system air is pulled in
- Next generation flue gas treatment is best achievable technology with redundancy which allows for required maintenance, virtually eliminating need for venting to atmosphere



South Shore, KY Location: Ovens: 120 Capacity, ktpy: 660 Power, MW: 60 MW New Boston Str. No. 2 Str. No. 3 Str. No. 4





SunCoke Business Confidential Information





# Unload barged blended coal

Pusher Charger Machine (PCM) first pushes coke out of the oven and then charges coal to the oven





Hot waste gases are captured and cooled by heat recovery steam generators and the cooled waste gas is treated by flue gas desulfurization before discharge





A steam turbine generator (STG) converts the steam to power









Hot coke is pushed into the flat push hot car (FPHC) from the oven by the pusher charger machine and is quenched with water to cool the product down before making its way to railcars for delivery to the customer

SunCoke Business Confidential Information















- >300,000 cubic yards of dig and fill
- >40,000 cubic yards of concrete
- >100 miles of instrument and electrical cable
- >20 miles of small and large diameter pipe
- >4,000 tons of steel
- >4,000,0000 bricks used in construction



Milestone	Timing
Obtain final construction certificate(s) and other relevant permits	Late 2014
Secure customer commitments	Late 2014
Construction (Final timing dependent on customer commitments)	1 <sup>st</sup> Half 2015 – 1 <sup>st</sup> Half 2017
Begin operations	2 <sup>nd</sup> Half 2017

# Socioeconomic Impacts



# **Construction Period**

- 28 to 32 months
- Average over 500 workers with a projected peak of over 900 workers
- Expected capital outlay of \$375MM-\$440MM

# Operations

- Approximately 100 full time workers
- Approximately 15 indirect full time contract workers
- Annual salaries of over \$7MM/yr

# Other

- Up to 50% of the coal charge may be Kentucky metallurgical coals
- Estimated over \$2,000,000 in home sales impact
- Indirect jobs and wages associated with transportation, retail, and services to support operations and employees

EXHIBIT F PJM INTERCONNECTION STUDY

# SCHWAKE, DAVID J.

From:	Joseph.Hay@pjm.com
Sent:	Friday, May 16, 2014 9:05 AM
То:	SCHWAKE, DAVID J.; PLATA, KEN J.; HZiemann@hatch.ca; GRudowski@hatch.ca; bkholbrook@aep.com; mlholmes@aep.com;
	jhriley@aep.com; gamcghee@aep.com
Cc:	MILLER, KEVIN C.; NGO, GERARD R.; jking@powersecure.com; ZIEGLER, JACK E.; prant@powerservices.com;
	cbuchanan@powersecure.com
Subject:	X4-025 Millbrook Park (South Shore) 138 kV Facilities Progress Call
Attachments:	PJMDOCS-#794452-v1-X4-025_Millbrook_Park_138_kV_Facilities_Study_Telecondoc

All,

I attached a draft copy of the meeting minutes. Please review and comment by COB Tuesday 5/20. And I will send out any updates. I copied and pasted the action items in the body of this email. Please let me know the date of the site visit, and I'll schedule a follow up discussion based on that date.

#### Action Items:

- 1. SunCoke requested an AEP contact to guide them through the Easement process for the Gen Lead into Millbrook Substation. AEP
- 2. SunCoke asked if permission was needed to use PJM reports as reference documents for the permitting process. The question was prompted due to the PJM trademark in the footer of the reports.
  - a. The documents can used as references with the understanding that the reports are in no way a formal endorsement of the project.
- 3. Schedule a site visit with AEP and the Suncoke teams to evaluate the new approach into Millbrook Substation, and determine the best location for the last structure for final attachment. SunCoke/AEP
- 4. Schedule next progress call after the site visit, and preliminary design parameters have been determined. PJM

Thanks everyone for your participation.

Regards,

Joe

Joseph S. Hay Senior Engineer | Interconnection Projects | PJM W: 610-666-4265 | C: 610-635-6571 | joseph.hay@pjm.com

# PJM Generator Interconnection Request Queue #X4-025 Millbrook Park (South Shore) 138kV Impact Study

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757093 June 2013

Page 1

# X4-025 Millbrook Park (South Shore) 138kV Impact Study

# General

Sun Coke Energy (Sun Coke) proposes to install PJM Project #X4-025, an 80 MW (net) generating facility comprised of 1-90 MW (gross) steam turbine generator connecting to the American Electric Power (AEP) Millbrook Park station via a customer owned 138 kV transmission line. Sun Coke is building a multi-oven (over 100) coke facility and will use the waste heat to power the steam turbine. The proposed project will be located on US Route 23 between Johnson Lane and KY Route 2538, two miles East of South Shore, Greenup County, Kentucky. See Exhibit #1. The requested in-service date is November 1, 2014.

The intent of the Impact study is to determine system reinforcements and associated costs and construction time estimates required to facilitate the addition of the new generating plant to the transmission system. The reinforcements include the direct connection of the generator to the system and any network upgrades necessary to maintain the reliability of the transmission system.

Depending on the final configuration, AEP-Kentucky Power may require Sun Coke to submit a request for and take retail service from AEP-Kentucky Power, which will utilize the interconnection metering for the settlement of real and reactive power delivered to the generating facility during times of net consumption. Retail service settlements for the generating facility are not required during hours of net generation. If the final configuration treats the generating facilities as behind the meter, the aforementioned retail service will not be required, and the generating facility consumption will be treated as Sun Coke industrial load.

# **Attachment Facilities**

X4-025 was originally studied as 130 MW at the Feasibility stage assuming U2-080 was in service since the customer-owned line and attachment facilities from U2-080 would have been used to serve X4-025. Sun Coke has since cancelled queue project U2-080 and requested that X4-025 be reduced to 80 MW. As a result, the X4-025 Impact Study will assume the same attachment facilities and customer owned line that would have been built under U2-080 will now be built under X4-025.

X4-025 now proposes to connect directly to Millbrook Park station via a new customer owned/constructed radial 138 kV line. AEP's ownership of the 138 kV system facilities will end at (and not include) the first structure outside of the Millbrook Park station fence.

Millbrook Park station will require new 138 kV circuit breaker(s), control relay(s), a SCADA RTU, and a metering package. It will also be necessary for AEP to install up to two structures inside the Millbrook Park station fence to extend the customer line into the proper termination point. The customer owned/constructed 138 kV line is required to include fiber optic communication cable either in the form of OPGW or ADSS. The

customer must work with AEP Protection & Control when deciding on its own relaying devices to make sure they can properly work together with AEP's relaying.

Due to the compliance issues associated with Bulk Electric System (BES) facilities, AEP is required to periodically take BES 138 kV breakers out of service for regular maintenance. These requirements are applicable to the proposed breaker(s) at Millbrook Park that would serve X4-025. The required schedule involves outage of the breaker every 6 years for trip checking and every 3-12 years for inspection (depending on the breaker type) with a typical duration of 1-2 days each assuming extensive corrections are not needed. These schedules could change if compliance requirements change. Sun Coke has the option of paying for a second, normally open breaker which would allow the maintenance outage of each breaker independently without the X4-025 facility experiencing an actual outage (estimate included). If this option is not chosen, the X4-025 customer interconnection facilities will be required to take periodic mandatory outages to facilitate the required maintenance outages of the single 138 kV breaker. During these outages the X4-025 generator will be unable to deliver to the PJM market.

Sun Coke will be solely responsible for all construction, permitting, power siting, maintenance, and other aspects of their proposed 138 kV line and other facilities. Sun Coke will own the proposed 138 kV line except AEP will own the final span of conductor entering the Millbrook Park station fence as well as any structures and facilities inside the station fence. If Sun Coke needs to interact with, change, relocate, or cross AEP owned lines when routing its new line to the designated delivery point, Sun Coke will need to coordinate its needs with AEP's transmission line engineering group. Any estimates or design details in this study are <u>not</u> inclusive of any T-Line work outside of AEP's Millbrook Park station.

Sun Coke is responsible for all costs associated with this connection. Costs of the Sun Coke station for 80 MW of generation and costs for line connection from the Sun Coke station (Customer Facility and Customer Interconnection Facilities) to AEP's Millbrook Park station are not included in this report. Costs for any potential requests for relocating AEP transmission line facilities to accommodate Sun Coke's new line are also not included in this report. If this project moves forward, Sun Coke will need to work with AEP's project manager, station engineering, and transmission line engineering departments to locate the exact point of interconnection and to coordinate any potential line routing conflicts.

The AEP construction scope includes:

- Option #1 Install new 138 kV breaker with associated equipment. (\$463,600)
- <u>Option #2</u> Install two new 138 kV breakers (one N.C. and one N.O.) with associated equipment. (\$765,100)

- Either option requires a customer metering package. (\$289,200)
- Either option requires up to two transmission line structures to extend the customer's line from the station fence to the termination point in the proper 138 kV bay. (\$75,000)
- Replace the remote end relaying at Hillsboro 138kV station on the Millbrook Park circuit (either option). (\$217,600)

Total Attachment Facilities Cost: Option #1 Estimated Cost: - \$1,045,400 Option #2 Estimated Cost: - \$1,346,900

# Local AEP Impacts

The impact of the proposed generating facility on the AEP transmission system was assessed according to applicable reliability criteria. AEP planning criteria require that the transmission system meet performance parameters prescribed in the AEP FERC Form 715<sup>1</sup> and Connection Requirements for AEP Transmission System<sup>2</sup>. Therefore, these criteria were used to assess the impact of the proposed facility on the AEP System. The Sun Coke project was studied as an 80 MW net energy injection consistent with the interconnection application. The results are summarized below.

# Normal System (2017 Summer Conditions)

1. No problems identified

# Single Contingency (2017 Summer Conditions)

2. No problems identified

# Multiple Contingency (2017 Summer Conditions)

- 1. For a Millbrook Park 138 kV Bus #1 outage, the following facilities will be outaged:
  - Millbrook Park-North Portsmouth 138 kV line
  - Millbrook Park-Gavin 138 kV line
- 1

https://www.aep.com/about/codeofconduct/oasis/transmissionstudies/GuideLines/2012%20AEP%20PJM% 20FERC%20715\_Final\_Part%204.pdf

<sup>2</sup> 

https://www.acp.com/about/codeofconduct/OASIS/TransmissionStudies/Requirements/AEP\_Interconnection\_Requirements\_rev0.pdf

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- Breaker G, Millbrook Park-Argentum 138 kV line remains energized from breaker E
- Millbrook Park-East Wheelersburg 138 kV line
- Millbrook Park T#5 138/69 kV transformer

This results in an overload on the Millbrook Park-North Haverhill-Argentum 69 kV circuit ranging from 101%-118%.

 Millbrook Park-North Portsmouth 138 kV line & Millbrook Park T#5 138/69 kV transformer - This results in loading above 99% on the Millbrook Park-North Haverhill-Argentum 69 kV circuit.

Several other N-2 contingencies also exist which cause overload or near overload on the the Millbrook Park-North Haverhill-Argentum 69 kV circuit. Since these scenarios are more severe than the requirements of the PJM or AEP planning criteria, the customer will not be responsible for funding upgrades to mitigate these specific overloads. However, post-contingency load shedding and/or generation curtailment are options that may be employed by Operations to address these situations.

### Short Circuit Analysis

See short circuit under Network Impacts below.

# Stability Analysis

No problems identified.

### Local Upgrades

See Network Upgrades below.

# Network Impacts

The Queue Project #X4-025 was studied as an 80.0MW (Capacity 80.0 MW) injection at the Millbrook Park 138 kV substation in the AEP area. Project #X4-025 was evaluated for compliance with reliability criteria for summer peak conditions in 2015. Potential network impacts were as follows:

# **Generator Deliverability**

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

No problems were identified.

# **Multiple Facility Contingency**

(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study) No problems were identified.

### Short Circuit

- 1. Millbrook Park 138 kV circuit breaker H interrupting duty percentage increases from 85.4% to 106.8%.
- 2. Millbrook Park 138 kV circuit breaker O interrupting duty percentage increases from 97.3% to 114.2%.
- 3. Millbrook Park 138 kV circuit breaker M interrupting duty percentage increases from 76.0% to 91.5%.

# **Stability Analysis**

Generation Interconnection Request X4-025 is for an 90 MW facility consisting of 1 x 90 MW coal fired steam turbine with a POI at Millbrook Park 138 kV Substation in the American Electric Power network.

X4-025 is now at the system impact study phase of PJM's Generation and Transmission Interconnection Process. This report describes a dynamic simulation analysis of X4-025 as part of the overall system impact study.

The load flow scenario for the analysis was the RTEP 2015 summer light load case, with the addition of the X4-025 models at maximum power output and leading power factor. A total of 63 contingencies was studied, each with a 10 second simulation time period. Studied faults included:

- a) Steady state operation,
- b) Three phase faults with normal clearing time,
- c) Single phase faults with single phase stuck breaker,
- d) Single phase faults with delayed clearing at remote end due to primary relaying failure.

X4-025 was modeled as per the Impact Study data supplied by the developer. For the intact system the fault simulations met the fault recovery criteria:

- a) X4-025 was found to ride through the faults (except for faults where protective action tripped X4-025),
- b) the system with X4-025 included was found to be transiently stable,
- c) a new steady state was reached,
- d) voltages at the POI and nearby buses returned to an acceptable range,
- e) with system stability being maintained.

No reinforcements were found to be required. However, the power system stabilizer on Solid Unit A was disabled for this study, in order to eliminate a slightly negatively damped oscillation which was present prior to the addition of the X4-025 model.

# **Light Load Analysis**

Not required.

# **Contribution to Previously Identified Overloads**

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None.

# New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project generation)

- Replace Millbrook Park 138kV circuit breaker H (Network Upgrade #n1629) with a circuit breaker rated at 40kA and replace the applicable breaker controls and line relaying. Install a drop in control module. (\$792,500)\*
- Replace Millbrook Park 138kV circuit breaker O (Network Upgrade #n1628) with a circuit breaker rated at 40kA and replace the applicable breaker controls and line relaying. Install a drop in control module. (\$792,500)\*

**Total Upgrade Facilities Cost:** 

\$1,585,000\*

N TOTAL \$2,931,000

\* AEP is investigating making the circuit breaker replacements and associated upgrades part of a Transmission-Owner sponsored project. If pursued by AEP, the customer would not be responsible for these costs. Otherwise these costs will be the customer's responsibility. LATEST PJM/MEP (ALLTWORTHER)BROAKESJ WRL

# Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study) ALT (ALL INDERMON BRUAKERS IN RL BE COMPLETT AND all OF SCOPE. MAY RETURME SOME RETURME

None

# **MISO Impacts**

PJM will determine if there are any impacts on MISO facilities in the Facilities study

# **Duke Integration**

Evaluation of the impacts of the X4-025 project on the Duke transmission facilities recently integrated into PJM will be completed in the Facilities Study.

PJM Generator Interconnection Request Queue #U2-080 South Portsmouth 138kV Facilities Study

CANCELED

# NOT COMPLETE REPORT

Docs# 703894

June 2012

# U2-080 South Portsmouth 138kV Facilities Study Report

# <u>General</u>

Sun Coke Energy (Sun Coke) proposes to install PJM Project #U2-080, a 134 MW generating facility comprised of 2 - 67 MW steam turbine generators connecting to the American Electric Power (AEP) Millbrook Park station via a customer owned 138 kV transmission line. Sun Coke is building a 200 oven coke facility and will use the waste heat to power the steam turbines. The proposed project will be located on US Route 23 between Johnson Lane and Kentucky Route 2538, two miles East of South Shore, Greenup County, Kentucky. See Exhibit #1. The requested in-service date is November 1, 2014.

The intent of the Facility study is to determine system reinforcements and associated costs and construction time estimates required to facilitate the addition of the new generating plant to the transmission system. The reinforcements include the direct connection of the generator to the system and any network upgrades necessary to maintain the reliability of the transmission system.

Depending on the final configuration, AEP-Kentucky Power may require Sun Coke to submit a request for and take retail service from AEP-Kentucky Power, which will utilize the interconnection metering for the settlement of real and reactive power delivered to the generating facility during times of net consumption. Retail service settlements for the generating facility are not required during hours of net generation. If the final configuration treats the generating facilities as behind the meter, the aforementioned retail service will not be required, and the generating facility consumption will be treated as Sun Coke industrial load.

# **Attachment Facilities**

Sun Coke, AEP, & PJM mutually agreed to alter the U2-080 Facility study scope request from the original scope request included in the Feasibility and Impact studies. U2-080 now proposes to connect directly to Millbrook Park station via a new customer owned/constructed radial 138 kV line. AEP's ownership of the 138 kV system facilities will end at (and not include) the first structure outside of the Millbrook Park station fence.

Millbrook Park station will require new 138 kV circuit breaker(s), control relay(s), a SCADA RTU, and a metering package. It will also be necessary for AEP to install up to two structures inside the Millbrook Park station fence to extend the customer line into the proper termination point. The customer owned/constructed 138 kV line is required to include fiber optic communication cable either in the form of OPGW or ADSS. The customer must work with AEP Protection & Control when deciding on its own relaying devices to make sure they can properly work together with AEP's relaying.

Due to the compliance issues associated with Bulk Electric System (BES) facilities, AEP is required to periodically take BES 138 kV breakers out of service for regular maintenance. These requirements are applicable to the proposed breaker at Millbrook Park that would serve U2-080.

The required schedule involves outage of the breaker every 6 years for trip checking and every 3-12 years for inspection (depending on breaker) with a typical duration of 1-2 days each assuming extensive corrections are not needed. These schedules could change if compliance requirements change. Sun Coke has the option of paying for a second, normally open breaker which would allow the maintenance outage of each breaker independently without the U2-080 facility experiencing an actual outage. If this option is not chosen, the U2-080 customer interconnection facilities will be required to take periodic mandatory outages to facilitate the required maintenance outages of the single 138 kV breaker. During these outages the U2-080 generator will be unable to deliver to the PJM market.

Sun Coke will be solely responsible for all construction, permitting, power siting, maintenance, and other aspects of their proposed 138 kV line and other facilities. Sun Coke will own the proposed 138 kV line except AEP will own the final span of conductor entering the Millbrook Park station fence as well as any structures and facilities inside the station fence. If Sun Coke needs to interact with, change, relocate, or cross AEP owned lines when routing its new line to the designated delivery point, Sun Coke will need to coordinate its needs with AEP's transmission line engineering group. Any estimates or design details in this study are not inclusive of any T-Line work outside of AEP's Millbrook Park station.

Sun Coke is responsible for all costs associated with this connection. Costs of the Sun Coke station for 134 MW of generation and costs for line connection from the Sun Coke station (Customer Facility and Customer Interconnection Facilities) to AEP's Millbrook Park station are not included in this report. Costs for any potential requests for relocating AEP transmission line facilities to accommodate Sun Coke's new line are also not included in this report. If this project moves forward, Sun Coke will need to work with AEP's project manager, station engineering, and transmission line engineering departments to locate the exact point of interconnection and to coordinate any potential line routing conflicts.

The AEP construction scope includes:

- <u>Option #1</u> Install new 138 kV breaker with associated equipment. (\$463,600)
- Option #2 Install two new 138 kV breakers (one N.C. and one N.O.) with associated equipment. (\$765,100)
- Either option requires a customer metering package. (\$289,200)
- Either option requires up to two transmission line structures to extend the customer's line from the station fence to the termination point in the proper 138 kV bay. (\$75,000)

Total Attachment Facilities Cost: Option #1 Estimated Cost: - \$827,800 Option #2 Estimated Cost: - \$1,129,300

# Local AEP Impacts

The impact of the proposed generating facility on the AEP transmission system was assessed according to applicable reliability criteria and AEP planning criteria. The transmission system must meet single contingency performance in accordance with AEP FERC Form 715 criteria. The Sun Coke project was studied as a 134 MW net energy injection consistent with the interconnection application. The results are summarized below.

### Normal System (2015 Summer Conditions)

• No problems identified

### Single Contingency (2015 Summer Conditions)

- 1. Millbrook Park T#5 138/69 kV transformer outage -
  - North Portsmouth 138/69 kV transformer is loaded well over 90% of emergency rating. This does not result in required upgrades chargeable to the customer.
  - 69 kV line from Franklin Furnace to Wheelersburg has a small overload. Since this condition is pre-existing, the customer will not be responsible for funding upgrades to mitigate these specific overloads, however load shedding and/or generation curtailment are options that may be employed by Operations to address the situation.
- 2. For a Millbrook Park 138 kV Bus #1 outage, the following facilities will be outaged:
  - Millbrook Park-North Portsmouth 138 kV line
  - Millbrook Park-Gavin 138 kV line
  - Breaker G, Millbrook Park-Argentum 138 kV line remains energized from breaker E
  - Millbrook Park-East Wheelersburg 138 kV line
  - Millbrook Park T#5 138/69 kV transformer

This results in an overload on the Millbrook Park-North Haverhill-Argentum 69 kV circuit ranging from 114%-129%. Since this scenario is not considered under PJM or AEP planning criteria, the customer will not be responsible for funding upgrades to mitigate these specific overloads, however load shedding and/or generation curtailment are options that may be employed by Operations to address the situation.

### Multiple Contingency (2015 Summer Conditions)

 Millbrook Park-North Portsmouth 138 kV & Millbrook Park T#5 138/69 kV transformer - This results in an overload on the Millbrook Park-North Haverhill-Argentum 69 kV circuit ranging from 112%-127%. Several other N-2 contingencies also exist causing this circuit to overload. Since these scenarios are not considered under PJM or AEP planning criteria, the customer will not be responsible for funding upgrades to mitigate these specific overloads, however load shedding and/or generation curtailment are options that may be employed by Operations to address the situation.

 Millbrook Park-Hillsboro 138 kV & Millbrook Park T#5 138/69 kV transformer – This results in an overload of the North Portsmouth 138/69 kV transformer of 101%. Since this scenario is not considered under PJM or AEP planning criteria, the customer will not be responsible for funding upgrades to mitigate these specific overloads, however load shedding and/or generation curtailment are options that may be employed by Operations to address the situation.

#### Short Circuit Analysis

- 1. Millbrook Park 138 kV circuit breaker H interrupting duty percentage increases from 84.9% to 104.7%.
- 2. Millbrook Park 138 kV circuit breaker O interrupting duty percentage increases from 96.3% to 112.3%.
- 3. Millbrook Park 138 kV circuit breaker M interrupting duty percentage increases from 86.7% to 101.1%.

#### Stability Analysis

No problem identified.

#### Local Upgrades

- Replace Millbrook Park 138kV circuit breakers H (Network Upgrade #n1629), O (Network Upgrade #n1628), & M (Network Upgrade #n1630) with breakers rated at 40kA. Replace applicable breaker controls and line relaying. Install drop in control module. (\$1,854,000)\*
- Remote end relaying at Hillsboro station (\$217,600)\* (Network Upgrade #n3302)
- Remote end relaying at Gavin station. (\$217,600)\* (Network Upgrade #n3303)

# Total Upgrade Facilities Cost: \$2,289,200\* A ~\$3, 918,300 TOTAL

\* AEP is investigating making the circuit breaker replacements and associated upgrades part of a Transmission-Owner sponsored project. If pursued by AEP, the customer would not be responsible for these costs. Otherwise these costs would normally be the customer's responsibility.

# **MISO & EKPC Impacts**

No impacts on MISO facilities were identified.

Previously identified direct impacts on EKPC under normal conditions have been eliminated due to the scope change removing any direct connection between U2-080 and Argentum (EKPC) station.

# <u>Summary of Milestone Schedules for Completion of Work Included in</u> <u>Facilities Study</u>

### **AEP Schedule:**

- Agreements Signed 9/1/12
- Obtain Internal Approval 12/15/12
- Engineering / Line Design Start 1/2/13
- Order/Receive Material 3/1/13
- Construction Start 9/1/13 (Grading, Below Grade, Foundations), to be coordinated with other 69 kV work at Millbrook Park
- Construction Start 3/1/14 (Above Grade)
- Outage 3/1/14-5/30/14 & 9/1/14-10/31/14
- COD 11/1/14

Schedule is dependent on outage availability.

PJM Generator Interconnection Request Queue #U2-080 South Portsmouth 138kV Impact Study

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568720

November 2009

# U2-080 South Portsmouth 138kV Impact Study Report

# **General**

Sun Coke Energy (Sun Coke) proposes to install PJM Project #U2-080, a 134 MW generating facility comprised of 2 - 67 MW steam turbine generators connecting to the American Electric Power (AEP) Millbrook Park-South Portsmouth 138kV transmission line via a new 3-breaker ring bus. Sun Coke is building a 200 oven coke facility and will use the waste heat to power the steam turbines. The proposed project will be located on US Route 23 between Johnson Lane and KY Route 2538, two miles East of South Shore, Greenup County, Kentucky. See Exhibit #1. The projected in-service date is scheduled for July 1, 2011.

The intent of the Impact study is to determine system reinforcements and associated costs and construction time estimates required to facilitate the addition of the new generating plant to the transmission system. The reinforcements include the direct connection of the generator to the system and any network upgrades necessary to maintain the reliability of the transmission system.

# **Attachment Facilities**

U2-080 proposes to connect via a new in-line switching station located between AEP's Millbrook Park and South Portsmouth stations. AEP's ownership of the 138 kV system facilities ends at the South Portsmouth Metering Station. Beyond this point the transmission system facilities are owned by East Kentucky Power Cooperative (EKPC). Ultimately, the 138 kV system feeds the East Kentucky Power Cooperative's (EKPC) Argentum 138/69 kV station. The 69 kV lines emanating from Argentum eventually tie back into AEP's 69 kV system in the area.

The new in-line switching station will be located between AEP's Millbrook Park and EKPC's Argentum station in Kentucky. The station design includes three (3) 138 kV circuit breakers configured in a breaker and one half bus arrangement operated as a ring bus (see Exhibit 2). The station also includes 138 kV metering, SCADA, and associated equipment. SunCoke is expected to obtain, at their cost, a 200' x 200' (minimum) station site for the AEP facilities. SunCoke shall obtain all necessary permits. Ownership of the in-line facilities shall be transferred from SunCoke to AEP upon successful completion of the work.

A double circuit 138 kV line extension from the existing Millbrook Park – Argentum line is required to loop through the proposed station. For the cost estimate, the AEP switching station is assumed to be located 0.8 miles<sup>1</sup> away from the existing transmission line. A supplemental line easement for the tap poles will be required. It is expected that SunCoke will obtain the supplemental easement when the station property is purchased.

<sup>&</sup>lt;sup>1</sup> Length of proposed line is approximate and subject to change since the exact location of U2-080 project is not known.

The relay package at Millbrook Park on the existing Millbrook Park – Argentum line will be replaced.

The AEP construction scope includes:

 Constructing a new switching station connecting to the Millbrook Park – South Portsmouth 138 kV line, including three (3) 138 kV circuit breakers, relays, 138 kV metering, SCADA, and associated equipment. (Network Upgrade #n1671)

Estimated Cost: \$5,000,000

• Extend the 138kV line to loop in and out of the new interconnection station. (Network Upgrade #n1672)

Estimated Cost: \$1,435,000

Replacing relaying with AEP standard package at Millbrook Park station. (Network Upgrade #n1673)

Estimated Cost: \$200,000

Total Attachment Facilities Cost: \$6,635,000

SunCoke is responsible for all costs associated with this connection. Costs of the SunCoke collection station for 134 MW of generation and costs for line connection from the collection station to the AEP switching station are not included in this report.

# Local AEP Impacts

The impact of the proposed generating facility on the AEP transmission system was assessed according to applicable reliability criteria and AEP planning criteria. The transmission system must meet single contingency performance in accordance with AEP FERC Form 715 criteria. The SunCoke project was studied as a 134 MW net energy injection consistent with the interconnection application. The results are summarized below.

Normal System (2012 Summer Conditions)

• No problems identified

### Single Contingency (2012 Summer Conditions)

Due to the present arrangement of the Millbrook Park-South Portsmouth-Argentum 138 kV system, an outage of the 138 kV line between Millbrook Park and U2-080 forces the full

generation output through the Argentum 138/69 kV station and onto the underlying 69 kV system. The single contingency conditions noted below result from this outage scenario.

- AEP Franklin Furnace Gray's Branch<sup>2</sup> 69 kV line is overloaded to 183% (86.0 MVA) of its emergency rating for an outage of the AEP Millbrook Park U2-080 138 kV line. Without the addition of U2-080 Project, the same facilities are loaded to 34% (15.8 MVA) of emergency rating.
- AEP Franklin Furnace K.O.T. Coal<sup>2</sup> 69 kV line is overloaded to 142% (56.7 MVA) of its emergency rating for an outage of the AEP Millbrook Park U2-080 138 kV line. Without the addition of U2-080 Project, the same facilities are loaded to 57% (22.6 MVA) of emergency rating.
- AEP Wheelersburg K.O.T. Coal<sup>2</sup> 69 kV line is overloaded to 138% (55.4 MVA) of its emergency rating for an outage of the AEP Millbrook Park – U2-080 138 kV line. Without the addition of U2-080 Project, the same facilities are loaded to 54% (21.5 MVA) of emergency rating.
- 4. AEP Wheelersburg Sciotoville<sup>2</sup> 69 kV line is overloaded to 120% (50.4 MVA) of its emergency rating for an outage of the AEP Millbrook Park U2-080 138 kV line. Without the addition of U2-080 Project, the same facilities are loaded to 40% (16.6 MVA) of emergency rating.
- AEP Gray's Branch Argentum<sup>2</sup> 69 kV line is overloaded to 198% (91.1 MVA) of its emergency rating for an outage of the AEP Millbrook Park U2-080 138 kV line. Without the addition of U2-080 Project, the same facilities are loaded to 27% (12.3 MVA) of emergency rating.

\*\* Please note that Eastern Kentucky Power Company's (EKPC's) Argentum 138/69 kV transformer was overloaded. This issue will be addressed with EKPC in the Impact Study.

### Multiple Contingency (2012 Summer Conditions)

• No problems identified

### Short Circuit Analysis

- 6. Millbrook Park 138 kV circuit breaker H interrupting duty percentage increases from 84.9% to 104.7%.
- 7. Millbrook Park 138 kV circuit breaker O interrupting duty percentage increases from 96.3% to 112.3%.

<sup>&</sup>lt;sup>2</sup> The affected facility may appear in additional contingencies that are not mentioned.

- 8. Millbrook Park 138 kV circuit breaker M interrupting duty percentage increases from 86.7% to 101.1%.
- 9. Central Portsmouth 34.5 kV circuit breaker B interrupting duty percentage increases from 99.0% to 102%.

### **Stability Analysis**

For an outage of Millbrook Park – U2-080 138 kV line, the proposed generation at U2-080 remains connected through Argentum 69 kV transformer in the post-contingency topology and an unstable result would be expected.

### Local Upgrades

To avoid extensive 69 kV upgrades to the AEP system due to an outage of the Millbrook Park – U2-080 line, AEP is proposing the construction of an additional 0.75 miles<sup>3</sup> of 138 kV line from the new interconnection station to Millbrook Park station (\$1,365,000). Interstate metering, a new breaker at Millbrook Park station (\$800,000), an additional breaker at the new interconnection station (\$750,000), and an Ohio River crossing permit will be required for this new line. This solution will alleviate the 69 kV overloads and satisfy the stability concern. (Network Upgrade #n1671)

Estimated Cost: \$2,915,000

 Replace Millbrook Park 138kV circuit breaker O with one rated 40kA. The replacement is expected to take 9-12 months. (Network Upgrade #n1628)

Estimated Cost: \$433,000

 Replace Millbrook Park 138kV circuit breaker H with one rated 40kA. The replacement is expected to take 9-12 months. (Network Upgrade #n1629)

Estimated Cost: \$433,000

Replace Millbrook Park 138kV circuit breaker M with one rated 40kA. The replacement is expected to take 9-12 months. (Network Upgrade #n1630)

Estimated Cost: \$434,000

 Replace Central Portsmouth 138kV circuit breaker B with one rated 40kA. The replacement is expected to take 9-12 months. (Network Upgrade #n1631)

<sup>&</sup>lt;sup>3</sup> Length of proposed line is approximate and subject to change since the exact location of U2-080 project is not known.

Estimated Cost: \$300,000

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Final estimates will require an on-site review and coordination with SunCoke to determine final construction requirements. Estimates are based on 2009 dollars.

# Network Impacts

The queue project U2-080 was studied as a 134 MW (capacity) injection into the AEP system at the Millbrook - South Portsmouth 138kV lines. U2-080 was evaluated for compliance with reliability criteria for summer peak conditions in 2012. Potential network impacts were as follows:

### **Generator Deliverability**

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None

### Multiple Facility Contingency

(Double Circuit Tower Line, Line with Failed Breaker and Bus Fault contingencies for the full energy output)

None

# Short Circuit

(Summary form of Cost allocation for breakers will be inserted here if any)

No problems identified.

# **Contribution to Previously Identified Overloads**

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

# **New System Reinforcements**

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

None

# **Contribution to Previously Identified System Reinforcements**

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

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(Summary form of Cost allocation for transmission lines and transformers will be inserted here if any)

None

# **MISO & EKPC Impacts**

No impacts on MISO facilities were identified.

During AEP's evaluation of the 138kV and 69kV system in the area of the interconnection on overload on the Eastern Kentucky Power Company (EKPC) Argentum 138kV/69kV transformer was identified. During the Facilities Study portion of the interconnection process EKPC will determine if the overload exists and provide Sun Coke Energy with a cost estimate for mitigation of this and any other overload on the EKPC system caused by the interconnection of the subject project.

Sun Coke Energy will be responsible for mitigating any overloads to EKPC's satisfaction before PJM will allow the generation to be interconnected.
# EXHIBIT G

## KENTUCKY ECONOMIC DEVELOPMENT FINANCE AUTHORITY APPLICATION FOR INCENTIVES FOR ENERGY INDEPENDENCE ACT TAX INCENTIVE PROGRAM

## 16. Planned Facility Capacity

DJS 3/5/2013

Anticipated Maximum Facility Capacity before and after Construction, Retrofit, or Upgrade:

		Before	After
Product	Coke Tons :		693,000
Product	Breeze Coke Tons		20,000
Product		-	487,000
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17. Estimated Facility Output

#### **Estimated Annual Facility Output**

	Estimat
1:Coke (tons)	_ Pi
693,000	1
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Year 1	20,000
Year 2	20,000
Year 3	20,000
Year 4	20,000
Year 5	20,000
Year 6	20,000
Year 7	20.000
Year 8	20,000
Year 9	20,000
Year 10	20,000
Year 11	20,000
Year 12	20,000
Year 13	20,000
Year 14	20,000
Year 15	20,000
Year 16	20,000
Year 17	20,000
Year 18	20,000
Year 19	20,000
Year 20	20,000
Year 21	20,000
Year 22	20,000
Year 23	20,000
Year 24	20,000
Year 25	20,000
Total	50,000

Product	3: Power (MWH)	
Year 1	487,000	
Year 2	487,000	
Year 3	487,000	
Year 4	487,000	
Year 5	487,000	
Year 6	487,000	
Year 7	487,000	
Year 8	487,000	
Year 9	487,000	
Year 10	487,000	
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Year 19	487,000	
Year 20	487,000	
Year 21	487,000	
Year 22	487,000	
Year 23	487,000	
Year 24	487,000	
Year 25	487,000	
Total	12,175,000	

\*Please Note: Attach additional sheets if necessary to show all products produced.

#### 19. Proposed Feedstocks

Describe types of feedstocks to be used in the production of Alternative Fuel/Gasification or Renewable Energy and projected sources.

DJS, 3/5/2013

The feedstock for the coke-making process is metallurgical coal. Metallurgical coals has distinct

properties including generally low sulfur content around 1% and may be sourced from West Virginia,

Kentucky, Virginia, Pennsylvania, Alabama and Canada. It is estimated up to 50% of metallurgical

coal may be sourced from Kentucky.

Feedstocl	Coal (tons	) Feedstock 2:	Feedstock 3:
Year 1	993,000	Year 1	Year 1
Year 2	993,000	Year 2	Very 2
Year 3	993,000	Year 3	Year 3
Year 4	993,000	Year 4	Year 4
Year 5	993,000	Year 5	Year 5
Year 6	993,000	Year 6	Year 6
Year 7	993,000	Year 7	Year 7
Year 8	993,000	Year 8	Year 8
Year 9	993,000	Year 9	Year 9
Year 10	993,000	Year 10	Year 10
Year 11	993,000	Year 11	Year 11
Year 12	993,000	Year 12	
Year 13	993,000	Year 13	Year 13
Year 14	993,000	Year 14	Year 14
Year 15	993,000	Year 15	Year 15
Year 16	993,000	Year 16	Year 16
Year 17	993,000	Year 17	Year 17
Year 18	993,000	Year 18	Year 18
Year 19	993,000	Year 19	Year 19
Year 20	993,000	Year 20	Year 20
Year 21	993,000	Year 21	Year 21
Year 22	993,000	Year 22	Year 22
Year 23	993,000	Year 23	Year 23
Year 24	993,000	Year 24	Year 24
Year 25	993,000	Year 25	Year 25
Total	24,825,000	Total	Total

#### Estimated Annual Volume of Feedstocks Used

\*Please Note: Attach additional sheets if necessary to show all feedstocks to be used.

**IEIA Income Tax Incentives** 

Estimate Kentucky taxable income to be generated by the project. For retrofit or upgrade projects, estimate only that portion of taxable income associated with the project, <u>not</u> the existing operations.

31,5/2013

DJS

Year	Income (Loss)
1	\$ 36,000,000 (FY2017)
2	\$ 36,000,000
3	\$ 36,000,000
4	\$ 36,000,000
5	\$ 36,000,000
6	\$ 36,000,000
7	\$ 73,000,000
8	\$ 73,000,000
9	\$ 73,000,000
10	\$ 73,000,000
11	\$ 73,000,000
12	\$ 73,000,000
13	\$ 73,000,000
14	\$ 73,000,000
15	\$ 77,000,000

Year	Income (Loss)
16	\$79,000,000
17	\$79,000,000
18	\$79,000,000
19	\$79,000,000
20	\$79,000,000
21	<sup>\$</sup> 79,000,000
22	\$79,000,000
23	\$79,000,000
24	\$79,000,000
25	<sup>\$</sup> 79,000,000
Total	<sup>\$</sup> 1,667,000,000

DJ33/5/2013

List federal & state income tax liability for the previous three years:

Year	Federal	
2009	\$ 0.00	\$ 0.00
2010	\$ 0.00	\$ 0.00
2011	\$0.00	\$0.00

Estimate the Gross Sales<sup>1</sup> and Gross Profits<sup>2</sup> attributable to the project. For retrofit or upgrade projects, estimate only that portion of sales and gross profits attributable to the project, <u>not</u> the existing operations.

033 3/5/2013

Year	Gross Sales	Gross Profits
1	\$ 266,000,000 (FY2017)	\$ 84,000,000 (FY2017)
2	\$ 266,000,000	\$ 84,000,000
3	\$ 266,000,000	\$ 84,000,000
4	\$ 266,000,000	\$ 84,000,000
5	\$ 266,000,000	\$ 84,000,000
6	\$ 266,000,000	\$ 84,000,000
7	\$ 266,000,000	\$ 84,000,000
8	\$ 266,000,000	\$ 84,000,000
9	\$ 266,000,000	\$ 84,000,000
10	\$ 266,000,000	\$ 84,000,000
11	\$ 266,000,000	\$ 84,000,000
12	\$ 266,000,000	\$ 84,000,000
13	\$ 266,000,000	\$ 84,000,000
14	\$ 266,000,000	\$ 84,000,000
15	\$ 266,000,000	\$ 84,000,000

<sup>1</sup> Gross Sales = Total Sales - (Discounts + Returns + Allowances)

<sup>2</sup> Gross Profits = Gross Sales - Cost of Goods Sold.

DB 3/5/2013

Year	Gross Sales
16	\$ 266,000,000
17	\$ 266,000,000
18	\$ 266,000,000
19	\$ 266,000,000
20	\$ 266,000,000
21	\$ 266,000,000
22	\$ 266,000,000
23	\$ 266,000,000
24	<b>\$</b> 266,000,000
25	\$ 266,000,000
Totals	\$ 6,650,000,000

Gross Profits

\$
84,000,000

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<sup>1</sup> Gross Sales = Total Sales - (Discounts + Returns + Allowances)

<sup>1</sup> Gross Profits = Gross Sales - Cost of Goods Sold.

**IEIA Severance Tax Incentives** 

Estimate Kentucky severance tax to be generated by the project. For retrofit or upgrade projects, estimate only that portion of severance tax associated with the project, <u>not</u> the existing operations.

DIS 315/2013

Year	Severance Tax
1	\$ 2,700,000 (FY2017)
2	\$ 2,700,000
3	\$ 2,700,000
4	\$ 2,700,000
5	\$ 2,700,000
6	\$ 2,700,000
7	\$ 2,700,000
8	\$ 2,700,000
9	\$ 2,700,000
10	\$ 2,700,000
11	\$ 2,700,000
12	\$ 2,700,000
13	\$ 2,700,000
14	\$ 2,700,000
15	\$ 2,700,000

DJ 3/5/2013

Year	Severance Tax
16	\$ 2,700,000
17	\$ 2,700,000
18	\$ 2,700,000
19	\$ 2,700,000
20	\$ 2,700,000
21	\$ 2,700,000
22	\$ 2,700,000
23	\$ 2,700,000
24	\$ 2,700,000
25	\$ 2,700,000
Total	\$ 67,500,000

# KENTUCKY ECONOMIC DEVELOPMENT FINANCE AUTHORITY (KEDFA)

# **APPLICATION**

# FOR

# INCENTIVES FOR ENERGY INDEPENDENCE ACT (IEIA) TAX INCENTIVE PROGRAM

June 2011

# **Instruction Sheet**

All applicants should familiarize themselves with the information regarding the Incentives for Energy Independence Act (IEIA) program contained on this page as well as other applicable program statutory requirements. The items/attachments identified below are required as a part of the application.

<u>Important Notes</u>: A NEW business locating in Kentucky or an EXISTING business in Kentucky that is retrofitting or upgrading, you must notify the Department for Business Development of your intent to file this application. A project manager will be assigned to assist you in any matters concerning the Kentucky Cabinet for Economic Development. <u>No application will receive</u> <u>consideration without the signature of an agent of the Cabinet.</u>

> Office of the Commissioner Department for Business Development Old State Capitol Annex 300 West Broadway Frankfort, Kentucky 40601 (502) 564-7140

- 1. KEDFA does not provide direct funding for project financing with its IEIA program except for advanced disbursement permitted by KRS Chapter 154.27. The program allows participants to recover fixed asset costs related to the project through tax incentives (including coal severance and sales taxes if applicable) and job development assessment fees.
- 2. The IEIA application, on original forms obtained from the assigned agent, shall be submitted to the appropriate office identified under "Important Notes". The application must be received by KEDFA staff prior to the last Friday of the month to be considered at the following month's KEDFA meeting.
- 3. To qualify under the IEIA programs, an Alternative Fuel/Gasification Facility that uses oil shale, tar sands, or coal as the primary feedstock shall involve a minimum capital investment of \$100,000,000; an Alternative Fuel/Gasification Facility that uses biomass resources as the primary feedstock or an energy-efficient fuel facility that produces a homogenous fuel from processes designed to densify feedstock coal or waste coal shall have a minimum capital investment of \$25,000,000; a Renewable Energy Facility or an alternative fuel facility that uses natural gas or natural gas liquids as a feedstock shall involve a minimum capital investment of \$1,000,000; and a Carbon Dioxide Transmission Pipeline shall have a minimum capital investment in Kentucky of at least \$50,000,000.
- 4. The following fees will be due when the Tax Incentive Agreement is executed:
  - A. Authority Administrative Fee The Authority requires an administrative fee equal to one quarter of one percent (.25%) of the IEIA incentive authorized, up to a maximum of fifty thousand dollars (\$50,000). This is a one time fee payable upon execution of the IEIA Tax Incentive Agreement.
  - B. Legal Fees Legal fees associated with the expense incurred by the Authority's counsel for preparation of the Tax Incentive Agreement are payable by the approved company upon execution of the Tax Incentive Agreement.

The following items/attachments shall be submitted in addition to the completed application in accordance with statute and administrative regulation:

- A \$1,000 non-refundable application fee payable to the Kentucky Economic Development Finance Authority ("KEDFA").
- A brief history of the business and description of the project.

- □ The authority may request a letter of support from the local government describing any local economic development funding or incentive as well as giving general support for the proposed project.
- A financial statement from the applicant for the most recent fiscal year end, or if the applicant is a newly formed entity, a financial statement from all appropriate partners, parent entities or other related entities as applicable.
- A letter from the applicant stating:

□ For a new project: a statement that the economic development project could reasonably and efficiently locate outside of the Commonwealth and, without the inducements offered by the authority, the eligible company would likely locate outside the state.

□ For a retrofit or upgrade project: a statement that the tax incentives are necessary for the retrofit or upgrade project to occur.

- □ Identification of the applicant's affiliates as required by KRS 154.27-030 shall include the entity name, state of incorporation or organization, federal tax identification number or social security number for individual partners, agent for service of process, street address and telephone number, and if there are more than two (2) affiliates, shall include a diagram of the ownership structure of the affiliated companies.
- A description of carbon capture readiness of the facility if the facility is an Alternative Fuel or Gasification Facility.
- A description of the Project Scope, including the status of all required permits, certificates on approvals.
- An itemized list of the components of the capital investment, including specific estimated cost by line item, identification of items expected to qualify for sales tax exemption and projected date of completion or purchase.
- ☐ A plan for and description of how company will employ Kentucky residents at the facility after completion of the project and how the company will ensure that workers during construction phase are Kentucky residents including projected numbers. The plan for employment of Kentucky residents during construction must include explanation of methods to be employed and describe specific actions that will be taken by the applicant to ensure that Kentucky residents will have opportunities for employment.
- A business plan for the facility, including full analysis of product, market potential, funding sources, legal structure and management team.
- □ If this is a Carbon Dioxide Transmission Pipeline project, a map delineating the path of the pipeline.
- A completed Attachment "A" Cabinet for Economic Development Incentive Disclosure Statement.

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E 1.	APPLICATION FOR INCENTIVES FOR NERGY INDEPENDENCE ACT (IEIA) TAX INCENTIVE PROGRAM	Department	• Office Use Only t for New Business De t for Existing Business rded to Office of Energ rded to Department of	Development y Policy
1.	Applicant Information (entity applying for tax inc Company Name SunCoke Energy South Shore LLC	entives).		
	Street or P. O. BoxCity1011 Warrenville Rd. Suite 600Lisle	County	State Illinois	Zip Code 60532
	Federal Employer ID Number Kentucky Employer 26-4277070 T	ID Number NAIC BD	CS Code 324199	
	Contact PersonTelephoneNelson Garcez(630)	ı )824-1929	Fax (	630)824-1002
	E Mail Address NGARCEZ@suncoke.com	Company Web A		uncoke.com
2.	Is this an expansion of an existing facility or a new	location? 🗌 Expans	ion 🔳 New Loca	tion 🗌 Start-Up
3.	Type of Facility:Alternative Fuel using CoalGasification Facility using CAlternative Fuel using BiomaGasification Facility using BRenewable Energy FacilityCarbon Dioxide Transmission	ass Resources iomass Resources Type:		
	Seeking Advanced Disbursement? III Y IN			
4.	Project Location, if different from above:			
	Street City Cou US23 (bt Johnson Ln and KY2538) Southshor	1770 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 -	nte Zip ( KY	Code 41175
	Contact PersonTelephoneDavid Schwake(630) 824-1948	Fax (630) 824-10		ail Address e@suncoke.com
5.	Limited Liability Partnership Limited Lia Date Business Established: 08/15/1979	C-Corporation bility Company Company's Fiscal Y		
	State of Incorporation or Organization: Delaware Registered Agent Name / Address: Corporation Trust Company / Corporation Trust Center	Date Incorporated of	or Organized: 08/15/	79
	1209 Center St., Wilmington, DE 19801			
	If publicly traded, identify: Exchange: NYSE	Symbol: SXC (Pare	ent)	

6. Company Ownership:

Please identify all owners of the company with 20% or more interest in the company and provide Social Security Number and Date of Birth. If owners are legal entities, please identify the officers serving on the board of directors, management committee of the applicant or other governing body or appropriate principals with governing oversight of the applicant entity and provide their Social Security Number and Date of Birth. The Cabinet may run a background check on individuals identified. If necessary, please submit listing on a separate document.

<sup>Name</sup> N/A	City	State	SSN	Ownership Percentage
Name N/A	City	State	SSN	Ownership Percentage
Name N/A	City	State	SSN	Ownership Percentage
<sup>Name</sup> N/A	City	State	SSN	Ownership Percentage
Name N/A	City	State	SSN	Ownership Percentage

7. Has the applicant, or any owner or affiliate of the applicant ever been convicted of any criminal offenses, been in receivership or adjudicated a bankruptcy, been denied a business related license or had a business related license suspended or revoked by any administrative, governmental or regulatory agency?
 Y IN

If yes, please list violation and explain: N/A

#### 8. Person to Review Legal Documents:

Applicant Attorney SunCoke (Internal Counsel)	<b>Contact Person</b>	Dana Da	wonnort	
Suncoke (Internal Couriser)		Dana Da	wenport	
Street or P. O. Box	City	State	Zip Code	
1011 Warrenville Rd., Suite 600	Lisle		IL	60532
Telephone	Fax	E Mail Ad	dress	
(630)824-1729	(630)824-1129	dmdave	nport@sunco	ke.com

### 9. Accountant:

Accountant	<b>Contact Person</b>			
SunCoke (Internal)		Peggy Rebs	stock, Directo	or - Tax
Street or P. O. Box	City	State	Zip Code	
1011 Warrenville Rd., Suite 600	Lisle		IL	60532
Telephone	Fax	E Mail Ad	dress	
(630)824-1942	(630)824-100 <sup>-</sup>	1 psreb	stock@sunco	ke.com

10.	Has the applicant previously participated in other Kentucky incentive programs? 🗌 Y 🔳 N If yes, please indicate program, location, amount and approximate date:			
11.	Does applicant (or parent company) have any other operations in Kentucky? If yes, please list name and location of other operations:			
12.	New Location Project Information: (Complete this section if the project constitutes a new location for the applicant)			
	Project Site Acreage 254			
	Building Square Footage 27,800			
	<ul> <li>* Is the property to be acquired through:</li> <li>Title to property</li> <li>Capital Lease</li> <li>Operating Lease</li> <li>Easement</li> <li>* Pursuant to Subchapter 27 of KRS Chapter 154, an applicant must certify that this project would not locate in the Commonwealth but for the incentives being offered. Any public announcement or legal commitment (i.e. lease or contract) without appropriate contingencies will jeopardize eligibility for incentives. We encourage you to check with our staff to confirm that proper contingency language is in place before entering into legal obligations regarding location of the project or making any public announcements regarding a new facility location.</li> </ul>			
	Acquisition			
	Is there an option or contract to purchase the property?YNOptionIf yes, please explain.YNContract			
	SunCoke Energy South Shore ("SunCoke") has executed options for tracts of land along the Ohio River in Greenup County, Kentucky near South Shore.			
	The options allow SunCoke to purchase the tracts at its sole discretion during the option period and in no way commit SunCoke to the purchase.			
	The option provides sufficient land for the development of the project.			
	3	and the second se		

13. Upgrade or Retrofit Project Information:	13.	Upgrade	or Retrofit	Project	Information:	
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 (Complete this section only if the project involves the upgrade or retrofit of an existing Kentucky facility.)

 Does the project involve relocation from an existing Kentucky facility?

 If yes, is real estate available at or adjacent to the existing facility?

 Does the project involve additions or renovations to existing buildings?

 Y

 N

Present Acreage	
Increased New Acreage	
Total Acreage	

Present Square Footage
Increased Square Footage

Total Square Footage

If you own the site, indicate: Date of Purchase \_\_\_\_\_ Purchase Price\_\_\_\_\_

If you lease the site, indicate record owner of real estate:

Lessor Name:

Address:\_\_\_\_\_

Lease Terms: List terms, monthly rent and length of lease

272

**Existing lease terms:** 

Lease terms after expansion:

# 14. Project Financial Information

# **Estimated Project Costs**

#### FIXED ASSET COST

Land	254 Acres	\$ 8,500,000
Building (new construction/additio	\$ 4,000,000	
Improvements (existing buildings)		\$ n/a
Equipment (including installation	\$353,500,000	
Building Fixtures	\$	
Easement Costs (if a pipeline proje	\$	
Other (describe)	please see Supplemental Information, p	\$ 84,000,000
Total Fixed Assets		\$ 450,000,000

### FIXED ASSET FINANCING SOURCES:

Bank Loan	\$ TBD
Bond Issue	\$ TBD
Federal Grants	\$ TBD
State Grants	\$ TBD
Other Grants (describe)	\$ TBD
Equity	\$ TBD
Total Asset Financing Sources	\$ TBD

#### 14. **Investment Schedule**

1Q2014 Anticipated Project Start Date:

Anticipated Project Completion Date: \_\_\_\_\_4Q2016

#### **Estimated Annual Investment**

Year 1	83,000,000 (first 12 months of construction)
Year 2	302,000,000
Year 3	65,000,000
Year 4	
Year 5	
Total	450000000

#### 15. **Products to be Produced**

Describe the type of products produced currently and the types of products to be produced after construction, retrofit, or upgrade including the processes.

This project will produce three products for sale: 1) coke, (2) coke breeze, and (3) electrical power.

The coke and breeze will be sold to integrated steel makers for iron production in blast furnaces and/or

to foundries. It is anticipated that the power generated from the waste heat of the coke-making process

will be sold in wholesale power markets and/or bilaterally to utilities, municipalities and/or end users.

Will electricity be produced?  $\blacksquare$  Y  $\Box$  N Will it be produced for sale?  $\blacksquare$  Y  $\Box$  N

16. **Planned Facility Capacity** 

Anticipated Maximum Facility Capacity before and after Construction, Retrofit, or Upgrade:



17. **Estimated Facility Output** 

#### **Estimated Annual Facility Output**

Product 1: Coke (tons)		
Year 1	660,000	
Year 2	660,000	
Year 3	660,000	
Year 4	660,000	
Year 5	660,000	
Year 6	660,000	
Year 7	660,000	
Year 8	660,000	
Year 9	660,000	
Year 10	660,000	
Year 11	660,000	
Year 12	660,000	
Year 13	660,000	
Year 14	660,000	
Year 15	660,000	
Year 16	660,000	
Year 17	660,000	
Year 18	660,000	
Year 19	660,000	
Year 20	660,000	
Year 21	660,000	
Year 22	660,000	
Year 23	660,000	
Year 24	660,000	
Year 25	660,000	
Total	16,500,000	

Product 2: Breeze (tons)		
Year 1	33,000	
Year 2	33,000	
Year 3	33,000	
Year 4	33,000	
Year 5	33,000	
Year 6	33,000	
Year 7	33,000	
Year 8	33,000	
Year 9	33,000	
Year 10	33,000	
Year 11	33,000	
Year 12	33,000	
Year 13	33,000	
Year 14	33,000	
Year 15	33,000	
Year 16	33,000	
Year 17	33,000	
Year 18	33,000	
Year 19	33,000	
Year 20	33,000	
Year 21	33,000	
Year 22	33,000	
Year 23	33,000	
Year 24	33,000	
Year 25	33,000	
Total	825,000	

Product	3:		
Year 1	490,000		
Year 2	490,000		
Year 3	490,000		
Year 4	490,000		
Year 5	490,000		
Year 6	490,000		
Year 7	490,000		
Year 8	490,000		
Year 9	490,000		
Year 10	490,000		
Year 11	490,000		
Year 12	490,000		
Year 13	490,000		
Year 14	490,000		
Year 15	490,000		
Year 16	490,000		
Year 17	490,000		
Year 18	490,000		
Year 19	490,000		
Year 20	490,000		
Year 21	490,000		
Year 22	490,000		
Year 23	490,000		
Year 24	490,000		
Year 25	490,000		
Total	12,250,000		

\*Please Note: Attach additional sheets if necessary to show all products produced.

#### 19. Proposed Feedstocks

Describe types of feedstocks to be used in the production of Alternative Fuel/Gasification or Renewable Energy and projected sources.

The feedstock for the coke-making process is metallurgical coal. Metallurgical coals has distinct

properties including generally low sulfur content around 1% and will be sourced from West Virginia,

Kentucky, Virginia, Pennsylvania, Alabama and Canada. It is estimated up to 24% of metallurgical

**Estimated Annual Volume of Feedstocks Used** 

coal may be sourced from Kentucky.

Feedstock	Coal (tons)	Feedstock 2:
Year 1	982,000	Year 1
Year 2	982,000	Year 2
Year 3	982,000	Year 3
Year 4	982,000	Year 4
Year 5	982,000	Year 5
Year 6	982,000	Year 6
Year 7	982,000	Year 7
Year 8	982,000	Year 8
Year 9	982,000	Year 9
Year 10	982,000	Year 10
Year 11	982,000	Year 11
Year 12	982,000	Year 12
Year 13	982,000	Year 13
Year 14	982,000	Year 14
Year 15	982,000	Year 15
Year 16	982,000	Year 16
Year 17	982,000	Year 17
Year 18	982,000	Year 18
Year 19	982,000	Year 19
Year 20	982,000	Year 20
Year 21	982,000	Year 21
Year 22	982,000	Year 22
Year 23	982,000	Year 23
Year 24	982,000	Year 24
Year 25	982,000	<u>Year 25</u>
Total	24,550,000	Total

# Year 1 Year 2 Year 3 Year 4 Year 5 Year 6 Year 7 Year 8 Year 9 Year 10 Year 11 Year 12 Year 13 Year 14 Year 15 Year 16 Year 17 Year 18 Year 19 Year 20 Year 21 Year 22 Year 23 Year 24 Year 25 Total

\*Please Note: Attach additional sheets if necessary to show all feedstocks to be used.

Feedstock 3:

#### 20. Permits

Please list all required federal and state permits including type of permit, issuing agency, application date, and anticipated award date.

Type of Permit	<b>Issuing Agency</b>	<b>Application Date</b>	Anticipated Award Date	
Air Permit to Install	Kentucky DEP	February 18, 2011	TBD	
Power Siting Certificate	Kentucky Public Services Commission	TBD	TBD	
NPDES Permit	Kentucky Public Services Commission	TBD	TBD	
401 Water Quality Cert	Army Corps of Engineers	TBD	TBD	
404/Section 10 Permit	Army Corps of Engineers	TBD	TBD	
Electric Power line River Crossing				
	2			

21. Please complete this section if constructing a carbon dioxide transmission pipeline.

Date of Construction Certificate from the Kentucky State Board on Electric Generation and Siting: N/A

Please attach copy of the Construction Certificate and a list of counties involved.

# **IEIA Wage Assessments**

### Post Construction Employment, Wage and Benefit Projections:

	All Full-Time Employees*	KY Resident Full-Time Employees*
(1) Current Number of Jobs at Project Location	0	0
(2) Total New Jobs to be Created	99	75%
(3) Total Jobs Projected (1+2)	99	75%

\* Full-time employees are persons employed by the company for at least 35 hours per week

Will the applicant provide employee benefits as part of the compensation package?	Y	N
Will all full-time employees be covered in the employee benefit plan?	Y	N
Indicate employee benefits the applicant will contribute to:		

<u>× 401 K</u>	
Other Retirement	
Cafeteria Plan	
Other (Please Explain)	
	Other Retirement Cafeteria Plan

Category of Kentucky resident jobs to be created (state number of jobs in each category):

Job Category	Number of Kentucky Resident Jobs	Base Hourly Wage ( exclusive of benefits, bonuses, or any other non- guaranteed income)	Hourly Employee Benefit Equivalent
Unskilled	TBD	\$	\$
Semi-Skilled	23	\$27.05	\$11.00
Skilled	56	\$31.00	\$12.00
Technical	9	\$38.00	\$15.00
Managerial	11	\$51.00	\$21.00

Lowest Hourly Wage Paid \$\_TBD\_\_\_\_\_

Number of Employees at Lowest Wage \_\_\_\_\_\_

Will the company have any on commission employees working at the project site? If yes, please describe the compensation arrangement.

# IEIA Benefit Analysis Data

Please provide the following 25 year estimates for the project operation. If the project is a retrofit or upgrade, include estimates only for the project, <u>not</u> the existing operation or employees.

<u>Year</u>	<u>New Hire</u>	Transfer	Cumulative Employment	Annual Payroll
1	99		99	\$ 7,000,000 (wages only)
2	99		99	\$7,000,000
3	99		99	\$7,000,000
4	99		99	\$7,000,000
5	99		99	\$7,000,000
6	99		99	\$7,000,000
7	99		99	\$7,000,000
8	99		99	\$7,000,000
9	99		99	\$7,000,000
10	99		99	\$7,000,000
11	99		99	\$7,000,000
12	99		99	\$7,000,000
13	99		99	\$7,000,000
14	99		99	\$7,000,000
15	99		99	\$7,000,000
16	99		99	\$7,000,000
17	99		99	\$7,000,000
18	99		99	\$7,000,000

# POST CONSTRUCTION EMPLOYMENT

1.

19	99	 99	\$7,000,000
20	99	 99	\$7,000,000
21	99	 99	\$7,000,000
22	99	 99	\$7,000,000
23	99	 99	\$7,000,000
24	99	 99	\$7,000,000
25	99	 99	\$7,000,000
Totals	99	 99	\$175,000,000

**IEIA Income Tax Incentives** 

Estimate Kentucky taxable income to be generated by the project. For retrofit or upgrade projects, estimate only that portion of taxable income associated with the project, <u>not</u> the existing operations.

Year	Income (Loss)
1	\$ 28,500,000 (FY 2017)
2	\$ 28,500,000
3	\$ 28,000,000
4	\$ 28,000,000
5	\$ 28,000,000
6	\$ 27,500,000
7	\$ 50,000,000
8	<b>\$</b> 73,000,000
9	\$ 73,000,000
10	\$ 72,500,000
11	\$ 72,500,000
12	\$ 72,000,000
13	\$ 71,500,000
14	\$ 71,500,000
15	\$ 71,000,000

Year	Income (Loss)
16	<sup>\$</sup> 71,000,000
17	\$70,500,000
18	\$70,000,000
19	\$70,000,000
20	\$72,500,000
21	\$76,000,000
22	<sup>\$</sup> 75,500,000
23	\$75,000,000
24	\$75,000,000
25	\$71,500,000
Total	\$1,522,500,000

List federal & state income tax liability for the previous three years:

Year	Federal	Kentucky
2009	\$ 0.00	\$ 0.00
2010	\$ 0.00	\$ 0.00
2011	\$0.00	\$0.00

Estimate the Gross Sales<sup>1</sup> and Gross Profits<sup>2</sup> attributable to the project. For retrofit or upgrade projects, estimate only that portion of sales and gross profits attributable to the project, <u>not</u> the existing operations.

Year	Gross Sales	Gross Profits
1	\$ 269,000,000 (FY 2017)	\$ 80,000,000 (FY 2017)
2	\$ 269,000,000	\$ 80,000,000
3	\$ 269,000,000	\$ 80,000,000
4	\$ 269,000,000	\$ 80,000,000
5	\$ 269,000,000	\$ 80,000,000
6	\$ 269,000,000	\$ 80,000,000
7	\$ 269,000,000	\$ 80,000,000
8	\$ 269,000,000	\$ 80,000,000
9	\$ 269,000,000	\$ 80,000,000
10	\$ 269,000,000	<b>\$</b> 80,000,000
11	\$ 269,000,000	\$ 80,000,000
12	\$ 269,000,000	\$ 80,000,000
13	\$ 269,000,000	\$ 80,000,000
14	\$ 269,000,000	<b>\$</b> 80,000,000
15	<b>\$</b> 269,000,000	<b>\$</b> 80,000,000
les = To	 tal Sales - (Discounts + Returns + A	(llowances)

<sup>1</sup> Gross Sales = Total Sales - (Discounts + Returns + Allowances)

<sup>2</sup> Gross Profits = Gross Sales - Cost of Goods Sold.





<sup>1</sup> Gross Sales = Total Sales - (Discounts + Returns + Allowances)

<sup>1</sup> Gross Profits = Gross Sales - Cost of Goods Sold.

**IEIA Severance Tax Incentives** 

Estimate Kentucky severance tax to be generated by the project. For retrofit or upgrade projects, estimate only that portion of severance tax associated with the project, <u>not</u> the existing operations.

Year	Severance Tax
1	\$ 1,350,000 (FY 2017)
2	<b>\$</b> 1,350,000
3	\$ 1,350,000
4	\$ 1,350,000
5	<b>\$</b> 1,350,000
6	<b>\$</b> 1,350,000
7	\$ 1,350,000
8	<b>\$</b> 1,350,000
9	<b>\$</b> 1,350,000
10	<b>\$</b> 1,350,000
11	<b>\$</b> 1,350,000
12	\$ 1,350,000
13	\$ 1,350,000
14	\$ 1,350,000
15	\$ 1,350,000

Year	Severance Tax
16	\$ 1,350,000
17	\$ 1,350,000
18	\$ 1,350,000
19	\$ 1,350,000
20	\$ 1,350,000
21	\$ 1,350,000
22	\$ 1,350,000
23	\$ 1,350,000
24	\$ 1,350,000
25	\$ 1,350,000
Total	\$ 33,750,000

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# **IEIA Sales Tax Incentives**

Information

# **Estimated Costs**

A. Building/Construction Materials and Building Fixtures (Permanently incorporated as an improvement to real Property) and not purchased under an exemption from Kentucky Sales and Use tax.	\$ 2,700,000
B. Costs associated with the construction, installation and rehabilitation of fixtures and facilities (i.e., tools/equipment rental/consumable supplies) not purchased under an exemption from Kentucky Sales and Use tax	\$ 129,000,000
<ul> <li>C. Machinery or Equipment* not purchased under an exemption from Kentucky Sales and Use tax.</li> <li>(Attach a separate sheet describing the machinery or equipment to be purchased and its purpose)</li> </ul>	\$ Manufacturing Exempt
D. Sum of A, B, & C	\$ 131,700,000
Anticipated Kentucky sales and use tax to be paid on Building/Construction Materials, Building Fixtures and Machinery or Equipment. \$	7,902,000 6% of line D above

#### **Certification of Application**

I, the undersigned on behalf of the applicant, hereby represent and certify that the foregoing application information, including all attachments, to the best of my knowledge, is (a) true, complete and accurate with respect to the information concerning the proposed project for which financial incentives are sought; and (b) does not contain any information for which any entity competing with the applicant may claim a proprietary interest. For a new location project, I represent and certify that, but for the financial incentives being provided through this application, the proposed project would not otherwise occur in Kentucky. For an expansion of an existing Kentucky facility, I represent and certify that the IEIA tax incentives are necessary to undertake the expansion project.

The undersigned, on behalf of the applicant, acknowledges that information contained within the application and its attachments may be subject to public disclosure to the extent required by law pursuant to any request made under the Kentucky Open Records Act contained in Chapter 61 of the Kentucky Revised Statutes. Notwithstanding the above, except as otherwise agreed to by the applicant in writing, no confidential or proprietary information shall be disclosed if properly excluded for disclosure under KRS 61.878 (as determined by the Authority, the Kentucky Attorney General or court of competent jurisdiction).

In addition, the undersigned on behalf of the applicant, acknowledges and grants permission to the Authority to share any and all information contained within the application and its attachments with appropriate state agencies and contracted consultants to determine the feasibility and potential impacts associated with project for which incentives are sought.

Signature ELSON G **Print** Name

VICE PRESIDENT STRATEGY AND BUSINESS DEVELOPMENT Title

#### ATTACHMENT A CABINET FOR ECONOMIC DEVELOPMENT ECONOMIC INCENTIVE DISCLOSURE STATEMENT

**INSTRUCTIONS:** In accordance with the Executive Branch Code of Ethics, Chapter 11A of the Kentucky Revised Statutes ("KRS"), *before* any board or authority within or attached to the Cabinet for Economic Development ("CED") takes final action on any contract or agreement by which a bond, grant, lease, loan, assessment, incentive, inducement, or tax credit is awarded (the "incentive package"), the beneficiary of the incentive package must file with the approving board or authority a disclosure statement stating: (i) the identity of the beneficiary of the incentive package, (ii) the identity of any person employed to act on behalf of the beneficiary with respect to the incentive package, (iii) the details of any financial transaction (as defined in KRS 11A.201(5)(a), see below) between the beneficiary (or any other person listed in (ii) above) and any agent or public servant of the Cabinet for Economic Development, any member of any board or authority within or attached to that Cabinet, or any other public servant involved in the negotiation of the economic incentive package. Your application or request will not be processed until this form is filed. CED will file copies of this form with the Executive Branch Ethics Commission pursuant to KRS 11A.233(2).

<u>NOTE</u>: For purposes of KRS 11A.201(5)(a), the definition of "financial transaction" is activity conducted or undertaken for profit, not available to the general public on the same terms, that arises from the joint ownership, the ownership, or part ownership in common, of any real or personal property or any commercial or business enterprise of whatever form between:

- 1) Beneficiary, agent or employee of the beneficiary; and
- 2) CED agent, employee, member of board or authority attached to CED, or other public servant involved in the negotiation of any incentive package.

**Beneficiary's Legal Name:** 

SunCoke Energy South Shore, LLC

Type(s) of Economic Incentive Package(s): \_\_\_\_\_ IEIA Tax Incentive Program

Please identify all employees or agents of the Beneficiary who have acted on behalf of the Beneficiary in its dealings with the CED or any board or authority within or attached to the CED (please attach separate sheet if additional room is needed) in regard to the above incentive package:

Name & Title:	Nelson Garcez, VP	Organization:	SunCoke Energy, Inc.
	Didi Caldwell, John Sisson		Global Location Strategies
Name & Title:	Peggy Rebstock, Director - Tax	Organization:	SunCoke Energy, Inc.
			SunCoke Energy, Inc.
		0	

Have any of the above-listed employees or agents of the Beneficiary had any "financial transactions" (as defined above) with a CED agent, employee, or a board or agency attached to CED or any other public servant involved in the negotiation of any economic incentive package?

Yes: No: X

If yes, please detail any "financial transactions" (as defined above) between the Beneficiary (or any other person listed as an employee or agent of the Beneficiary) and (i) any agent or public servant of the CED, (ii) any member of any board or authority within or attached to that Cabinet, or (iii) any other public servant involved in the negotiation of the economic incentive package (please attach separate sheet if needed):

1. Name of Beneficiary (Agent or Employee):

Name of Cabinet (Agent, Employee or Board/Authority member):

Name of Other Public Servant: \_\_\_\_\_

Description of Financial Transaction:

2. Name of Beneficiary (Agent or Employee):

Name of Cabinet (Agent, Employee or Board/Authority member): \_\_\_\_\_

Name of Other Public Servant: \_\_\_\_\_\_

Description of Financial Transaction:

3. Name of Beneficiary (Agent or Employee):

Name of Cabinet (Agent, Employee or Board/Authority member):

Name of Other Public Servant: \_\_\_\_\_

Description of Financial Transaction:

The undersigned, a duly authorized representative of the Beneficiary listed above, hereby certifies that the information set forth in this Economic Incentive Disclosure Statement has been reviewed, and is true and correct to the best of the knowledge of the undersigned.

Signature:

Date:

# Kentucky Economic Development Finance Authority (KEDFA) Application for Incentives for the Energy Independence Act (IEIA) Tax Incentive Program

# SUPPLEMENTAL ATTACHMENTS SunCoke Energy South Shore LLC 11/19/12

# **Brief History of the Business**

#### **Overview:**

We are the largest independent producer of coke in the Americas, as measured by tons of coke produced each year, and have 50 years of coke production experience. Coke is a principal raw material in the integrated steelmaking process. We have designed, developed and built, and own and operate five cokemaking facilities in the United States. Our fifth U.S. cokemaking facility in Middletown, Ohio was recently completed and commenced operations in October 2011.

During 2011, we sold approximately 3.8 million tons of coke to our three primary customers in the U.S.: ArcelorMittal, U.S. Steel, and AK Steel. With the completion of our Middletown facility, our total U.S. cokemaking capacity has increased to approximately 4.2 million tons of coke per year. We also operate a cokemaking facility in Brazil under licensing and operating agreements on behalf of a Brazilian subsidiary of ArcelorMittal. The Brazilian facility is the largest cokemaking facility that we operate, with production capacity of approximately 1.7 million tons of coke per year.

All of our U.S. coke sales are made pursuant to long-term take-or-pay agreements. These coke sales agreements have an average remaining term of approximately 10 years and contain pass-through provisions for costs we incur in the cokemaking process, including coal procurement costs, subject to meeting contractual coal-to-coke yields, operating and maintenance expenses, costs related to the transportation of coke to our customers, taxes (other than income taxes) and costs associated with changes in regulation.

#### **Description of Business:**

SunCoke Energy, Inc. ("SunCoke Energy" or the "Company") is an independent owner and operator of five cokemaking facilities in the eastern and midwestern regions of the United States and operator of a cokemaking facility for a project company in Brazil in which it has a preferred stock investment. The cokemaking operations include blast furnace coke manufacturing at the Company's Jewell Coke Company, L.P. ("Jewell") facility in Vansant, Virginia; Indiana Harbor Coke Company, L.P. ("Indiana Harbor") facility in East Chicago, Indiana; Haverhill North Coke Company ("Haverhill") facility in Franklin Furnace, Ohio; Gateway Energy & Coke Company, LLC ("Granite City") facility in Granite City, Illinois; and Middletown Coke Company, Inc. ("Middletown") facility in Middletown, Ohio, which commenced operations in October 2011.

In addition to its cokemaking operations, the Company has metallurgical coal mining operations in the eastern United States. The metallurgical coal produced from underground and surface mines in Virginia and West Virginia is used primarily at the Jewell cokemaking facility.

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### Separation from Sunoco:

On January 17, 2012 (the "Distribution Date"), we became an independent, publicly-traded company following our separation from Sunoco, Inc. ("Sunoco"). The Separation occurred in two steps (the "Separation"):

- We were formed as a wholly-owned subsidiary of Sunoco in 2010. On July 18, 2011 (the "Separation Date"), Sunoco contributed the subsidiaries, assets and liabilities that were primarily related to its cokemaking and coal mining operations to us in exchange for shares of our common stock. As of such date, Sunoco owned 100 percent of our common stock. On July 26, 2011, we completed an initial public offering ("IPO") of 13,340,000 shares of our common stock, or 19.1 percent of our outstanding common stock. Following the IPO, Sunoco continued to own 56,660,000 shares of our common stock, or 80.9 percent of our outstanding common stock.
- On the Distribution Date, Sunoco made a pro-rata, tax free distribution (the "Distribution") of the remaining shares of our common stock that it owned in the form of a special stock dividend to Sunoco shareholders. Sunoco shareholders received 0.53046456 of a share of common stock for every share of Sunoco common stock held as of the close of business on January 5, 2012, the record date for the Distribution. After the Distribution, Sunoco ceased to own any shares of our common stock.

Concurrent with the reorganization just prior to the IPO, substantially all related party balances with Sunoco were settled in connection with the issuance of common stock to Sunoco, with the exception of \$575 million, which was repaid on July 26, 2011 in cash with a portion of the proceeds from SunCoke Energy's debt issuance.

On September 30, 2011, the Company acquired the entire 19% ownership interest in the partnership that owns the Indiana Harbor cokemaking facility held by an affiliate of GE Capital for \$34.0 million. As a result of this transaction, the Company holds an 85% interest in the partnership. The remaining 15% interest in the partnership is owned by an affiliate of DTE Energy Company.

### **Business Segment Information:**

The Company's cokemaking operations are reported as three segments: Jewell Coke, Other Domestic Coke and International Coke.

The Jewell Coke segment consists of the operations of the Company's cokemaking facilities in Vansant, Virginia. The Indiana Harbor, Haverhill, Granite City and Middletown cokemaking facilities are individual operating segments that have been aggregated into the Other Domestic Coke segment. Each of these facilities produces coke and recovers waste heat which is converted to steam or electricity through a similar production process. The coke production for these facilities is sold directly to integrated steel producers under contracts which provide for the pass-through of coal costs subject to contractual coal-to-coke yields plus an operating cost component and fixed fee component received for each ton of coke sold. Accordingly, the Company's management believes that the facilities in the Other Domestic Coke segment have similar long-term economic characteristics.

The International Coke segment operates a cokemaking facility located in Vitória, Brazil for a project company. The International Coke segment earns income from the Brazilian facility through (1) licensing and operating fees payable to us under long-term contracts with the local project company that will run through 2023, subject, in the case of the licensing agreement, to the issuance prior to 2014 of certain patents in Brazil and (2) an annual preferred dividend on our preferred stock investment from the project company guaranteed by the Brazilian subsidiary of ArcelorMittal.
The Company's Coal Mining segment conducts coal mining operations near the Company's Jewell cokemaking facility with mines located in Virginia and West Virginia. Currently, a substantial portion of the coal production is sold to the Jewell Coke segment for conversion into coke. Beginning in 2012, intersegment coal revenues for sales to Jewell Coke are reflective of the contract price that Jewell Coke charges its customer. Prior year periods have been adjusted to reflect this change.

We also own and operate coal mining operations in Virginia and West Virginia that sold approximately 1.4 million tons of metallurgical coal (including internal sales to our cokemaking operations) in 2011. In January 2011, we acquired the Harold Keene Coal Co., Inc. and its affiliated companies ("HKCC") whose results are included in the Coal Mining segment from the date of acquisition. Our mining area consists of 14 active underground mines, two active surface mines and two active highwall mines, as well as three preparation plants and four load-out facilities in Russell and Buchanan Counties in Virginia and McDowell County, West Virginia. Some coal is also sold to the Other Domestic Coke facilities and third parties. Intersegment coal revenues for sales to the Other Domestic Coke segment have agreed to pay for the internally produced coal, which approximate the market prices for this quality of metallurgical coal.

Location	Customer	Year of Start Up	Contract Expiration	Number of Coke Ovens	Cokemaking Capacity (thousands of tons)	Use of Waste Heat
Vansant, Vir ginia	ArcelorMittal	1962	2020	142	720	Partially used for thermal coal drying
East Chicag o, Indiana	ArcelorMittal	1998	2013	268	1,220	Heat for power generation
Franklin Furnace, Ohio	ArcelorMittal	2005	2020	100	550	Process steam
Franklin Furnace, Oh io	AK Steel	2008	2022	100	550	Power generation
Granite City, Illinois	U.S. Steel	2009	2025	120	650	Steam for power generation
Middletown, Ohio	AK Steel	2011	2032	100	550	Power generation
				830	4,240	
Vitória, Bra zil	ArcelorMittal	2007	2023	320	1,700	Steam for power generation
				1,150	5,940	
	Vansant, Vir ginia East Chicag o, Indiana Franklin Furnace, Ohio Franklin Furnace, Oh io Granite City, Illinois Middletown, Ohio Vitória, Bra	Vansant, Vir ArcelorMittal ginia East Chicag ArcelorMittal o, Indiana Franklin ArcelorMittal Furnace, Ohio Franklin AK Steel Furnace, Oh io Granite U.S. Steel City, Illinois Middletown, AK Steel Ohio	LocationCustomerStart UpVansant, VirArcelorMittal1962giniaEast ChicagArcelorMittal1998o, IndianaFranklinArcelorMittal2005Furnace, OhioFranklinAK Steel2008Furnace, Oh ioGraniteU.S. Steel2009City, Illinois-2011Middletown, AK Steel2011OhioVitória, BraArcelorMittal2007	LocationCustomerStart UpExpirationVansant, VirArcelorMittal19622020giniaEast ChicagArcelorMittal19982013o, Indiana9820130FranklinArcelorMittal20052020Furnace, Ohio720082022Furnace, Oh720092025GraniteU.S. Steel20092025City, Illinois201120320Middletown, AK Steel20112032Ohio72023	LocationCustomerStart UpExpirationCoke OvensVansant, Vir giniaArcelorMittal19622020142giniaArcelorMittal19982013268o, IndianaPranklinArcelorMittal20052020100FranklinArcelorMittal20052020100Furnace, OhioOhio2021100100FranklinAK Steel20082022100Granite io OhioU.S. Steel20092025120Middletown, OhioAK Steel20112032100Middletown, OhioAK Steel20112032330Vitória, Bra zilArcelorMittal20072023320	LocationCustomerYear of Start UpContract ExpirationNumber of Coke OvensCapacity (thousands of tons)Vansant, Vir giniaArcelorMittal19622020142720East Chicag a ArcelorMittal199820132681,220o, IndianaArcelorMittal19982020100550Franklin ioArcelorMittal20052020100550Furnace, OhioAK Steel20082022100550Furnace, Oh io020092025120650Granite OhioU.S. Steel20112032100550Middletown, OhioAK Steel20112032100550Witória, Bra ArcelorMittal200720233201,700

The following table sets forth information about our cokemaking facilities:

(1) Cokemaking capacity represents stated capacity for production of blast furnace coke. Middletown production and sales volumes are based on "run of oven" capacity, which include both blast furnace coke and small coke. Middletown capacity on a "run of oven" basis is 578 thousand tons per year.

#### **Recent Developments and Outlook:**

- Timing of potential new U.S. plant. We are currently discussing opportunities for developing new heat recovery cokemaking facilities with domestic and international steel companies. Such cokemaking facilities could be either wholly-owned or developed through other business structures. As applicable, the steel company customers would be expected to purchase coke production under long-term contracts. The facilities would also generate steam or electricity for sale. We originally estimated that this plant could have a capacity of up to 1.1 million tons, but now believe a smaller facility size with 120 ovens and 660 thousand tons of capacity would be more closely aligned with near-term U.S. market demand. This potential new facility could serve multiple customers and may have a portion of its capacity reserved for coke sales in the spot market. We are in the early stages of permitting for this potential facility in Kentucky, but are also assessing alternative sites in other states. In light of the current economic and business outlook, we expect to defer seeking customer commitments for this potential facility until we make further progress on obtaining permits, which we anticipate receiving in 2013. Our ability to construct a new facility and to enter into new commercial arrangements is dependent upon market conditions in the steel industry.
- Expansion of growth strategy. We are exploring opportunities to enter into business relationships or other transactions with respect to existing cokemaking facilities in order to opportunistically capture market share in the United States and Canada. We believe that the efficiencies we have developed from our experience as the leading independent U.S. coke producer and our proven ability to provide a reliable supply of coke make us well suited to purchase or operate facilities, including by-product cokemaking facilities, currently operated by steelmakers or others that would prefer to utilize the capital committed to such equipment for other purposes. In addition, the Company continues to pursue investment opportunities to grow our international footprint in India.
- Indiana Harbor refurbishment. The initial term of our Indiana Harbor coke sales agreement ends on September 30, 2013. In preparation for negotiation of a new long-term contract, we conducted an engineering study to identify major maintenance projects necessary to preserve the production capacity of the facility. In accordance with the findings of this engineering study, we expect to spend approximately \$50 million in the 2012 through 2014 timeframe to improve the reliability of the facility, of which approximately \$10 million will be spent in 2012. This estimate includes anticipated spending that may be required in connection with the settlement of the Notices of Violation ("NOV") at our Indiana Harbor facility. While we believe that there is a reasonable likelihood that we will reach agreement with our customer for a new long-term contract, such an agreement may not be reached. The actual level of capital expenditures may depend upon the terms of an eventual agreement with our customer.
- Coal operations. Coal market conditions deteriorated throughout 2012 and are expected to remain weak in 2013. In view of this, we have and will continue to take several actions to reduce costs and increase productivity including idling certain high-cost mines; consolidating our labor force and equipment into more productive, lower cost mines; relocating mine sections in our largest mine and implementing deep cut mining plans as permits are received. In addition, we have deferred previously announced expansion plans for our Jewell underground mines, and substantially all the capital expenditures associated with the expansion plan. We expect Jewell coal mining production to be 1.10 million tons in 2012, and do not anticipate increasing production in 2013 to 1.45 million tons as previously planned. In the fourth quarter 2012, we expect to be negotiating coal sale contracts for 2013 and anticipate pricing will be significantly

below the price in 2012. As a result, we expect our coal mining segment will contribute minimally to 2013 results.

- In June 2011, we entered into a series of coal transactions with Revelation Energy, LLC ("Revelation"). Under a contract mining agreement, Revelation mines certain coal reserves at our Jewell coal mining operations that are included in our current proven and probable reserve estimates. This coal will be mined, subject to the satisfaction of certain conditions, over a four-year period. Although mining began in the first quarter of 2012, permitting delays for a portion of the reserves resulted in lower than expected production levels. We expect approximately 1.2 million tons of coal in the aggregate to be mined in the four year period from 2012 to 2015 with a larger percentage being mined in the last three years. The construction of a rapid train coal loading facility has also been delayed and the majority of the approximate \$15 million cost is now expected to occur in 2013.
- Black lung obligation. We are currently evaluating our obligation relating to black lung benefits which is estimated based on various assumptions, including actuarial estimates and discount rates. Our current obligation at September 30, 2012 is \$33.5 million. For each 25 basis point decrease in the discount rate our liability is estimated to increase approximately \$1.0 million and we estimate our liability may increase \$4 million to \$5 million based on current assumptions. We anticipate that we will complete our evaluation in the fourth quarter of 2012.
- Formation of a master limited partnership. On July 19, 2012, we announced that our Board of Directors approved the formation of a master limited partnership ("MLP") and the filing of a registration statement to effect the initial public offering of common units representing limited partner interests in the MLP. The key assets of the MLP are expected to be 65 percent of our interests in each of our Haverhill and Middletown cokemaking facilities.
- If an initial public offering of the MLP is completed, we would own the general partner of the MLP, as well as all of the MLP's incentive distribution rights and a portion of the common units representing limited partner interests in the MLP. We expect to close the initial public offering of the MLP in the fourth quarter of 2012, subject to prevailing market conditions. We would also be party to an omnibus agreement pursuant to which we would provide remarketing efforts to the MLP upon the occurrence of certain potential adverse events under our coke sales agreements, indemnification of certain environmental costs and preferential rights for growth opportunities. In connection with the closing of the MLP transaction, we expect to enter into an amendment to our Credit Agreement.

#### **Outlook:**

We expect diluted earnings per share attributable to our stockholders to be in the range of \$1.30 to \$1.40 and Adjusted EBITDA to be in the range of \$255 million to \$270 million for 2012. We expect that the strong performance in our domestic coke operations will offset the impact of market and operational challenges in our Coal Mining segment. Domestic coke production in 2012 is expected to be in excess of 4.3 million tons, which would exceed 100 percent capacity utilization. Coal production in 2012 is expected to be approximately 1.4 million tons. We expect free cash flow in 2012 to exceed \$100 million, compared to our original 2012 guidance of free cash flow in excess of \$50 million. The expected increase in free cash flow is due to the deferral of capital expenditures associated with our Coal Mining segment, the anticipated timing of potential international investment opportunities and decreases in working capital.

#### **Project Description**

SunCoke Energy is seeking to build, own and operate a 120 oven facility that will produce coke for steel-making and use in foundries and also utilize heat from the manufacturing process to generate electric power for sale. A majority of the coke will be sold to various potential customers under long-term contracts with a balance supplied to the merchant market while the electric power will be sold to wholesale electric markets. Metallurgical coal feedstock as well as coke production will be primarily transported to/from the facility via rail or river barge.

The project will invest up to \$450,000,000 for the facility, employing hundreds of construction workers over an estimated 28 to 32 month construction duration. Once operational, the facility will employ 99 direct, full-time workers, as described in the application, and at least 13 indirect maintenance employees (contractors) and a variety of others who will serve the plant in numerous capacities. Direct, full-time employees will enjoy competitive compensation and benefits.

#### **Project Operations and Management Structure**

While all day-to-day operations are directed by the site managers and supervisors, SunCoke's support and management groups at our corporate offices will also provide oversight and expertise for the plant.

#### **Project Financing**

SunCoke possesses the ability to finance the development and construction of this project through a combination of means. SunCoke will seek to optimize the cost of capital for the company and the project and consequently, the approximate makeup of financing funds is not determined at this time.

#### **Financial Statements**

SunCoke Energy's audited financial statements are provided as an attachment per the program requirements. These financial statements can also be found in the SunCoke SEC Form 10-K submitted to the SEC on February 29, 2012.

#### **Need for Incentives**

SunCoke is currently developing alternatives to this project at locations outside of Kentucky. In particular, SunCoke owns and operates an existing plant in Haverhill, Ohio that offers an attractive opportunity for expansion. As an existing site with additional space, Haverhill provides an existing base of infrastructure that can be leveraged to develop and operate a new plant (utilities, administration facilities and personnel, etc.). Moreover, the State of Ohio does not levy an income tax on businesses, representing a significant economic advantage to Kentucky's 6% tax. Due to these factors, it is likely that SunCoke would choose to build and operate on a site outside the commonwealth without adequate inducements from Kentucky.

#### **Carbon Capture Readiness**

A recovery process for CO2 emissions is not currently feasible for the heat recovery coke process. Recent studies have examined the theoretical capability of various potential carbon capture technologies; however, none are proven, economically viable processes at this time. When a CO2 capture and storage option becomes economically justifiable and reliability has been demonstrated, SunCoke would consider this improvement.

#### **Permits/Requirements**

<u>Air Permit to Install</u>: As a major source of criteria pollutants, the project will be required to obtain a Title V Permit to Install and will be subject to New Source Review and Prevention of Significant Deterioration regulations. A permit application was filed on February 18, 2011 which requires significant updates based on design changes.

Given our experience with permitting this technology, a final addendum to the original application or a completely new application could be quickly submitted if the project receives an acceptable incentive package and obtains control of an acceptable site.

<u>Power Siting Board Approval</u>: Because the project will involve a generating facility of greater than 10MW, the construction of the facility will require approval by Kentucky's Power Siting Board. We will also likely need approval for its interconnection to the wholesale grid. An application has not yet been filed but could be filed expediently given SunCoke's experience with siting approvals in other states.

<u>Army Corp of Engineering</u>: Depending on the ultimate site selection, the project may require a permit to operate barging facilities.

<u>Independent System Operator or Utility Interconnection</u>: Depending on the ultimate site selection, the project will require an appropriate interconnection agreement.

#### Capital Estimate & Machinery/Equipment Subject to Sales Tax

A breakdown of the estimated costs is provided in the application form, including investments related to the purchase of machinery and equipment that will not be subject to Sales Tax in Kentucky; manufacturing exempt from sales tax. This machinery includes all of the plant's coal handling equipment: River Barge Docking; Coal Unloading & Conveying System; Coal Storage & Reclaim System; Coal Crusher, Conveying and Bin/Silo System; and a Coal Tripper/Conveyor System. In addition, it also includes coke material handling equipment: Quench & Wharf System; Run-of-Oven conveyor; Screening/Recirculating/Emergency Ground Storage System; and Rail Load-Out System. Purchases that are subject to Kentucky sales tax are materials and building fixtures and investments in the production of electricity, rail improvements and site preparation.

#### **Kentucky Employment Plan**

<u>Construction Labor Plan</u>: To maximize the utilization of Kentucky residents during the construction phase of the project, SunCoke will work with its general contractor and local union leadership to develop a craft labor plan that adequately addressed the project requirements for masons, pipe fitters, boilermakers, electricians and other skilled craftsmen. That plan will seek to staff the local Kentucky union halls on a primary basis and then move to out-of-state halls to round out the project needs, if necessary.

<u>Post-Construction Labor Plan</u>: SunCoke's general mode of operation for developing new plants is to staff the operations from the local area and train these local new hires rather than transferring experienced employees to the new site. SunCoke has found this strategy to be cost effective and efficient for new projects, regardless of location. For example, SunCoke commissioned a large plant in Vitoria, Brazil with nearly 100% local Brazilian labor. For training in advance of start-up, SunCoke brought the new workers to the company's Haverhill, Ohio site for 6-week intensive, on-the-job training sessions. SunCoke would likely utilize a similar training program at Haverhill given its proximity to any potential Kentucky site.

To maximize the utilization of Kentucky residents in its local hiring process, SunCoke will employ a multi-pronged approach to reach out to local Kentucky communities and promote its job opportunities at the plant. First, SunCoke will place advertisement in local Kentucky newspapers and will seek to have informational articles written about the plant and its employment opportunities. Second, SunCoke will also hold information sessions in larger local communities to provide prospective employees a chance to learn more about SunCoke and the plant.

# **Application Questions – Additional Information**

# **Item #14 – Project Financial Information Cost Details**

#### Kentucky Economic Development Finance Authority (KEDFA) Application for Energy Independence Act - Tax Incentive

Program Figures in US \$

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#### SunCoke Energy, Inc. Combined and Consolidated Statements of Income

	Years Ended December 31					
	2	2011		2010 I shares in millions, r share amounts)		2009
Revenues			ford a fact and a			
Sales and other operating revenue	\$	1,527.6	\$	1,316.5	\$	1,124.0
Other income, net		11.3		10.0		21.0
Total revenues		1,538.9	÷	1,326.5	Ċ	1,145.0
Costs and operating expenses				antana ang ang ang ang ang ang ang ang ang		
Cost of products sold and operating expenses		1,305.8		1,036.9		860.9
Loss on firm purchase commitments		18.5				1993 - 199 <del>4 - 1</del> 9
Selling, general and administrative expenses		88.7		67.2		40.2
Depreciation, depletion, and amortization		58.4		48.2		32.3
Total costs and operating expenses		1,471.4		1,152.3		933.4
Operating income		67.5		174.2	al <mark>Sala</mark>	211.6
Interest income—affiliate	÷-	12.5	<u>34</u>	23.7	9 <del>4</del>	24.1
Interest income		0.4				0.4
Interest cost—affiliate		(3.5)		(5.4)		(5.7
Interest cost		(20.6)				
Capitalized interest		9.8		0.7		1.5
Total financing (expense) income, net		(1.4)		19.0		20.3
Income before income tax expense		66.1	2	193.2	() <del>                                    </del>	231.9
income tax expense		7.2		46.9		20.7
Net income	1	58.9	2	146.3		211.2
Less: Net (loss) income attributable to noncontrolling interests		(1.7)		7.1		21.6
Net income attributable to SunCoke Energy, Inc. / net parent investment	\$	60.6	\$	139.2	\$	189.6
Earnings attributable to SunCoke Energy, Inc. / net parent investment per common whare:						
Basic	\$	0.87	\$	1.99	\$	2.71
Diluted	\$	0.87	S	1.99	\$	2.71
Weighted average number of common shares outstanding:						
Basic		70.0		70.0		70.0
Diluted		70.0		70.0		70.0

#### SunCoke Energy, Inc. Combined and Consolidated Balance Sheets

	Decen	nber 31
	2011	2010
	(Dollars ) except per sh	n millions, nare amounts
Assets		
Cash and cash equivalents	\$ 127.5	\$ 40.
Accounts receivable	66.2	44.6
Inventories	219.7	106.0
Deferred income taxes	0.6	1.1
Total current assets	414.0	192.4
Notes receivable from affiliate		289.0
Investment in Brazilian cokemaking operations	41.0	41.0
Properties, plants and equipment, net	1,391.8	1,173.
Lease and mineral rights, net	53.2	6.'
Goodwill	9.4	3.4
Deferred charges and other assets	32.4	12.4
Total assets	\$ 1,941.8	\$ 1,718.4
Liabilities and Equity	đ	¢ 000 c
Advances from affiliate	\$ — 181.9	\$ 888.5
Accounts payable Current portion of long-term debt	3.3	106.4
Accrued liabilities	85.7	53.1
Taxes payable	10.6	7.7
Total current liabilities	281.5	1,055.7
I one town dolot	723.1	
Long-term debt Payable to affiliate	/25.1	55.8
Accrual for black lung benefits	33.5	26.6
Retirement benefit liabilities	50.6	42.9
Deferred income taxes	261.1	85.9
Asset retirement obligations	12.5	11.0
Other deferred credits and liabilities	19.6	11.2
Commitments and contingent liabilities	1510	
Total liabilities	1,381.9	1,289.1
	1,501.9	1,207.1
Equity	, <u> </u>	
Preferred stock, \$0.01 par value. Authorized 50,000,000 shares; no issued and outstanding shares at December 31, 2011 and 2010 Common stock, \$0.01 par value. Authorized 300,000,000 shares; issued and outstanding 70,012,702 shares at December 31, 2011 and no		
shares outstanding at December 31, 2010	0.7	
Additional paid-in capital	511.3	
Accumulated other comprehensive loss	(6.5)	
Retained earnings	20.0	
Net parent investment		369.5
Total SunCoke Energy, Inc. stockholders' equity / net parent investment	525.5	369.5
Noncontrolling interests	34.4	59.8
Fotal equity	559.9	429.3
*	-	
Fotal liabilities and equity	\$ 1,941.8	\$ 1,718.4
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EXHIBIT H SITE ASSESSMENT REPORT (SUBMITTED UNDER SEPARATE COVER) EXHIBIT I AIR PERMIT Commonwealth of Kentucky Energy and Environment Cabinet Department for Environmental Protection Division for Air Quality 200 Fair Oaks Lane, 1<sup>st</sup> Floor Frankfort, Kentucky 40601 (502) 564-3999

# **Final**

### AIR QUALITY PERMIT Issued under 401 KAR 52:020

Permittee Name: Mailing Address:	SunCoke Energy South Shore, Inc. 1011 Warrenville Road, Suite 600 Lisle, Illinois 60532
Source Name: Mailing Address:	SunCoke Energy South Shore, Inc. 1011 Warrenville Road, Suite 600 Lisle, Illinois 60532
Source Location:	US 23, Greenup County, KY
Permit: Agency Interest: Activity: Review Type: Source ID:	V-13-007 105793 APE20120001 Title V / Title I - PSD, Construction, Operating 21-089-00047
Regional Office: County:	Ashland Regional Office 1550 Wolohan Drive, Suite 1 Ashland, KY 41102 (606) 929-5285 Greenup
Application Complete Date: Issuance Date: Expiration Date:	August 8, 2013 July 2, 2014 July 2, 2019

Sean alteri

Sean Alteri, Director Division for Air Quality

Version 10/16/13

### TABLE OF CONTENTS

SECTION	ISSUANCE	PAGE
A. PERMIT AUTHORIZATION	Initial	1
B. EMISSION UNITS, EMISSIONS POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS	Initial	2
C. INSIGNIFICANT ACTIVITIES	Initial	101
D. SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS	Initial	102
E. SOURCE CONTROL EQUIPMENT REQUIREMENTS	Initial	138
F. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS	Initial	139
G. GENERAL PROVISIONS	Initial	142
H. ALTERNATE OPERATING SCENARIOS	Initial	149

	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action
V-13-007	Initial	APE20120001	08/08/2013	07/02/2014	Initial PSD Construction / Operating Permit

# **SECTION A - PERMIT AUTHORIZATION**

Pursuant to a duly submitted application the Kentucky Division for Air Quality (Division) hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes (KRS) Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Energy and Environment Cabinet (Cabinet) or any other federal, state, or local agency.

#### **Abbreviations**

#### The following definitions apply to abbreviations used in this permit:

Administrator	<ul> <li>Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).</li> </ul>
BACT	<ul> <li>Best Available Control Technology</li> </ul>
CDS/BH	<ul> <li>Circulating Dry Scrubber/Baghouse</li> </ul>
CI	<ul> <li>Compression Ignition</li> </ul>
CO	- Carbon Monoxide
CFR	<ul> <li>Code of Federal Regulation</li> </ul>
Division	<ul> <li>Kentucky Division for Air Quality</li> </ul>
dscf	<ul> <li>Dry standard cubic feet</li> </ul>
EU	– Emissions Unit
FGD	– Flue Gas Desulfurization
gpm	– Gallons Per Minute
gr	– Grains
HAPs	<ul> <li>Hazardous Air Pollutants</li> </ul>
Hg	– Mercury
HP	– Horse power
HRSGs	<ul> <li>Heat Recovery Steam Generators</li> </ul>
ICE	<ul> <li>Internal Combustion Engine</li> </ul>
KAR	<ul> <li>Kentucky Administrative Regulation</li> </ul>
lb/hr	<ul> <li>Pounds Per Hour</li> </ul>
lb/MMBtu	<ul> <li>Pounds per Million British Thermal Units</li> </ul>
mg/L	<ul> <li>Milligram per Liter</li> </ul>
MMBtu/hr	<ul> <li>Million British Thermal Units per Hour</li> </ul>
NSPS	<ul> <li>New Source Performance Standard</li> </ul>
Pb	– Lead
PM	<ul> <li>Particulate Matter</li> </ul>
$PM_{10}$	<ul> <li>PM of size 10 microns and smaller</li> </ul>
PM <sub>2.5</sub>	<ul> <li>PM of size 2.5 microns and smaller</li> </ul>
$SO_2$	– Sulfur Dioxide
TDS	<ul> <li>Total dissolved solids</li> </ul>
ton/hr	– Tons Per Hour
tpy	– Tons Per Year
VMT	<ul> <li>Vehicle Miles Traveled</li> </ul>
VOC	<ul> <li>Volatile Organic Compound</li> </ul>

Group I: Coal Transfer

#### Emission Unit 01 (EU01) Coal Unloading

**Description:** Coal is received via barges on the river. At the unloading station, the coal is removed from the barge and loaded into a coal hopper which discharges the coal onto a conveyor that transports the coal to the storage area on the plant site. All emissions from this point are fugitive. The potential annual coal throughput is 1,226,400 wet tons.

Size/Rated Capacity: 1500 ton/hr Planned Construction Commencement: 2014 Controls: Barge unloading, no controls

#### Emission Unit 02 (EU02) Coal Storage Piles

**Description:** At the storage area, coal is placed in one of four piles by a radial stacker arm that is designed to reduce the drop height of the coal and therefore minimize emissions. A crane or a front end loader moves coal from the piles to a conveyor to the coal crushing building. This equipment is also designed and used to minimize drop height of coal. The piles occupy 0.7 acres each for a total of 2.8 acres. All emissions from this point are fugitive PM. The potential annual coal throughput is 1,226,400 wet tons.

Size/Rated Capacity: 2.8 acres, 1500 ton/hr Planned Construction Commencement: 2014 Controls: Radial Stacker Load In: Good Engineering Practice drop height, and wet material Crane/Loader Load Out: Good Engineering Practice drop height, and wet material Coal Storage Piles: Wet Material and/or berm, wind screen

#### Emission Unit 03 (EU03) Coal Crushing

**Description:** Coal received from the storage piles enters the coal crushing building where the coal is reduced to the appropriate size for coking and transferred to the east and west storage bins before coking. Emissions are fugitive PM; building enclosure with wet material provides control. The potential annual coal throughput for this point is 1,226,400 wet tons.

Size/Rated Capacity: 1500 ton/hr Planned Construction Commencement: 2014 Controls: Enclosure, wet material

#### Emission Unit 04 (EU04) Coal Handling

**Description:** Coal storage bins and coal transfer points. Emissions from all these points are fugitive PM and many points are controlled by enclosure (partial) and/or wetting of materials. The potential annual coal throughput is 1,226,400 wet tons.

Size/Rated Capacity: 1500 ton/hr Planned Construction Commencement: 2014 Controls: Enclosure (except where prohibited due to moving equipment) and wet material

#### **APPLICABLE REGULATIONS**

# 401 KAR 51:017, Prevention of significant deterioration of air quality 401 KAR 63:010, Fugitive emissions 40 CFR Part 60, Subpart Y, Standards of Performance for Coal Preparation Plants

#### 1. **Operating Limitations:**

- a. Pursuant to 40 CFR 60.254(c), *Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles,* the owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility shall prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions as specified in paragraphs (c)(1) through (6) of 40 CFR 60.254.
  - (1) The fugitive coal dust emissions control plan shall identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile. [40 CFR 60.254(c)(1)]
  - (2) For open coal storage piles, the fugitive coal dust emissions control plan shall require that one or more of the following control measures be used to minimize to the greatest extent practicable fugitive coal dust: Locating the source inside a partial enclosure, installing and operating a water spray or fogging system, applying appropriate chemical dust suppression agents on the source (when the provisions of paragraph (c)(6) of 40 CFR 60.254 are met), use of a wind barrier, compaction, or use of a vegetative cover. The owner or operator shall select, for inclusion in the fugitive coal dust emissions control plan, the control measure or measures listed in this paragraph that are most appropriate for site conditions. The plan shall also explain how the measure or measures selected are applicable and appropriate for site conditions. In addition, the plan shall be revised as needed to reflect any changing conditions at the source. [40 CFR 60.254(c)(2)]
  - (3) Any owner or operator of an affected facility that is required to have a fugitive coal dust emissions control plan may petition the Administrator to approve, for inclusion in the plan for the affected facility, alternative control measures other than those specified in paragraph (c)(2) of 40 CFR 60.254 as specified in paragraphs (c)(3)(i) through (iv) of 40 CFR 60.254. [40 CFR 60.254(c)(3)]
    - (i) The petition shall include a description of the alternative control measures, a copy of the fugitive coal dust emissions control plan for the affected facility that includes the alternative control measures, and information sufficient for EPA to evaluate the demonstrations required by paragraph (c)(3)(ii) of 40 CFR 60.254. [40 CFR 60.254(c)(3)(i)]
    - (ii) The owner or operator shall either demonstrate that the fugitive coal dust emissions control plan that includes the alternate control measures will provide

equivalent overall environmental protection or demonstrate that it is either economically or technically infeasible for the affected facility to use the control measures specifically identified in paragraph (c)(2) of 40 CFR 60.254. [40 CFR 60.254(c)(3)(ii)]

- (iii) While the petition is pending, the owner or operator shall comply with the fugitive coal dust emissions control plan including the alternative control measures submitted with the petition. Operation in accordance with the plan submitted with the petition shall be deemed to constitute compliance with the requirement to operate in accordance with a fugitive coal dust emissions control plan that contains one of the control measures specifically identified in paragraph (c)(2) of 40 CFR 60.254 while the petition is pending. [40 CFR 60.254(c)(3)(iii)]
- (iv) If the petition is approved by the Administrator, the alternative control measures will be approved for inclusion in the fugitive coal dust emissions control plan for the affected facility. In lieu of amending 40 CFR 60, Subpart Y, a letter will be sent to the facility describing the specific control measures approved. The facility shall make any such letters and the applicable fugitive coal dust emissions control plan available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point. [40 CFR 60.254(c)(3)(iv)]
- (4) The owner or operator shall submit the fugitive coal dust emissions control plan to the Administrator or delegated authority as specified in paragraphs (c)(4)(i) and (c)(4)(ii) of 40 CFR 60.254. [40 CFR 60.254(c)(4)]
  - (i) The plan shall be submitted to the Administrator or delegated authority prior to startup of the new, reconstructed, or modified affected facility. [40 CFR 60.254 (c)(4)(i)]
  - (ii) The plan shall be revised as needed to reflect any changing conditions at the source. Such revisions shall be dated and submitted to the Administrator or delegated authority before a source can operate pursuant to these revisions. The Administrator or delegated authority may also object to such revisions as specified in paragraph (c)(5) of 40 CFR 60.254. [40 CFR 60.254(c)(4)(ii)]
- (5) The Administrator or delegated authority may object to the fugitive coal dust emissions control plan as specified in paragraphs (c)(5)(i) and (c)(5)(ii) of 40 CFR 60.254. [40 CFR 60.254(c)(5)]
  - (i) The Administrator or delegated authority may object to any fugitive coal dust emissions control plan that it has determined does not meet the requirements of paragraphs (c)(1) and (c)(2) of 40 CFR 60.254. [40 CFR 60.254(c)(5)(i)]
  - (ii) If an objection is raised, the owner or operator, within 30 days from receipt of the objection, shall submit a revised fugitive coal dust emissions control plan to the Administrator or delegated authority. The owner or operator shall operate in accordance with the revised fugitive coal dust emissions control plan. The Administrator or delegated authority retain the right, under paragraph (c)(5) of 40 CFR 60.254, to object to the revised control plan if it determines the plan does not meet the requirements of paragraphs (c)(1) and (c)(2) of 40 CFR 60.254. [40 CFR 60.254(c)(5)(ii)]

(6) Where appropriate chemical dust suppression agents are selected by the owner or operator as a control measure to minimize fugitive coal dust emissions, (1) only chemical dust suppressants with Occupational Safety and Health Administration (OSHA)-compliant material safety data sheets (MSDS) are to be allowed; (2) the MSDS shall be included in the fugitive coal dust emissions control plan; and (3) the owner or operator shall consider and document in the fugitive coal dust emissions control plan the site-specific impacts associated with the use of such chemical dust suppressants. [40 CFR 60.254(c)(6)]

#### **Compliance Demonstration Method:**

Compliance with 40 CFR 60.254(c), shall be demonstrated with submission to the Division of the required fugitive coal dust control plan before commencing start-up.

- b. Pursuant to 401 KAR 63:010, Section 4(1) and 4(4), *Additional Requirements*, the following shall apply:
  - (1) At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. [401 KAR 63:010, Section 4(1)]
  - (2) No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. [401 KAR 63:010, Section 4(4)]

#### **Compliance Demonstration Method:**

Compliance with 401 KAR 63:010, Section 4(1) and 4(4), shall be demonstrated through daily inspections of open bodied trucks leaving the property to check for proper coverage of materials likely to become airborne, daily observations of paved street or roadway and taking corrective action if material deposits are discovered. See 4. <u>Specific Monitoring</u> <u>Requirements</u>, item **b**, and 5. <u>Specific Recordkeeping Requirements</u>, item **b**, below.

- c. Pursuant to 401 KAR 51:017, for Group I equipment, for fugitive PM, the following BACT control technologies shall be applied:
  - (1) Coal Unloading: Barge unloading, no controls
  - (2) Coal Piles: Radial stacker, wet material, wind screen and/or berm
  - (3) Coal Crushing: Enclosure, wet material
  - (4) Coal Handling:
    - (i) Blended Crushed Coal Storage: Enclosed bins, wet material
    - (ii) Coal Conveyors: Enclosure (except where prohibited due to moving equipment), wet material

#### **Compliance Demonstration Method:**

Compliance with 401 KAR 51:017, shall be demonstrated by inclusion of proposed BACT controls in the fugitive coal dust control plan and compliance with 40 CFR 60.254.

d. The Group I equipment shall not process more than 1,226,400 wet tons of coal per year based on a twelve-month rolling total. [401 KAR 51:017, requested self-imposed limit]

#### **Compliance Demonstration Method:**

Compliance with the annual limit of coal processing shall be demonstrated by monitoring the coal throughput to Group I equipment, calculating a monthly total, and keeping a 12-month total. See 4. <u>Specific Monitoring Requirements</u>, item d, and 5. <u>Specific Recordkeeping Requirements</u>, item a(3), below.

#### 2. <u>Emission Limitations</u>:

- a. Pursuant to 40 CFR 60.254(b), *Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles,* on and after the date on which the performance test is conducted or required to be completed under 40 CFR 60.8, whichever date comes first, an owner or operator of any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal shall meet the requirements in paragraphs (b)(1) and (b)(3) of 40 CFR 60.254, as applicable to the affected facility.
  - (1) Except as provided in paragraph (b)(3) of 40 CFR 60.254, the owner or operator shall not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 10 percent opacity or greater. [40 CFR 60.254(b)(1)]
  - (2) Equipment used in the loading, unloading, and conveying operations of open storage piles are not subject to the opacity limitations of paragraph (b)(1) of 40 CFR 60.254.
     [40 CFR 60.254(b)(3)]

#### **Compliance Demonstration Method:**

Compliance with the opacity standard shall be demonstrated in accordance with the applicable portions of 40 CFR 60.255 (b)(2) and 40 CFR 60.257 (a)(1) through (3) (i.e. Method 9 observations). See **3.** <u>Testing Requirements</u>, items **a** and **c**, below.

Compliance with the opacity standard may also be demonstrated in accordance with 40 CFR 60.255 (f)(1) or (f)(2) (i.e. Method 9 observations, different schedule). See **3. Testing Requirements**, item **b**, below.

The open storage pile equipment are not subject to an opacity limitation but shall demonstrate compliance with the fugitive coal dust control plan required under 40 CFR 60.254(c).

Pursuant to 40 CFR 60.255, *Performance tests and other compliance requirements*, if any affected coal processing and conveying equipment (e.g., breakers, crushers, screens, conveying systems), coal storage systems, or coal transfer and loading systems are enclosed in a building, and emissions from the building do not exceed any of the standards in 40 CFR 60.254 that apply to the affected facility, then the facility shall be deemed to be in compliance with such standards. [40 CFR 60.255(c)]

b. Pursuant to 401 KAR 63:010, Section 3(2), *Standards for Fugitive Emissions*, no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.

#### **Compliance Demonstration Method:**

Compliance with 401 KAR 63:010, Section 3(2) shall be demonstrated by performing daily qualitative visual observations at the lot lines (edge of the property) and maintain a log of such observations. The daily observation log at the edge of the property shall note time, section of lot line, and any visible emissions observed. Should emissions be seen crossing the lot line, corrective measures shall be implemented, and noted in the log book. See **4.** <u>Specific Monitoring Requirements</u>, item **e**, and **5.** <u>Specific Recordkeeping Requirements</u>, item **d**, below.

#### 3. <u>Testing Requirements</u>:

- a. Pursuant to 40 CFR 60.255 (b), *Performance tests and other compliance requirements*, an owner or operator of each affected facility shall conduct performance tests according to the requirements of 40 CFR 60.8 and the methods identified in 40 CFR 60.257 to demonstrate compliance with the applicable emissions standards in 40 CFR, Subpart Y as specified in paragraphs (b)(2) of 40 CFR 60.255. [40 CFR 60.255(b)]
  - (1) For each affected facility subject to an opacity standard, an initial performance test shall be performed. Thereafter, a new performance test shall be conducted according to the requirements in paragraphs (b)(2)(i) through (ii) of 40 CFR 60.255, as applicable, except as provided for in paragraph (f) of 40 CFR 60.255. [40 CFR 60.255(b)(2)]
    - (i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test shall be conducted within 90 operating days of the date that the previous performance test was required to be completed. [40 CFR 60.255(b)(2)(i)]
    - (ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test shall be conducted within 12 calendar months of the date that the previous performance test was required to be completed. [40 CFR 60.255(b)(2)(ii)]
- b. As an alternative to meeting the requirements in paragraph (b)(2) of 40 CFR 60.255, an owner or operator of an affected facility may elect to comply with the requirements in paragraph (f)(1) or (f)(2) of 40 CFR 60.255. [40 CFR 60.255(f)]
  - (1) Monitor visible emissions from each affected facility according to the requirements in paragraphs (f)(1)(i) through (iii) 40 CFR 60.255. [40 CFR 60.255(f)(1)]
    - (i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant is in operation. Each observation shall be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions shall meet the training

requirements specified in section 2.3 of Method 22 of appendix A-7 of 40 CFR 60. If visible emissions are observed during any 15-second observation, the owner or operator shall adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A-4 of Part 40 CFR 60, performance test shall be conducted within 45 operating days. [40 CFR 60.255(f)(1)(i)]

- (ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance shall be performed as expeditiously as possible. [40 CFR 60.255(f)(1)(ii)]
- (iii) Conduct a performance test using Method 9 of appendix A-4 of 40 CFR 60 at least once every 5 calendar years for each affected facility. [40 CFR 60.255(f)(1)(iii)]
- (2) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Administrator or delegated authority. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, *see* OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Administrator or delegated authority shall be implemented by the owner or operator. [40 CFR 60.255(f)(2)]
- c. Pursuant to 40 CFR 60.257, *Test methods and procedures*, the owner or operator shall determine compliance with the applicable opacity standards as specified in paragraphs (a)(1) through (3) of 40 CFR 60.257. [40 CFR 60.257(a)]
  - (1) Method 9 of appendix A-4 of 40 CFR 60 and the procedures in 40 CFR 60.11 shall be used to determine opacity, with the exceptions specified in paragraphs (a)(1)(i) and (ii) [40 CFR 60.257(a)(1)]
    - (i) The duration of the Method 9 of appendix A-4 of the 40 CFR 60 performance test shall be 1 hour (ten 6-minute averages). [40 CFR 60.257(a)(1)(i)]
    - (ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A-4 of the 40 CFR 60 performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes. [40 CFR 60.257(a)(1)(ii)]
  - (2) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs (a)(2)(i) through (iii) shall be used. [40 CFR 60.257(a)(2)]

#### Page: 9 of 149

# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back. [40 CFR 60.257(a)(2)(i)]
- (ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction. [40 CFR 60.257(a)(2)(ii)]
- (iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission. [40 CFR 60.257(a)(2)(iii)]
- (3) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs (a)(3)(i) through (iii) of 40 CFR 60.257. are met. [40 CFR 60.257(a)(3)]
  - (i) No more than three emissions points may be read concurrently. [40 CFR 60.257(a)(3)(i)]
  - (ii) All three emissions points shall be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points. [40 CFR 60.257(a)(3)(ii)]
  - (iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer shall stop taking readings for the other two points and continue reading just that single point. [40 CFR 60.257(a)(3)(iii)]

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall perform observations of the opacity of emissions at each Group I emission unit, with the exception of the open coal pile process equipment, as outlined in 3. <u>Testing Requirements</u>, above, and maintain a log of the observations. See 5. <u>Specific Recordkeeping Requirements</u>, item a(2), below.
- b. The permittee shall perform daily inspections of open bodied trucks leaving the property for proper coverage of materials likely to become airborne. The permittee shall perform daily observations of paved streets and roadways and record any corrective actions taken as a result of observing material deposition on paved streets or roadways.
- c. The permittee shall monitor all parameters required pursuant to 40 CFR 60.258, *Reporting and recordkeeping*. See **5.** <u>Specific Recordkeeping Requirements</u>, item **a**, below.
- d. The permittee shall monitor the amount of coal processed through the Group I equipment.
- e. The permittee shall perform the daily qualitative visual observations at the lot lines (edge of property) and maintain a log of observations. See **5.** <u>Specific Recordkeeping</u> <u>Requirements</u>, item **d**, below.

#### 5. Specific Recordkeeping Requirements:

- a. Pursuant to 40 CFR 60.258, *Reporting and recordkeeping*, the owner or operator of a coal preparation and processing plant shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following: [40 CFR 60.258(a)]
  - (1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted. [40 CFR 60.258(a)(1)]
  - (2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted. [40 CFR 60.258(a)(2)]
  - (3) The amount and type of coal processed each calendar month. [40 CFR 60.258(a)(3)]
  - (4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant. [40 CFR 60.258(a)(4)]
  - (5) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted. [40 CFR 60.258(a)(5)]
  - (6) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator providing approval of any alternative control measures shall be maintained with the logbook. Any actions, e.g. objections, to the plan and any actions relative to the alternative control measures, e.g. approvals, shall be noted in the logbook as well. [40 CFR 60.258(a)(6)]
- b. The permittee shall keep records that daily inspections of open bodied trucks and paved streets and roadways are performed and shall keep records of any corrective actions taken as a result of observing material deposits on paved streets and roadways.
- c. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators (those who will perform the on-site Method 9 observations) and the date of certification for each person.
- d. The permittee shall maintain a log of the daily qualitative visual observations noting time, section of lot line, and any visible emissions observed at the lot lines. Should emissions be seen crossing the lot line, corrective measures shall be implemented, and noted in the log book.

#### 6. Specific Reporting Requirements:

- a. For the purpose of reports required under section 40 CFR 60.7(c), any owner operator subject to the provisions of 40 CFR 60, Subpart Y also shall report semiannually periods of excess emissions as follow: [40 CFR 60.258(b)]
  - (1) All 6-minute average opacities that exceed the applicable standard. [40 CFR 60.258(b)(3)]
- b. The owner or operator of an affected facility shall submit the results of initial performance tests to the Administrator or delegated authority, consistent with the provisions of section 40 CFR 60.8. The owner or operator who elects to comply with the reduced performance testing provisions of 40 CFR 60.255(c) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. [40 CFR 60.258(c)]
- c. Within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with 40 CFR 60, Subpart Y, for performance tests that cannot be entered into EPA's WebFIRE database (e.g., Method 9 of appendix A-4 of 40 CFR 60, opacity performance tests), the owner or operator of the affected facility shall mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243-01; RTP, NC 27711. [40 CFR 60.258(d)]
- d. Refer to permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS for general reporting requirements.

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

- a. See Fugitive Coal Dust Emissions Control Plan for specific information regarding control measures for Group I equipment.
- b. See permit SECTION E SOURCE CONTROL EQUIPMENT REQUIREMENTS, for information regarding general control equipment/measure requirements.

#### **Group II: Coking Processes and Equipment**

#### Group II-A Emission Units 05 and 06 (EU05, EU06) Coal Charging East and West

**Description:** Two mobile pushing/charging machines, one dedicated to either the East or West oven battery, charge crushed wet coal into the coke ovens. Each machine is equipped with an onboard hood/baghouse system, which travels with the pushing/charging machine, to control charging emissions that escape from the negatively pressured ovens. The maximum annual crushed coal charged is 1,226,400 tpy wet coal total.

Size/Rated Capacity: 500 ton/hr per machine and 1,226,400 tpy wet coal total Planned Construction Commencement: 2014 Controls: Onboard hood and baghouse

#### **APPLICABLE REGULATIONS:**

# 401 KAR 51:017, Prevention of significant deterioration of air quality 401 KAR 59:010, New process operations 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries

#### 1. <u>Operating Limitations</u>:

- a. For operating limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 1. Operating Limitations.
- b. The combined total throughput of crushed coal for all ovens shall not exceed 1,226,400 wet tons per year. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the PSD annual limit of coal processing shall be demonstrated by monitoring the coal throughput to Group II equipment, calculating a monthly total, and keeping a rolling 12-month total for both. See 4. <u>Specific Monitoring Requirements</u>, item **a**, and **5**. <u>Specific Recordkeeping Requirements</u>, item **a**, below.

c. The BACT determination for SO<sub>2</sub> emissions requires that coal sulfur content, based on a monthly composite sample, shall be limited to1.3 percent by weight of coal. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the BACT determination for  $SO_2$  emissions shall be demonstrated by monitoring the sulfur content of the coal during normal operations as outlined in

4. <u>Specific Monitoring Requirements</u>, item **b**, and 5. <u>Specific Recordkeeping</u> <u>Requirements</u>, item **c**, below.

d. Charging shall be limited to 20 ovens charged per hour. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the charging limitation is demonstrated due to the inherent limitation caused by the design. The pushing/charging machines cannot load more than 20 ovens an hour.

e. The BACT determination for GHGs [CO2(e)] requires a negative pressure design of the coking ovens to minimize emission of coke oven gases during charging.

#### **Compliance Demonstration Method:**

Compliance with the GHG BACT for Charging shall be demonstrated as follows:

- The permittee shall certify that the negative pressure oven design proposed as GHG BACT for charging in the application and subsequent submittals, has been implemented in the final design of the facility. See 6. <u>Specific Reporting</u> <u>Requirements</u>, item b, below.
- (2) The permittee shall prepare and maintain a GHG work practices plan. SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **5**.

#### 2. <u>Emission Limitations</u>:

- a. For emission limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 2. Emission Limitations.
- b. The following limits are established as BACT for charging activities for this facility. The emissions from charging East and West shall not exceed: [401 KAR 51:017, Section 8(2)]
  - (1) For PM(filterable): 0.0081 lb/ton dry coal
  - (2) For total  $PM_{10}$ (filterable + condensable): 0.012 lb/ton dry coal
  - (3) For total PM<sub>2.5</sub>(filterable + condensable): 0.012 lb/ton dry coal
  - (4) For CO: 0.0028 lb/ton wet coal
  - (5) For VOC: 0.0023 lb/ton wet coal
  - (6) For SO<sub>2</sub>: 0.0003 lb/ton wet coal
  - (7) For GHGs [CO2(e)]: 9,811 tpy

#### **Compliance Demonstration Method:**

For demonstrating compliance with the BACT limits established pursuant to 401 KAR 51:017

Permittee shall perform compliance testing of the pusher/charger baghouse outlet for emissions of PM(filterable),  $PM_{10}$ (filterable + condensable),  $PM_{2.5}$ (filterable + condensable), VOCs, CO and SO<sub>2</sub> from Charging East and West in accordance with section **3.** <u>Testing Requirements</u>, items **a**, **b**, and **c**, below, and permit SECTION G–GENERAL PROVISIONS, items **4** and **5**.

The results of the compliance tests shall be compared to the limits established, above, the results recorded and then reported in accordance with section **5**. <u>Specific Recordkeeping</u> <u>Requirements</u>, item **b**, and **6**. <u>Specific Reporting Requirements</u>, item **a**, below.

Continuous compliance with the PM(filterable) emission limit shall be demonstrated in accordance with the PM emission compliance requirements in 40 CFR 63, Subpart L, *National Emission Standards for Coke Oven Batteries*. Continuous compliance with the PM<sub>10</sub> and PM<sub>2.5</sub> is also demonstrated through the daily visible emission observations requirements under 40 CFR 63, Subpart L. See permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **4. Group II Applicable Federal MACT Standards and Requirements**, section **A. 4. Specific Monitoring Requirements**, item **4(c)**.

Continuous compliance with the VOC and CO emission limitation is demonstrated by implementing the negative pressure oven design proposed in the application and subsequent submittals. See **6.** <u>Specific Reporting Requirements</u>, item **b**, below.

Continuous compliance with the  $SO_2$  emission limitation is demonstrated through adherence to the coal sulfur content limit. See **4.** <u>Specific Monitoring Requirements</u>, item **b**, below.

For compliance with GHG [CO2(e)] limits, the permittee shall limit the coal charge to 1,226,400 wet tpy on a 12-month rolling total. See 1. <u>Operating Limitations</u>, item **b**, above, and 5. <u>Specific Recordkeeping Requirements</u>, item **a**, below.

- c. Opacity
  - (1) No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with the pushing/charging machine which is equal to or greater than ten (10) percent opacity as a six-minute average from the stack. [401 KAR 51:017, BACT Determination]

#### **Compliance Demonstration Method:**

Initial and continuing compliance with the opacity requirements for the pusher/charger machine and the charging process pursuant to 401 KAR 51:017 is demonstrated by complying with the opacity monitoring requirements pursuant to 40 CFR 63, Subpart L and procedures in the emissions control Work Practice Plan per 40 CFR 63.306. See permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 3. Testing Requirements.

(2) No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010]

#### **Compliance Demonstration Method:**

Compliance with the 20 percent opacity requirement in c (2) is demonstrated by complying with the requirements in item c (1), above.

d. The hourly emission of PM from a control device or stack of any affected facility shall not exceed the following limits: [401 KAR 59:010, Section 3(2), Appendix A]

For Process Weights = or < 0.5 ton/hr (1000 lb/hr): use E'<sub>PM</sub> = 2.34 lb/hr

For Process Weights up to 60,000 lb/hr: use equation  $E'_{PM}$  = 3.59 P<sub>wr</sub><sup>0.62</sup>

For Process Weights > 60,000 lb/hr: use equation  $E'_{PM} = 17.31 P_{wr}^{0.16}$ 

Where  $E'_{PM}$  is the allowable particulate emission rate in lb/hr and  $P_{wr}$  is the process weight rate in ton/hr.

#### **Compliance Demonstration Method:**

Compliance with the mass emission standard can be demonstrated by meeting the PM emission standard and compliance requirement under 40 CFR 63, Subpart L in that the standard under the federal MACT is more stringent than the mass emission standard under 401 KAR 59:010. See permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 2. Emission Limitations, item b(2).

#### 3. <u>Testing Requirements</u>:

a. Initial testing to determine compliance with the applicable emission limits or standards that are not specifically addressed in 40 CFR 63, Subpart L [i.e. BACT limits under 401 KAR 51:017, see 2. Emission Limitations, item b(1)-(4)], shall be performed at the

baghouse using the following methods from Appendix A to 40 CFR 60, *Standards of Performance for New Stationary Sources* or Appendix M to 40 CFR 51, *Recommended Test Methods for State Implementation Plans* or Administrator approved alternative: **From Appendix A to PART 60—STANDARDS OF PERFORMANCE FOR NEW** 

#### STATIONARY SOURCES:

Method 5—Determination of particulate matter emissions from stationary sources Method 6—Determination of sulfur dioxide emissions from stationary sources Method 9—Visual determination of the opacity of emissions from stationary sources

From Appendix M to Part 51—Recommended Test Methods for State Implementation Plans

Method 201A—Determination of PM<sub>10</sub> and PM<sub>2.5</sub> Emissions from Stationary Sources (Constant Sampling Rate Procedure)

Method 202—Dry Impinger Method for Determining Condensable Particulate Emissions from Stationary Sources

- b. Initial testing for Group II equipment to determine compliance with the applicable emission limits or standards that are not specifically addressed in CFR 63, Subpart L [i.e. BACT limits under 401 KAR 51:017, see 2. <u>Emission Limitations</u>, item b, above], also shall be performed in accordance with permit SECTION G–GENERAL PROVISIONS, <u>Testing Requirements</u>.
- c. For testing requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 3. <u>Testing Requirements</u>.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor the amount of coal charged to the ovens on a monthly basis. The amount shall be recorded and used to calculate a rolling 12-month total. See 5.
   <u>Specific Recordkeeping Requirements</u>, item a, below.
- b. The permittee shall monitor and record the sulfur content of coal charged to the ovens. The sulfur content of coal shall be ascertained by taking daily random cross belt sweep type samples performed in accordance with ASTM D 2234 or a Division approved alternative. Except during start-up, the coal samples shall be composited monthly and sent to an accredited off-site commercial or Division approved laboratory for sulfur content analysis in accordance with ASTM D 5016, High Temperature Tube Furnace with Infra-red Detection or a Division approved alternative. Analytical results may be reported on an as received and/or dry basis. Sampling and analysis may also be performed using a Division approved alternative method. During start-up, coal samples shall be composited and sent for analysis on a weekly basis. See 5. Specific Recordkeeping Requirements, item c, below.

- c. The permittee shall perform monitoring as required under permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.
- d. For monitoring requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 4. <u>Specific Monitoring</u> <u>Requirements</u>.

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall keep monthly and rolling-12 month records of all coal throughput for the Group II equipment.
- b. Results of initial and subsequent compliance testing with BACT emission limits, as well as applicable rolling twelve-month emissions totals and any calculations required, shall be recorded, compared with the limits listed in 2. <u>Emission Limitations</u>, item b, above, and the compliance or non-compliance with the limits shall be recorded.
- c. The permittee shall keep records of the results of monthly coal sampling sulfur content analyses performed during normal operation and a copy of the certification for any lab used for the analysis.
- d. For recordkeeping requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A.5. <u>Specific Recordkeeping</u> <u>Requirements</u>.

#### 6. <u>Specific Reporting Requirements</u>:

- a. The permittee must report each instance in which the facility did not meet each PSD BACT emission limitations listed in 2. <u>Emission Limitations</u>, items b and c, above. These deviations must be reported according to the requirements in permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- b. The permittee shall submit certification that the design elements proposed as BACT for the emission unit or process have been implemented in the final construction. Any deviations from the design elements proposed in the application shall be analyzed for changes in air emissions profile. Design changes and emission analysis shall be submitted in a report to the Division prior to construction of the changed element.

- c. The permittee shall submit all reports for Group II equipment in accordance with permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- d. For reporting requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A.6. <u>Specific Reporting</u> <u>Requirements</u>.

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

- a. See the Work Practice Plan for specific information regarding control and capture equipment measures for Charging. See permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 1. <u>Operating Limitations</u>, item e, below, for additional information regarding this plans.
- b. See permit SECTION E SOURCE CONTROL EQUIPMENT REQUIREMENTS, for information regarding general control equipment/measure requirements.

#### **Group II: Coking Processes and Equipment**

#### Group II-B Emission Unit 07 (EU07) Coking

**Description:** There are 120 coke ovens arranged in two separate banks, East and West. Crushed coal is charged into an oven where the bed is heated to liberate combustible volatile gases. The gases are pulled through sole flues, and the common tunnel, where combustion of the gas is completed to release heat and destroy some pollutants. Once the volatiles have been completely released, the coal bed has become coke and is ready for pushing and quenching. The coal to coke cycle takes 48 hours for each bed of 48 to 50 tons. The maximum annual crushed coal through put for both banks of coke ovens is 1,226,400 wet tons. The ovens will be designed for a maximum charge of 50 tons of coal per oven on a 48-hour cycle but will also be capable of 28 tons of coal per oven on a 24-hour cycle.

Size/Rated Capacity: 500 ton/hr wet coal charge and 1,226,400 tpy wet coal charge Planned Construction Commencement: 2014 Controls: Circulating dry scrubber and baghouse (CDS/BH)

#### **APPLICABLE REGULATIONS:**

- 401 KAR 51:017, Prevention of significant deterioration of air quality
- 401 KAR 59:010, New process operations
- 401 KAR 59:105, New process gas streams
- 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries
- 40 CFR 64, Compliance assurance monitoring (CAM), (applicable to the CDS/BH on the main stack used for coking, only)

#### **<u>STATE-ORIGIN REQUIREMENTS</u>**:

#### 401 KAR 63:020, Potentially hazardous matter or toxic substances

#### 1. **Operating Limitations**:

- a. For operating limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 1. Operating Limitations.
- b. The combined total throughput of crushed coal for all ovens shall not exceed 1,226,400 wet tons per year. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the PSD annual limit of coal and coke processing shall be demonstrated by monitoring the coal throughput to and coke produced by Group II equipment, calculating a monthly total, and keeping a rolling 12-month total for both. See

4. <u>Specific Monitoring Requirements</u>, item **a**, and 5. <u>Specific Recordkeeping</u> <u>Requirements</u>, item **a**, below.

c. The BACT determination for Greenhouse Gases [CO2(e)] requires the facility to meet the following design and operational requirements: [401 KAR 51:017]

For Coking: The facility design shall include heat recovery ovens, use of superheated instead of saturated steam with HRSGs which include economizer, evaporator, and superheater sections to optimize conversion of heat to steam, natural circulation, a sliding pressure steam turbine, use of combustion optimization, optimized steam production using a process information management system, and work practices that lower energy consumption.

#### **Compliance Demonstration Method:**

Compliance with the GHG BACT for Coking shall be demonstrated as follows:

- The facility construction shall be completed in accordance with the design proposed in the complete application and the additional information submitted in response to questions. See 6. <u>Specific Reporting Requirements</u>, item b, below.
- (2) Prepare and maintain a GHG work practices plan. See SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 5.
- d. The BACT determination for SO<sub>2</sub> emissions requires that coal sulfur content, based on a monthly composite sample, shall be limited to 1.3 percent by weight of coal. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the BACT determination for  $SO_2$  emissions shall be demonstrated by monitoring the sulfur content of the coal during normal operations as outlined in 4. <u>Specific Monitoring Requirements</u>, item d, and 5. <u>Specific Recordkeeping Requirements</u>, item g, below.

#### 2. <u>Emission Limitations</u>:

- a. For emission limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 2. Emission Limitations.
- b. The following limits are established as BACT for coking activities for this facility. TPY limits shall be based on twelve-month rolling totals: [401 KAR 51:017, Section 8(2)]

The emissions from coking – main stack shall not exceed the following limits: (1) For PM(filterable): 0.005 gr/dscf and 57.51 tpy (2) For total  $PM_{10}$ (filterable + condensable): 0.011gr/dscf and 126.49 tpy

(3) For total PM<sub>2.5</sub>(filterable + condensable): 0.0085gr/dscf and 97.76 tpy
(4) For CO: 0.19 lb/ton wet coal
(5) For VOC: 0.04 lb/ton wet coal
(6) For SO<sub>2</sub>: 0.96 lb/ton of wet coal and 134 lb/hr
(7) For H<sub>2</sub>SO<sub>4</sub>: 6.2 lb/hr and 27 tpy
(8) For NO<sub>x</sub>: 1 lb/ton of wet coal and 613.2 tpy
(9) For GHGs [CO2(e)]: 1,299,984 tpy

#### **Compliance Demonstration Method:**

For demonstrating compliance with the BACT limits established pursuant to 401 KAR 51:017:

Permittee shall perform compliance testing of the stack for emissions of PM(filterable), PM<sub>10</sub>(filterable + condensable), PM<sub>2.5</sub>(filterable + condensable), CO, VOC, H<sub>2</sub>SO<sub>4</sub>, NOx, and CO<sub>2</sub> from coking/main stack in accordance with section **3**. <u>Testing Requirements</u>, items **a**, **b**, and **c**, and permit SECTION G–GENERAL PROVISIONS, items **4** and **5**, below. Rolling 12 month total emission shall be calculated as outlined in **4**. <u>Specific Monitoring Requirements</u>, item **b**, below.

Initial compliance with the BACT limit of 0.96 lb SO<sub>2</sub>/ton wet coal shall be demonstrated through performance testing.

Initial compliance with the BACT limit of 6.2 lb/hr of  $H_2SO_4$  shall be demonstrated through performance testing. The permittee shall perform a subsequent performance test at the mid-term of the permit. Following each performance test the permittee shall establish the correlation between emissions of SO<sub>2</sub> and  $H_2SO_4$ . The permittee may use concurrent SO<sub>2</sub> RATA testing during mid-term to establish correlation. The established correlation shall be used in calculating emissions for compliance demonstration.

The results of the compliance tests and calculations of rolling 12 months emissions shall be compared to the limits established, above, the results recorded and then reported in accordance with section **5**. <u>Specific Recordkeeping Requirements</u>, item **b**, and **6**. <u>Specific Reporting Requirements</u>, item **a**, below.

Continuous compliance with the PM,  $PM_{10}$ ,  $PM_{2.5}$ , NOx, and  $CO_2$  emission limits shall be demonstrated by conducting a subsequent performance test. The subsequent test should be accomplished at least 2 years after completion of the initial stack test.

Continuous compliance with the CO, VOC emission limits shall be demonstrated through compliance with the wet coal throughput limits. See 1. <u>Operational</u> <u>Limitations</u>, item **b**, above.

Continuous compliance with the  $SO_2$  emission limit of 134 lb/hr shall be demonstrated through use of Continuous Emissions Monitoring. See 4. <u>Specific</u> <u>Monitoring Requirements</u>, items h through j, below.

Continuous compliance with the  $H_2SO_4$  emission limits is demonstrated by complying with the  $SO_2$  emission limit. Therefore, continuous compliance with the  $H_2SO_4$  emission limit is demonstrated through the Continuous Emissions Monitoring of  $SO_2$  and the relationship established during performance testing. Additionally, proper maintenance of control equipment for sulfur oxide emissions ensures continual adherence to the  $H_2SO_4$  emission limits. Therefore, observation of the CAM plan for the CDS also provides a demonstration of continuous compliance with this limit. See **4.** <u>Specific Monitoring Requirements</u>, items **h** through **k**, below.

- (2) For GHG [CO2(e)] limits, the permittee shall limit the coal charge to 1,226,400 wet tpy on a 12-month rolling total. See 1. <u>Operating Limitations</u>, item c, above, and 5. <u>Specific Recordkeeping Requirements</u>, item a, below.
- c. Opacity

No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 51:017 and 401 KAR 59:010, Section 3(1)(a)]

#### **Compliance Demonstration Method:**

Compliance with the opacity requirement is demonstrated by following 4. <u>Specific</u> <u>Monitoring Requirements</u>, item e, below.

d. The hourly emission of PM from a control device or stack of any affected facility shall not exceed the following limits: [401 KAR 59:010, Section 3(2), Appendix A]

For Process Weights = or < 0.5 ton/hr (1000 lb/hr): use E'<sub>PM</sub> = 2.34 lb/hr

For Process Weights up to 60,000 lb/hr: use equation  $E'_{PM}$  = 3.59 P<sub>wr</sub><sup>0.62</sup>

For Process Weights > 60,000 lb/hr: use equation  $E'_{PM} = 17.31 P_{wr}^{0.16}$ 

Where  $E'_{PM}$  is the allowable particulate emission rate in lb/hr and  $P_{wr}$  is the process weight rate in ton/hr.

#### **Compliance Demonstration Method:**

Compliance with the mass emission standard can be demonstrated through continuous operation of the Circulating Dry Scrubber/Baghouse in accordance with the manufacturer's recommendations and/or standard operating procedures. See 4. <u>Specific</u> <u>Monitoring Requirements</u>, item c, below.

e. No person shall cause, suffer, allow or permit the emission of sulfur dioxide in a process gas stream to exceed 28.63 grains per 100 dscf (250 ppm by volume) at zero percent oxygen. Sources whose combined process gas stream emission rate totals less than four (4) tons per day of sulfur dioxide shall reduce such emissions by eighty-five (85) percent. [401 KAR 59:105]

#### **Compliance Demonstration Method:**

Compliance with the limit shall be demonstrated through testing as outlined in 401 KAR 59:105, Section 6(2). See **3.** <u>Testing Requirements</u>, item **d**, below.

f. Pursuant to 401 KAR 63:020; Potentially hazardous matter or toxic substances, no owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

#### **Compliance Demonstration Method:**

The source is in compliance with 401 KAR 63:020 based on the emission rates of toxics and selection of control technologies stated in the application, and supplemental information submitted by the source. If the source alters process rates, material formulations, or any other factor that would result in an increase of toxic emissions or the addition of toxic emissions not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:020, Section 3(1)(a), along with modeling to show that the facility will remain in compliance with 401 KAR 63:020.

#### 3. <u>Testing Requirements</u>:

a. Initial testing to determine compliance with the applicable emission limits or standards that are not specifically addressed in either 40 CFR 63, Subpart L [i.e. BACT limits under 401 KAR 51:017, see 2. Emission Limitations, items b(1)-(9)], shall be performed using the following methods from Appendix A to 40 CFR 60, Standards of Performance for New Stationary Sources or Appendix M to 40 CFR 51, Recommended Test Methods for State Implementation Plans or Division approved alternative:

From Appendix A to PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

Method 3A— Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)

Method 5—Determination of particulate matter emissions from stationary sources

Method 6—Determination of sulfur dioxide emissions from stationary sources Method 6C—Determination of Sulfur Dioxide Emissions From Stationary Sources

(Instrumental Analyzer Procedure)

Method 7—Determination of nitrogen oxide emissions from stationary sources Method 8—Determination of sulfuric acid mist and sulfur dioxide emissions from stationary sources

Method 8A – Determination of sulfuric acid vapor or mist and sulfur dioxide emissions from Kraft Recovery Furnaces

Method 9—Visual determination of the opacity of emissions from stationary sources

Method 10—Determination of carbon monoxide emissions from stationary sources

Method 19—Determination of sulfur dioxide removal efficiency and particulate, sulfur dioxide and nitrogen oxides emission rates

Method 25—Determination of total gaseous nonmethane organic emissions as carbon Method 25A—Determination of total gaseous organic concentration using a flame ionization analyzer

From Appendix M to Part 51—Recommended Test Methods for State Implementation Plans

Method 201A—Determination of  $PM_{10}$  and  $PM_{2.5}$  Emissions From Stationary Sources (Constant Sampling Rate Procedure)

Method 202—Dry Impinger Method for Determining Condensable Particulate Emissions From Stationary Sources

- b. Initial and subsequent testing for Group II equipment to determine compliance with the applicable emission limits or standards that are not specifically addressed in either 40 CFR 63, Subpart L or 40 CFR 63, Subpart CCCCC, [i.e. BACT limits under 401 KAR 51:017], see 2. <u>Emission Limitations</u>, items b(1)-(9)], also shall be performed in accordance with permit SECTION G–GENERAL PROVISIONS, <u>Testing Requirements</u>.
- c. Testing for the main stack shall be in accordance with 401 KAR 50:045.
- d. Performance tests used to demonstrate compliance with 401 KAR 59:105, Section 4 (SO<sub>2</sub>) and 0.96 lb SO<sub>2</sub>/ton wet coal shall be conducted according to the following methods, filed by reference in 401 KAR 50:015: Reference Method 6 for Sulfur Dioxide. [401 KAR 59:105, Section 6(2)]
- e. For testing requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 3. <u>Testing Requirements</u>.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor the amount of coal processed through the equipment of Group II on a monthly basis. The amount shall be recorded and used to calculate a rolling 12-month total.
- b. The permittee shall calculate the PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NOx, VOC, and CO<sub>2</sub> emissions from the coking-main stack each month and keep a rolling twelve-month total of the emissions.
- c. See CAM plan requirements, Table 1 in permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **6**.
- d. The permittee shall monitor and record the sulfur content of coal charged to the ovens. The sulfur content of coal shall be ascertained by taking daily random cross belt sweep type samples performed in accordance with ASTM D 2234 or a Division approved alternative. Except during start-up, the coal samples shall be composited monthly and sent to an accredited off-site commercial or Division approved laboratory for sulfur content analysis in accordance with ASTM D 5016, High Temperature Tube Furnace with Infra-red Detection or a Division approved alternative. Analytical results may be reported on an as received and/or dry basis. Sampling and analysis may also be performed using a Division approved alternative method. During start-up, coal samples shall be composited and sent for analysis on a weekly basis.
- e. The permittee shall perform visible observations for emissions from the main stack on a daily basis and maintain a log of the observation. If emissions are observed, the permittee shall determine the opacity using Reference Method 9.
- f. The permittee shall perform monitoring as required under permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.
- g. For monitoring requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 4. Specific Monitoring <u>Requirements</u>.
- h. Continuous emission monitoring systems shall be installed, calibrated, maintained, and operated for measuring the SO<sub>2</sub> emissions. The continuous emission monitoring systems shall comply with 40 CFR 60, Appendix B. Pursuant to 40 CFR 64.3(d), the continuous emission monitoring systems shall be used to satisfy CAM requirements for sulfur dioxide. [401 KAR 52:020, Section 10]
- i. Pursuant to 401 KAR 52:020, Section 10, to meet the monitoring requirement for SO<sub>2</sub> the permittee shall use continuous emission monitors (CEMs). Excluding the startup and shut down periods, if any 3-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the CEM systems and make any necessary repairs as soon as practicable.
- j. For performance evaluations of the SO<sub>2</sub> continuous emission monitoring system as required under 401 KAR 59:005, Section 4(3) and calibration checks as required under 401 KAR 59:005, Section (4), 40 CFR 60, Appendix B shall be used as applicable as described by 401 KAR 50:015.

- k. The permittee shall ensure that the scrubbing liquor flow rate through the CDS is maintained in the range established during the performance test for this equipment or in accordance with the manufacturer's specifications. See SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 6.
- 1. The  $H_2SO_4$  emission levels shall be calculated monthly, based on the  $H_2SO_4/SO_2$  correlation established and the average of SO<sub>2</sub> emissions calculated from CEMs data, and compared to the  $H_2SO_4$  hourly emission limit. Monthly emission calculations shall be used to calculate a rolling twelve-month emission total for  $H_2SO_4$ .

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall keep daily, monthly and rolling-12 month records of all coal throughput and coke output for the Group II equipment.
- b. Results of initial and subsequent compliance testing with BACT emission limits, as well as applicable rolling twelve-month emissions totals and any calculations required, shall be recorded, compared with the limits listed in 2. <u>Emission Limitations</u>, item b, above, and the compliance or non-compliance with the limits shall be recorded.
- c. The permittee shall maintain records of applicable fugitive emission observations as outlined in permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.
- d. The permittee shall maintain records of all daily visible emission observations for the coking process to demonstrate compliance with opacity limits. The permittee shall also maintain a list of all individuals that are certified Visible Emissions Evaluators (those who will perform the on-site Method 9 observations) and the date of certification for each person.
- e. In accordance with Compliance Assurance Monitoring (CAM) requirements for the CDS/BH, the permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [40 CFR 64.9(b)] Also, see **6.** <u>Specific Reporting Requirements</u>, item **c**, below.
- f. See CAM plan requirements for CDS/BH, Table 1, in permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 6.
- g. The permittee shall keep records of the results of monthly coal sampling sulfur content analyses performed during normal operation and a copy of the certification for any lab used for the analysis.

- h. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.
- i. The permittee of these units shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative. [401 KAR 59:005, Section 3(2)]
- j. See, also, section **4.** <u>Specific Monitoring Requirements</u> for any additional recordkeeping requirements. All monitoring activities shall be recorded and available for inspection.
- k. For recordkeeping requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A.5. <u>Specific Recordkeeping</u> <u>Requirements</u>.
- 1. The permittee shall keep records of the results of the calculations demonstrating compliance with the  $H_2SO_4$  hourly and twelve-month rolling emission limits.

# 6. <u>Specific Reporting Requirements</u>:

- a. The permittee must report each instance in which the facility did not meet each PSD BACT emission limitation listed in 2. <u>Emission Limitations</u>, items b and c, above. The permittee must also report each instance in which the permittee did not meet a requirement listed in 2. <u>Emission Limitations</u>, items d and e. These deviations must be reported according to the requirements in permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- b. The permittee shall submit certification that the design elements proposed as BACT for the emission unit or process have been implemented in the final construction. Any deviations from the design elements proposed in the application shall be analyzed for changes in air emissions profile. Design changes and emission analysis shall be submitted in a report to the Division prior to construction of the changed element.
- c. Per CAM requirements for the CDS/BH, the permittee must submit summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken. [(40 CFR 64.9(a)(2)(i)] Also see permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 6.

- d. The permittee shall submit all reports for Group II equipment in accordance with permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- e. Pursuant to 401 KAR 59:005, Section 3 (3), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. Permittees required to install continuous monitoring systems shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:
  - (1) The magnitude of the excess emission computed in accordance with 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
  - (2) All hourly averages shall be reported for  $SO_2$  monitor. The hourly averages shall be made available in the format specified by the Division.
  - (3) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
  - (4) The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
  - (5) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- f. For the purposes of reports required under 401 KAR 59:005, Section 3(3), periods of excess emissions that shall be reported are defined as follows:

Excess emissions of  $SO_2$  are defined as any three (3) hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable  $SO_2$  emission standard.

g. For reporting requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A.6. <u>Specific Reporting</u> <u>Requirements</u>.

## 7. <u>Specific Control Equipment Operating Conditions</u>:

- a. See the Work Practice Plan (Subpart L) for specific information regarding control and capture equipment measures for Group II. See permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 1. <u>Operating Limitations</u>, item e, below, for additional information regarding this plan.
- b. See permit SECTION E SOURCE CONTROL EQUIPMENT REQUIREMENTS, for information regarding general control equipment/measure requirements.

## **Group II: Coking Processes and Equipment**

#### Group II-C Emission Unit 08 (EU08) Coke Pushing

**Description:** Once the crushed coal bed has converted to coke, a mobile pushing/charging machine pushes the intact bed onto a mobile flat push hot car located between the oven banks. The coke then travels to the end of the battery where the bed is transferred to a quench car. The flat push hot car is equipped with a multicyclone to capture pushing emissions. The maximum annual combined tons of coke pushed is 867,447.

Size/Rated Capacity: 354 ton/hr and 867,447 tpy total coke Planned Construction Commencement: 2014 Controls: Onboard hood and multicyclone

## **APPLICABLE REGULATIONS:**

- 401 KAR 51:017, Prevention of significant deterioration of air quality
- 401 KAR 59:010, New process operations
- 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries
- 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks

# 1. **Operating Limitations**:

- a. For operating limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 1. Operating Limitations.
- b. For operating limitations pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 1. Operating Limitations.
- c. The combined total throughput of crushed coal for all ovens shall not exceed 1,226,400 wet tons per year, and the combined production of coke shall not exceed 867,477 tons per year, respectively. [401 KAR 51:017]

# **Compliance Demonstration Method:**

Compliance with the PSD annual limit of coal and coke processing shall be demonstrated by monitoring the coal throughput to and coke produced by Group II equipment, calculating a monthly total, and keeping a rolling 12-month total for both.

d. The BACT determination for Greenhouse Gases [CO2(e)] requires the facility to meet the following design and operational requirements: [401 KAR 51:017]

For Pushing: The facility shall be operated to ensure complete carbonization of coal to coke.

# **Compliance Demonstration Method:**

Compliance with the GHG BACT for Pushing shall be demonstrated as follows:

- (1) The proposed GHG BACT administrative/operational measures for ensuring complete carbonization, such as checking that there is no visible smoke above the coke bed before each push, shall be incorporated into the work practice plan and observed.
- (2) Prepare and maintain a GHG work practices plan. See permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 5.
- e. The BACT determination for SO<sub>2</sub> emissions requires that coal sulfur content, based on a monthly composite sample, shall be limited to 1.3 percent by weight of coal. [401 KAR 51:017]

## **Compliance Demonstration Method:**

Compliance with the BACT determination for SO<sub>2</sub> emissions shall be demonstrated by monitoring the sulfur content of the coal during normal operations as outlined in **4**. **Specific Monitoring Requirements**, item **b**, and **5**. **Specific Recordkeeping Requirements**, item **d**, below.

#### 2. <u>Emission Limitations</u>:

- a. For emission limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 2. Emission Limitations.
- b. For emission limitations pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 2. Emission Limitations.
- c. The following limits are established as BACT for pushing activities for this facility. TPY limits shall be based on twelve-month rolling totals: [401 KAR 51:017, Section 8(2)]

The emissions from pushing shall not exceed the following limits:

- (1) For PM(filterable): 0.04 lb/ton coke
- (2) For  $PM_{10}$ (filterable + condensable): 0.06 lb/ton coke
- (3) For PM<sub>2.5</sub>(filterable + condensable): 0.06 lb/ton coke

- (4) For CO: 0.063 lb/ton wet coal
  (5) For VOC: 0.02 lb/ton wet coal
  (6) For SO<sub>2</sub>: 0.06 lb/ton wet coal
- (7) For  $H_2SO_4$ : 0.009 lb/ton wet coal
- (8) For NO<sub>x</sub>: 0.019 lb/ton wet coal
- (9) For GHGs [CO2(e)]: 9,811 tpy

# **Compliance Demonstration Method:**

For demonstrating compliance with the BACT limits established pursuant to 401 KAR 51:017:

(1) Permittee shall perform compliance testing for emissions of PM(filterable), PM<sub>10</sub>(filterable + condensable), PM<sub>2.5</sub>(filterable + condensable). During the period when required testing for PM emissions is conducted, the permittee shall take grab samples of the exhaust of the pushing control system and have these samples analyzed for CO, VOC, and NOx from pushing in accordance with section **3.** <u>Testing Requirements</u>, items **a** and **b** and permit SECTION G–GENERAL PROVISIONS, items **4** and **5**, below.

The results of the compliance tests shall be compared to the limits established, above, the results recorded and then reported in accordance with section 5. <u>Specific</u> <u>Recordkeeping Requirements</u>, item **b**, and 6. <u>Specific Reporting Requirements</u>, item **a**, below.

Continuous compliance with the PM,  $PM_{10}$ ,  $PM_{2.5}$ , emission limits shall be demonstrated through compliance with the PM emission limit requirements of 40 CFR 63, Subpart CCCCC, *National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks*, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **4. Group II Applicable Federal MACT Standards and Requirements, section B. 3. <u>Testing Requirements</u>, item <b>f**(6).

Continuous compliance with the CO, VOC, and NOx emission limits shall be demonstrated through compliance with the wet coal throughput and coke production limits. See **1.** <u>Operating Limitations</u>, item **c**, above.

- (2) For SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub>, permittee shall demonstrate initial and continuous compliance through monitoring of coal sulfur content. See 4. <u>Specific Monitoring Requirements</u>, item b, below.
- (3) For GHG [CO2(e)] limits, the permittee shall limit the coal charge to 1,226,400 wet tpy on a 12-month rolling total. See 1. <u>Operating Limitations</u>, item c, above, and 5. <u>Specific Recordkeeping Requirements</u>, item a, below.

d. Opacity

No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 51:017 and 401 KAR 59:010]

# **Compliance Demonstration Method:**

Compliance with the opacity requirement is demonstrated by adherence to the requirements of 40 CFR 63, Subpart CCCCC and manufacturer's recommendations for the onboard multicyclone associated with the hot car.

e. The hourly emission of PM from a control device or stack of any affected facility shall not exceed the following limits: [401 KAR 59:010, Section 3(2), Appendix A]

For Process Weights = or < 0.5 ton/hr (1000 lb/hr): use E'<sub>PM</sub> = 2.34 lb/hr

For Process Weights up to 60,000 lb/hr: use equation  $E'_{PM}$  = 3.59 P<sub>wr</sub><sup>0.62</sup>

For Process Weights > 60,000 lb/hr: use equation  $E'_{PM} = 17.31 P_{wr}^{0.16}$ 

Where  $E'_{PM}$  is the allowable particulate emission rate in lb/hr and  $P_{wr}$  is the process weight rate in ton/hr.

# **Compliance Demonstration Method:**

Compliance is demonstrated by meeting the PM emission standard 40 CFR 63, Subpart CCCCC in that the standards under the federal MACTs are more stringent than the mass emission standard under 401 KAR 59:010. See permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 2. Emission Limitations.

# 3. <u>Testing Requirements</u>:

a. Initial testing to determine compliance with the applicable emission limits or standards that are not specifically addressed in either 40 CFR 63, Subpart L or 40 CFR 63, Subpart CCCCC, [i.e. BACT limits under 401 KAR 51:017, see 2. <u>Emission Limitations</u>, items c(1)-(9)], shall be performed using the following methods from Appendix A to 40 CFR 60, *Standards of Performance for New Stationary Sources* or Appendix M to 40 CFR 51, *Recommended Test Methods for State Implementation Plans* or Division approved alternative:

# From Appendix A to PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

Method 5—Determination of particulate matter emissions from stationary sources Method 6—Determination of sulfur dioxide emissions from stationary sources Method 7—Determination of nitrogen oxide emissions from stationary sources Method 8—Determination of sulfuric acid mist and sulfur dioxide emissions from stationary sources

Method 8A – Determination of sulfuric acid vapor or mist and sulfur dioxide emissions from Kraft Recovery Furnaces

Method 9—Visual determination of the opacity of emissions from stationary sources Method 10—Determination of carbon monoxide emissions from stationary sources

Method 25—Determination of total gaseous nonmethane organic emissions as carbon Method 25A—Determination of total gaseous organic concentration using a flame ionization analyzer

# From Appendix M to Part 51—Recommended Test Methods for State Implementation Plans

Method 201A—Determination of  $PM_{10}$  and  $PM_{2.5}$  Emissions From Stationary Sources (Constant Sampling Rate Procedure)

Method 202—Dry Impinger Method for Determining Condensable Particulate Emissions From Stationary Sources

- b. Initial testing for Group II equipment to determine compliance with the applicable emission limits or standards that are not specifically addressed in either 40 CFR 63, Subpart L or 40 CFR 63, Subpart CCCCC, [i.e. BACT limits under 401 KAR 51:017, see 2. <u>Emission Limitations</u>, items c(1)-(9)], also shall be performed in accordance with permit SECTION G-GENERAL PROVISIONS, <u>Testing Requirements</u>. Subsequent testing for PM, PM<sub>10</sub>, PM<sub>2.5</sub> and NOx to demonstrate continuous compliance with emission limits shall be performed at least once during each term of the title V operating permit.
- c. For testing requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 3. <u>Testing Requirements</u>.
- d. For testing requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 3. <u>Testing Requirements</u>.

# 4. <u>Specific Monitoring Requirements</u>:

a. The permittee shall monitor the amount of coal and coke processed through the equipment of Group II on a monthly basis. The amount shall be recorded and used to calculate a rolling 12-month total.

- b. The permittee shall monitor and record the sulfur content of coal charged to the ovens. The sulfur content of coal shall be ascertained by taking daily random cross belt sweep type samples performed in accordance with ASTM D 2234 or a Division approved alternative. Except during start-up, the coal samples shall be composited monthly and sent to an accredited off-site commercial or Division approved laboratory for sulfur content analysis in accordance with ASTM D 5016, High Temperature Tube Furnace with Infra-red Detection or a Division approved alternative. Analytical results may be reported on an as received and/or dry basis. Sampling and analysis may also be performed using a Division approved alternative method. See **5.** <u>Specific</u> **Recordkeeping Requirements**, item **d**, below.
- c. For monitoring requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 4. Specific Monitoring <u>Requirements</u>.
- d. For monitoring requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stack, see permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 4. Specific Monitoring Requirements.

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall keep daily, monthly and rolling-12 month records of all coal throughput and coke output for the Group II equipment.
- Besults of initial and subsequent compliance testing with BACT emission limits, as well as applicable rolling twelve-month emissions totals and any calculations required, shall be recorded, compared with the limits listed in 2. <u>Emission Limitations</u>, item c, above, and the compliance or non-compliance with the limits shall be recorded.
- c. The permittee shall maintain records of all daily visible emission observations for the pushing process to demonstrate compliance with opacity limits. The permittee shall also maintain a list of all individuals that are certified Visible Emissions Evaluators (those who will perform the on-site Method 9 observations) and the date of certification for each person.
- d. The permittee shall keep records of the results of monthly coal sampling sulfur content analyses performed during normal operation and a copy of the certification for any lab used for the analysis.
- e. See section **4.** <u>Specific Monitoring Requirements</u> for any additional recordkeeping requirements. All monitoring activities shall be recorded and available for inspection.

- f. For recordkeeping requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 5. Specific Recordkeeping <u>Requirements</u>.
- g. For recordkeeping requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stack, see permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 5. Specific Recordkeeping Requirements.

# 6. <u>Specific Reporting Requirements</u>:

- a. The permittee must report each instance in which the facility did not meet each PSD BACT emission limitations listed in 2. <u>Emission Limitations</u>, item c(1)-(9), above. The permittee must also report each instance in which the permittee did not meet a requirement listed in 1. <u>Operating Limitations</u>, items c and d. These deviations must be reported according to the requirements in permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- b. The permittee shall report design elements proposed as BACT for each emission unit or process and any deviations from the proposed design that have been implemented in the final construction of the facility.
- c. The permittee shall submit all reports for Group II equipment in accordance with permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- d. For reporting requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 6. <u>Specific Reporting</u> <u>Requirements</u>.
- e. For reporting requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 6. Specific Reporting Requirements.

# 7. <u>Specific Control Equipment Operating Conditions</u>:

a. See the Work Practice Plan (Subpart L) and Operation and Maintenance Plan (Subpart CCCCC) for specific information regarding control and capture equipment measures for Group II. See permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND

TESTING REQUIREMENTS, item **4.** Group II Applicable Federal MACT Standards and Requirements, section A. 1. <u>Operating Limitations</u>, item **e**, and section B. 1. <u>Operating Limitations</u>, item **h**, below, for additional information regarding these plans.

b. See permit SECTION E – SOURCE CONTROL EQUIPMENT REQUIREMENTS, for information regarding general control equipment/measure requirements.

## **Group II: Coking Processes and Equipment**

#### Group II-D Emission Unit 9 (EU09) Quench Tower

**Description:** The flat push hot car travels to a stationary quench tower at the end of the oven batteries where the intact coke loaf is transferred to a quench car and drenched with water. Emissions are controlled through the use of water containing a low amount of total dissolved solids and through a special baffle design used in the tower. The tower has a maximum process rate of 354 ton/hr of coke based on 500 ton/hr of coal charged to the ovens.

Size/Rated Capacity: 354 ton/hr and 867,447 tpy coke Planned Construction Commencement: 2014 Controls: Baffle design and low TDS water (for PM)

## **APPLICABLE REGULATIONS:**

## 401 KAR 51:017, Prevention of significant deterioration of air quality

#### 401 KAR 63:010, Fugitive emissions

40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks

#### 1. **Operating Limitations**:

- a. For operating limitations pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 1. Operating Limitations.
- b. The combined total throughput of crushed coal for all ovens shall not exceed 1,226,400 wet tons per year, and the combined production of coke shall not exceed 867,447 tons per year. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the PSD annual limit of coal and coke processing shall be demonstrated by monitoring the coal throughput to and coke produced by Group II equipment, calculating a monthly total, and keeping a rolling 12-month total for both. See 4. <u>Specific Monitoring Requirements</u>, item **a**, and **5**. <u>Specific Recordkeeping</u> <u>Requirements</u>, item **a**, below.

c. Pursuant to 401 KAR 51:017, PSD/BACT determination, the permittee shall install the advanced baffle design as proposed in the application.

## **Compliance Demonstration Method:**

Compliance with the BACT shall be demonstrated by completing construction of the facility in accordance with the design proposed in the complete application and subsequent information provided to the Division. See 6. <u>Specific Reporting</u> <u>Requirements</u>, item **b**, below.

## 2. <u>Emission Limitations</u>:

- a. For emission limitations pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 2. <u>Emission Limitations</u>.
- b. The following limits are established as BACT for quenching activities for this facility. [401 KAR 51:017, Section 8(2)]

The emissions from Quenching shall not exceed the following limits:

(1) For PM: 0.103 lb/ton wet coal

(2) For  $PM_{10}$ : 0.044 lb/ton wet coal

(3) For  $PM_{2.5}$ : 0.027 lb/ton wet coal

(4) TDS is limited to 1,100 mg/L

# **Compliance Demonstration Method:**

For demonstrating compliance with the BACT limits established pursuant to 401 KAR 51:017:

Permittee shall perform compliance testing for emissions of PM, PM<sub>10</sub>, PM<sub>2.5</sub> from quenching and TDS content in quench water pursuant to 40 CFR 63, Subpart CCCCC, *National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks.* See permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **4. Group II Applicable Federal MACT Standards and Requirements,** section **B. 3.** <u>Testing Requirements</u>, items as applicable. PM emissions shall be calculated based on the results of the TDS compliance tests.

The results of the compliance test and PM calculations shall be compared to the limits established, above, the results recorded and then reported in accordance with section 5. <u>Specific Recordkeeping Requirements</u>, item **b**, and **6**. <u>Specific Reporting Requirements</u>, item **a**, below.

Continuous compliance with the PM,  $PM_{10}$  and  $PM_{2.5}$  emission limits shall be demonstrated in accordance with requirements in permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **4. Group II** 

Applicable Federal MACT Standards and Requirements, section B. 1. <u>Operating</u> <u>Limitations</u>, item 1 (d) Compliance Demonstration Method, and item 1 (e) Compliance Demonstration Method. Results of TDS testing shall be used to calculate PM emissions.

c. Equipment in Group II not specifically subject to a MACT requirement with regards to fugitive emissions shall be subject to 401 KAR 63:010, Standards for Fugitive Emissions as outlined in permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 3.

## **Compliance Demonstration Method:**

Compliance with fugitive emissions requirements shall be demonstrated by following permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 3, b, Compliance Demonstration Methods.

## 3. <u>Testing Requirements</u>:

Initial testing for the quenching equipment to determine compliance with the applicable emission limits and/or standards addressed in 40 CFR 63, Subpart CCCCC, and addressed in the PSD BACT limits under 401 KAR 51:017 (see 2. <u>Emission Limitations</u>, items b(1)-(4), above], shall be performed in accordance with the requirements found in permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 3. <u>Testing Requirements</u>. Results of the TDS testing shall be used to calculate PM emissions.

# 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor the amount of coal and coke processed through the equipment of Group II on a monthly basis. The amount shall be recorded and used to calculate a rolling 12-month total.
- b. For monitoring requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stack, see permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B.4. Specific Monitoring Requirements.

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall keep daily, monthly and rolling-12 month records of all coal throughput and coke output for the Group II equipment.
- b. Results of initial and subsequent compliance testing with BACT emission limits, as well as applicable rolling twelve-month emissions totals and any calculations required, shall

be recorded, compared with the limits listed in 2. <u>Emission Limitations</u>, item **b**, above, and the compliance or non-compliance with the limits shall be recorded.

c. For recordkeeping requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stack, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 5. Specific Recordkeeping Requirements.

# 6. <u>Specific Reporting Requirements</u>:

- a. The permittee must report each instance in which the facility did not meet each PSD BACT emission limitations listed in 2. <u>Emission Limitations</u>, item b(1)-(4), above. These deviations must be reported according to the requirements in permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- b. The permittee shall submit certification that the design elements proposed as BACT for the emission unit or process have been implemented in the final construction. Any deviations from the design elements proposed in the application shall be analyzed for changes in air emissions profile. Design changes and emission analysis shall be submitted in a report to the Division prior to construction of the changed element.
- c. The permittee shall submit all reports for Group II equipment in accordance with permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- d. For reporting requirements pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section B. 6. Specific Reporting Requirements.

# 7. <u>Specific Control Equipment Operating Conditions</u>:

None

## **Group II: Coking Processes and Equipment**

#### Group II-E Emission Unit 10 (EU10) Emergency Stacks/Lids

**Description:** The 130-foot tall emergency stacks provide natural draft during emergencies (i.e. a major power outage) in order to maintain negative pressure in the ovens. The stacks, covered by stack lids, are open only during the start-up, during emergencies, and for monthly lid functioning tests.

Size/Height: 130 ft tall Planned Construction Commencement: 2014 Controls: None

## **APPLICABLE REGULATIONS:**

## 401 KAR 51:017, Prevention of significant deterioration of air quality

#### 1. **Operating Limitations**:

The induced draft fans shall be operational at all times the emergency stacks /lids are open. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the requirement of required operation of the induced draft fans is demonstrated through qualitative observations of visible emissions and taking corrective action when emissions are seen. See 4. <u>Specific Monitoring Requirements</u>, item **b**, and 5. <u>Specific Recordkeeping Requirements</u>, item **b**, below.

#### 2. <u>Emission Limitations</u>:

The following is established as BACT for emergency stack/lid activities for this facility. [401 KAR 51:017, Section 8(2)]

- (1) During normal operation of the facility, each emergency stack lid shall not be open more than 6 hours on a twelve-month rolling total. During normal operation of the facility, each emergency stack lid shall be tested separately and the lids shall not be open at the same time. [401 KAR 51:017]
- (2) The combined emissions from coking for both emergency stacks/lids shall not exceed the following limits:
  - (i) For PM(filterable): 0.63 tpy
  - (ii) For total  $PM_{10}$ (filterable + condensable): 0.63 tpy
  - (iii) For total PM<sub>2.5</sub>(filterable + condensable): 0.63 tpy
  - (iv) For CO: 0.08 tpy
  - (v) For VOC: 0.017 tpy
  - (vi) For SO<sub>2</sub>: 10.05 tpy

(vii) For  $H_2SO_4$ : 0.92 tpy (viii) For  $NO_x$ : 0.42 tpy (ix) For GHGs [CO2(e)]: 890 tpy

#### **Compliance Demonstration Method:**

Compliance with requirements and emission limits for the emergency stack lids shall be demonstrated by tracking and recording the time each lid is open on a twelve-month rolling total basis and ensuring operability of the induced draft fan. See 4. <u>Specific Monitoring</u> <u>Requirements</u>, item **a**, and 5. <u>Specific Recordkeeping Requirements</u>, item **a**, below.

## 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045, Section 4.

# 4. Specific Monitoring Requirements:

- a. The permittee shall monitor the amount of time each emergency stack lid is open (for routine testing) during normal facility operation, monitor to ensure that both stack's lids are never open at the same time, and monitor to ensure that the induced draft fans are in operation before a stack lid is opened/exercised.
- b. The permittee shall perform a qualitative visible observation of the opacity of emissions from each emergency stack at any time the stack is open for stack lid testing and maintain a log of the observation. If visible emissions from the stacks are seen, check operation of the induced draft fan and take immediate corrective actions until emissions are no longer observed.

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall record the amount of time each emergency stack lid is open during normal operation of the facility and keep a monthly total for each lid. The permittee shall record any time an emergency stack lid was open and the induced draft fan is not operating. A rolling yearly total for each emergency stack lid shall also be kept.
- b. The permittee shall maintain records of all visible emission observations for the emergency stack lid tests. The permittee shall report all instances when emissions are observed and the corrective actions taken.

#### 6. Specific Reporting Requirements:

The permittee must report each instance in which the facility did not meet each PSD BACT emission limitations listed in **2.** <u>Emission Limitations</u>, above and/or any time the induced draft fan has been non-functional. These deviations must be reported according

to the requirements in permit SECTION F – MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.

# 7. <u>Specific Control Equipment Operating Conditions</u>:

None

## **Group II: Coking Processes and Equipment**

#### Group II-F Emission Unit 11 (EU11) Natural Gas Lances/Spargers

**Description:** The natural gas lances/spargers are used through ports to boost heat in the ovens and/or afterburner tunnel to keep them hot during maintenance activities and during extremely cold weather. It is possible they may be needed to augment the heat going to the HRSGs during turndown and/or situations requiring extra power production.

Size/Rated Capacity: Approximately 90 MMBtu/hr Planned Construction Commencement: 2014 Controls: None

## **APPLICABLE REGULATIONS:**

#### 401 KAR 51:017, Prevention of significant deterioration of air quality

#### 1. **Operating Limitations**:

The BACT determination for Greenhouse Gases [CO2(e)] requires the facility to meet the following design and operational requirements: [401 KAR 51:017]

For the natural gas lances/spargers: The facility shall use good combustion practices and limit the use of the lances to a maximum combined natural gas usage at or below 800 MMscf/yr based on a twelve-month rolling total.

#### **Compliance Demonstration Method:**

Compliance with the GHG BACT shall be demonstrated as follows

- For the natural gas lances/spargers: The permittee shall monitor and record the amount of gas used by the natural gas lancers/spargers on a rolling twelve-month total. See 4. <u>Specific Monitoring Requirements</u>, and 5. <u>Specific Recordkeeping Requirements</u>, below.
- (2) For all GHG BACT: Prepare and maintain a GHG work practices plan. See SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 5.

# 2. <u>Emission Limitations</u>:

The following limits are established as BACT for coking activities for this facility. TPY limits shall be based on twelve-month rolling totals: [401 KAR 51:017, Section 8(2)]

The emissions from use of the natural gas lances/spargers shall not exceed the following limit:

(a) For GHGs [CO2(e)]: 48,111 tpy

(b) Natural gas usage: 800 MMscf/yr

## **Compliance Demonstration Method:**

For demonstrating compliance with the BACT limits established pursuant to 401 KAR 51:017:

For the natural gas lances/spargers, for GHG [CO2(e)] limits, the permittee shall limit the natural gas used to 800 MMscf/yr. See **1.** <u>Operating Limitations</u>, above, and the corresponding Compliance Demonstration Method.

## 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045, Section 4.

## 4. Specific Monitoring Requirements:

The permittee shall monitor and record the amount of natural gas consumed by use of the natural gas lances/spargers. See **5**. <u>Specific Recordkeeping Requirements</u>, below.

#### 5. Specific Recordkeeping Requirements:

The permittee shall keep a monthly record as well as a rolling 12 month total of the amount of gas consumed through the use of the natural gas lances/spargers.

# 6. Specific Reporting Requirements:

None

# 7. <u>Specific Control Equipment Operating Conditions</u>:

None

## **Group II: Coking Processes and Equipment**

#### **Group II-G Coking Process Start-Up**

**Description:** Start-up of the facility is a one-time, extraordinary event during which equipment is heated and cured, oven bricks are expanded to full size and downstream control equipment is seasoned and brought on-line. During start-up, temporary natural gas burners are used at each oven to begin the heating, dry-out and curing of the silica bricks and cast refractory materials in the ovens, crossover tunnel, HRSG header and emergency stacks. Start-up occurs one bank of 60 ovens at a time and can occur only once.

## Emission Unit 12 (EU12) Temporary Natural Gas Burners (Start-up Only)

**Description:** The temporary natural gas burners are used during start-up, only, to begin the heating, dry-out and curing of the refractory materials in the ovens and the crossover tunnel and HRSG header. Once metallurgical coal is loaded into an oven, the gas burner for that unit is removed.

Size/Rated Capacity: 10 MMBtu/hr per oven Planned Construction Commencement: 2014 Controls: None

#### **APPLICABLE REGULATIONS:**

## 401 KAR 51:017, Prevention of significant deterioration of air quality 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries

#### 1. **Operating Limitations:**

- a. For operating limitations pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 1. Operating Limitations.
- b. For start-up, the CDS/BH associated with the oven battery waste gas exhaust shall begin operation within 40 days after all coke ovens are charged with coal. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the BACT shall be demonstrated by submitting certification that the CDS/BH is in operation within 40 days after all the ovens have been initially loaded with coal. See 6. <u>Specific Reporting Requirements</u>, item **b**, below.

c. For start-up, the coal charged to each oven shall not exceed 42.5 tons (per 48 hour cycle) until start-up is complete. [401 KAR 51:017]

## **Compliance Demonstration Method:**

Compliance with the BACT shall be demonstrated by monitoring the amount of coal charged to each oven during start-up of the facility.

d. The BACT determination for SO<sub>2</sub> emissions during start-up requires that the coal sulfur content, based on a weekly composite sample, shall not exceed 1.1 percent by weight of coal. [401 KAR 51:017]

## **Compliance Demonstration Method:**

Compliance with the BACT determination for SO<sub>2</sub> emissions shall be demonstrated by monitoring the sulfur content of the coal during start-up as outlined in 4. <u>Specific</u> <u>Monitoring Requirements</u>, item **b**, and **5**. <u>Specific Recordkeeping Requirements</u>, item **a**, below.

e. For start-up GHG emissions, natural gas shall be used for initial heat-up and the temporary burners used for initial heating of refractory materials shall be permanently removed once start-up is complete. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the requirement shall be demonstrated by submitting certification of the use of natural gas during initial heat-up and removal of the burners in accordance with **6**. **Specific Reporting Requirements**, item **a**, below.

#### 2. <u>Emission Limitations</u>:

For emission limitations pursuant to 40 CFR 63, Subpart L, *National Emission Standards for Coke Oven Batteries*, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 2. <u>Emission Limitations</u>.

## 3. <u>Testing Requirements</u>:

For testing requirements pursuant to 40 CFR 63, Subpart L, *National Emission Standards for Coke Oven Batteries*, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 3. <u>Testing Requirements</u>.

#### 4. <u>Specific Monitoring Requirements</u>:

a. The permittee shall monitor and record the amount of coal charged to each oven during the start-up period.

- b. The permittee shall monitor and record the sulfur content of coal charged to the ovens during start-up. The sulfur content of coal shall be ascertained by taking daily random cross belt sweep type samples of deliveries performed in accordance with ASTM D 2234 or a Division approved alternative. During Start-up, the coal samples shall be composited weekly and sent to an accredited off-site commercial or Division approved laboratory for sulfur content analysis in accordance with ASTM D 5016, High Temperature Tube Furnace with Infra-red Detection or a Division approved alternative. Analytical results may be reported on an as received and/or dry basis. Sampling and analysis may also be performed using a Division approved alternative method. See 5. Specific Recordkeeping Requirements, below.
- c. For monitoring requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 4. Specific Monitoring <u>Requirements</u>.

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall keep records of the results of weekly coal sampling sulfur content analyses performed during start-up and a copy of the certification for any lab used for the analysis.
- b. The permittee shall keep records of the amount of coal charged to each oven during the start-up period.
- c. For recordkeeping requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 5. Specific Recordkeeping <u>Requirements</u>.

# 6. <u>Specific Reporting Requirements</u>:

- a. The permittee shall submit certification that only natural gas was used during initial heatup and the temporary gas burners used in start-up have been removed immediately after the end of start-up and before the beginning of normal operation.
- b. The permittee shall submit certification that the CDS/BH was in operation 40 days after all the ovens have been initially charged with coal
- c. For reporting requirements pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries, see permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item 4. Group II Applicable Federal MACT Standards and Requirements, section A. 6. <u>Specific Reporting</u> <u>Requirements</u>.

# 7. <u>Specific Control Equipment Operating Conditions</u>:

None

Group III: Coke Transfer

Emission Unit 13 (EU13) Coke Handling

**Description:** Coke bins and coke transfer points. Emissions from all these points are fugitive and many points are controlled by enclosure (full or partial, except where dispersion of steam may pose a safety hazard) and/or wet materials. The potential annual coke throughput is 867,447 tons.

Size/Rated Capacity: 600 ton/hr Planned Construction Commencement: 2014 Controls: Enclosure (full or partial, except where dispersion of steam may pose a safety hazard) and/or wet materials

## Emission Unit 14 (EU14) Coke Storage Pile

**Description:** Coke that does not go immediately to crushing/screening is transferred to the coke storage pile where a radial stacker is designed to reduce the coke drop height, and thereby minimize emissions. The pile is 0.9 acres large. A front end loader moves coke from the pile to a conveyor to the coke crushing/screening building. All emissions from this point are fugitive. The potential annual coke throughput is 867,447 wet tons.

Size/Rated Capacity: 600 ton/hr, Planned Construction Commencement: 2014 Controls: Radial Stacker Load In: Good Engineering Practice drop height, wet materials Loader Load Out: no control Coke Storage Pile: no control

## Emission Unit 15 (EU15) Coke Crushing and Screening

**Description:** After quenching, coke may be transferred to the coke crushing and screening building where the coke is sized for different applications. Coke may also be sent to the building from the coke pile. Screening is used to separate the different sizes of coke. The emissions due to these activities are controlled, in part, by the building enclosure. Further control is provided by a baghouse filter. The potential annual amount of coke processed is 867,447 tons.

Size/Rated Capacity: 600 ton/hr Planned Construction Commencement: 2014 Controls: Building enclosure and baghouse

#### Emission Unit 16 (EU16) Coke Breeze Bunker

**Description:** Crushed and screened coke that is too small for metallurgical applications is transported to the breeze bunker. The breeze coke may later be mixed in with coal and reused on site or it may be sold and shipped as a byproduct. All emissions are fugitive, but some control is

provided through partial enclosure and wet material. The potential annual amount of breeze processed is 36,396 tons.

Size/Rated Capacity: 600 ton/hr Planned Construction Commencement: 2014 Controls: Partial Enclosure and wet material for PM

# **APPLICABLE REGULATIONS:**

# 401 KAR 51:017, Prevention of significant deterioration of air quality 401 KAR 59:010, New process operations (Applicable to Emission Unit 15, only) 401 KAR 63:010, Fugitive emissions

# 1. **Operating Limitations**:

a. Pursuant to 401 KAR 51:017, PSD/BACT determination, the permittee shall use enclosure (full and partial) and a baghouse filter to control PM emissions from coke crushing/screening (Emission Unit 15).

# **Compliance Demonstration Method:**

Compliance with the BACT shall be demonstrated by completing construction of the facility in accordance with the design proposed in the complete application and subsequent information provided to the Division. See 6. <u>Specific Reporting</u> <u>Requirements</u>, item **b**, below.

b. Pursuant to 401 KAR 51:017, PSD/BACT determination, coke throughput for Group III point Emission Unit 15 shall not exceed 600 ton/hr and 867,447 ton/yr.

# **Compliance Demonstration Method:**

Compliance with the hourly and annual limits of coke processing shall be demonstrated by monitoring the coke throughput to the Emission Unit 14 Group III equipment. See **4**. **Specific Monitoring Requirements**, item **b**, and **5**. **Specific Recordkeeping Requirements**, item **a**, below. Results of hourly and annual throughput calculations shall be compared with the limits listed above and results recorded. Exceedances shall be reported in accordance with permit section F – MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.

# 2. <u>Emission Limitations</u>:

- a. The following limits are established as BACT for crushing/screening activities (EU15) for this facility. TPY limits shall be based on twelve-month rolling totals: [401 KAR 51:017, Section 8(2)]
  - (1) For PM(filterable): 0.005 gr/dscf and 9.39 tpy
  - (2) For total  $PM_{10}$ (filterable): 0.005 gr/dscf and 9.39 tpy

(3) For total PM<sub>2.5</sub>(filterable): 0.003 gr/dscf and 5.63 tpy

# **Compliance Demonstration Method:**

Permittee shall perform compliance testing for measurable emissions of PM(filterable),  $PM_{10}$ (filterable), and  $PM_{2.5}$ (filterable) from coke crushing/screening once the facility completes start-up and in accordance with section **3.** <u>Testing Requirements</u>, items **a** and **b**, below.

The results of the compliance tests shall be compared to the limits established, above, the results recorded and then reported in accordance with section **5**. <u>Specific Recordkeeping</u> <u>Requirements</u>, item **b**, and **6**. <u>Specific Reporting Requirements</u>, item **a**, below.

b. The hourly emission of PM from a control device or stack of any affected facility shall not exceed the following limits (i.e. Emission Unit 15 Baghouse): [401 KAR 59:010, Section 3(2), Appendix A]

For Process Weights = or < 0.5 ton/hr (1000 lb/hr): use E'<sub>PM</sub> = 2.34 lb/hr

For Process Weights up to 60,000 lb/hr: use equation  $E'_{PM}$  = 3.59 P<sub>wr</sub><sup>0.62</sup>

For Process Weights > 60,000 lb/hr: use equation  $E'_{PM} = 17.31 P_{wr}^{0.16}$ 

Where  $E'_{PM}$  is the allowable particulate emission rate in lb/hr and  $P_{wr}$  is the process weight rate in ton/hr.

# **Compliance Demonstration Method:**

Compliance with the mass emission standard at EU15 can be demonstrated through continuous operation of the baghouse in accordance with the manufacturer's recommendations and/or standard operating procedures. See <u>4. Specific Monitoring</u> **Requirements**, item **c**, below.

c. No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity (i.e. Emission Unit 15 Baghouse). [401 KAR 51:017, 401 KAR 59:010, Section 3(1)(a)]

# **Compliance Demonstration Method:**

Compliance with opacity will be determined by visible emissions testing, in accordance with EPA Method 9. See section 4. <u>Specific Monitoring Requirements</u>, item **a**, below

d. Emission Units Emission Unit 13 and Emission Unit 14 in Group III shall be subject to 401 KAR 63:010, *Standards for Fugitive Emission* (Section 3), as outlined in permit

SECTION D - SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**.

## **Compliance Demonstration Method:**

Compliance with fugitive emissions requirements shall be demonstrated by adherence to the Compliance Demonstration Methods outlined in permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**. See **4**. **Specific Monitoring Requirements**, item **c**, and **5**. **Specific Recordkeeping Requirements**, item **f**, below.

## 3. <u>Testing Requirements</u>:

- a. An initial performance test to determine compliance with the applicable emission limit at the coke crushing/screening emission point shall be performed within 180 days of completion of the facility start-up. Continuous compliance with applicable emission limits or standards shall be demonstrated by a subsequent performance test conducted during each term of the permittee's Title V operating permit (at mid-term and renewal).
- b. Testing to determine compliance with the applicable emission limits or standards shall be performed using the following methods from Appendix A to 40 CFR 60, *Standards of Performance for New Stationary Sources* or Appendix M to 40 CFR 51, *Recommended Test Methods for State Implementation Plans* or Administrator approved alternative:
   From Appendix A to PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Method 5—Determination of particulate matter emissions from stationary sources From Appendix M to PART 51–REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS– Recommended Test Methods for State Implementation Plans

Method 201A—Determination of  $PM_{10}$  and  $PM_{2.5}$  Emissions From Stationary Sources (Constant Sampling Rate Procedure)

c. Upon request by Division personnel, the permittee shall perform a Method 9 Test according to 401 KAR 59:010 Section 4(5), *Test Methods and Procedures*.

# 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall perform a qualitative visible observation of the opacity of emissions from each affected units on a daily basis and maintain a log of the observation. If visible emissions from the units are seen, the permittee shall determine the opacity using Reference Method 9. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations.
- b. The permittee shall monitor and maintain records of the amount of coke processed through the Emission Unit 15 equipment of Group III on a daily basis. The amount shall

be recorded in accordance with 5. <u>Specific Recordkeeping Requirements</u>, item **a**, below.

- c. The permittee shall monitor the pressure drop across the baghouse on a daily basis. See
   5. <u>Specific Recordkeeping Requirements</u>, item f, below.
- d. The permittee shall perform monitoring as required under permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall keep daily records of all coke throughput point Emission Unit 15 of the Group III equipment. The totals for each month shall be added together to produce a 12 month total throughput.
- b. The permittee shall maintain a record of the results of emissions compliance tests.
- c. The permittee shall maintain a log of the daily visible emissions observations.
- d. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators (those who will perform the on-site Method 9 observations) and the date of certification for each person.
- e. The permittee shall maintain a log of the results of Reference Method 9 observations performed and any corrective actions taken and subsequent results.
- f. The permittee shall record the occurrence, duration, cause and any corrective action taken for each incident when the pressure drop reading of the baghouse is outside the range recommended by the manufacturer or established during the most recent performance test.
- g. The permittee shall maintain records of applicable fugitive emission observations as outlined in permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.

# 6. <u>Specific Reporting Requirements</u>:

- a. The results of emission limit compliance tests shall be reported to the Division in accordance with permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.
- b. The permittee shall submit certification that the design elements proposed as BACT for the emission unit or process have been implemented in the final construction. Any deviations from the design elements proposed in the application shall be analyzed for

changes in air emissions profile. Design changes and emission analysis shall be submitted in a report to the Division prior to construction of the changed element.

c. All exceedances or deviations of all operating and emission limitations shall be reported to the Division's Ashland Regional Office in accordance with permit SECTION F – MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.

# 7. <u>Specific Control Equipment Operating Conditions</u>:

The baghouse filter associated with the coke crushing/screening point (Emission Unit 15) shall be operational whenever the emission unit is operating.

## **Group IV: Roadway Emissions**

#### Emission Unit 17 (EU17) Paved Roads

**Description:** Personal vehicles, maintenance vehicles, and heavy trucks hauling coke, breeze, lime, flue gas dust, etc. travel across paved roads and parking areas on the site. Silts and dusts are stirred up as the vehicles travel across site to form fugitive PM emissions. The roadway surfaces are regularly flushed to remove silt and dust as a control measure. The total potential vehicle travel for all three type of vehicles on site is 149,000 miles (VMT).

Size/Rated Capacity: 149,000 VMT/yr Planned Construction Commencement: 2014 Controls: Flushing of paved surfaces

#### **Emission Unit 18 (EU18)** Unpaved Roads

**Description:** Personal and maintenance vehicles travel along unpaved surfaces on the site creating fugitives by stirring up soil and silt. To minimize fugitives, the unpaved surfaces are treated with chemical suppressants and water on an as needed basis. The total potential vehicle travel across unpaved surfaces on site is 15,000 miles.

Size/Rated Capacity: 15,000 VMT/yr Planned Construction Commencement: 2014 Controls: Chemical suppressants, wetting

# **APPLICABLE REGULATIONS:**

# 401 KAR 51:017, Prevention of significant deterioration of air quality 401 KAR 63:010, Fugitive emissions

#### 1. **Operating Limitations**:

a. Pursuant to the BACT determination, the permittee shall use paving and watering to reduce the amount of PM emitted from roadways. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with the BACT requirement may be demonstrated by applying water and/or chemical suppressants to road surfaces to minimize PM emission generation due to vehicle movement.

- b. Pursuant to 401 KAR 63:010, Section 4(4), *Additional Requirements*, the following requirements shall apply:
  - (1) At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. [401 KAR 63:010, Section 4(1)]

(2) No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. [401 KAR 63:010, Section 4(4)]

## **Compliance Demonstration Method:**

Compliance with 401 KAR 63:010, 4(1) and 4(4), shall be demonstrated through daily inspections of open bodied trucks leaving the property to check for proper covering, daily observations of road surfaces and taking corrective action if material spills are discovered.

## 2. <u>Emission Limitations:</u>

The emission units of Group IV shall be subject to 401 KAR 63:010, *Standards for Fugitive Emission* (Section 3), as outlined in permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**.

## **Compliance Demonstration Method:**

Compliance with fugitive emissions requirements shall be demonstrated by adherence to the Compliance Demonstration Methods outlined in permit SECTION D - SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**.

Also, see 4. <u>Specific Monitoring Requirements</u>, item c, and 5. <u>Specific Recordkeeping</u> <u>Requirements</u>, item f, below.

## 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045, Section 4.

#### 4. Specific Monitoring Requirements:

The permittee shall perform monitoring as required under permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.

#### 5. <u>Specific Recordkeeping Requirements:</u>

The permittee shall maintain records of applicable fugitive emission observations as outlined in permit SECTION D – SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.

# 6. <u>Specific Reporting Requirements:</u>

The permittee shall report exceedances or deviations of all operating and emission limitations to the Division in accordance with Section F of this permit.

# 7. Specific Control Equipment Operating Conditions:

None

## Emission Unit 19 (EU19) Cooling Tower

**Description:** A wet cooling tower will cool the hot water flow from the steam turbine powered by the heat recovery steam generators. The tower rejects the heat to the atmosphere through evaporation and can create emissions from the dissolved solids in the water. As a form of control, the tower will use advanced drift elimination design which cuts the amount of fugitive generation by minimizing water loss.

Size/Rated Capacity: 37,560 gpm Planned Construction Commencement: 2014 Controls: Designed for 0.0005 % drift (water loss), low TDS

#### **APPLICABLE REGULATIONS:**

# 401 KAR 51:017, Prevention of significant deterioration of air quality 401 KAR 59:010, New process operations

## 1. **Operating Limitations**:

a. The permittee shall not use chromium-based water treatment chemicals in any cooling tower. [Precludes applicability of 40 CFR 63, Subpart Q, *National emissions standards for hazardous air pollutants for Industrial Process Cooling Towers*]

#### **Compliance Demonstration Method:**

Permittee shall maintain records showing that no chromium is used in the Cooling Tower. See **5**. <u>Specific Recordkeeping Requirements</u>, item **b**, below.

- b. The following requirements are established as BACT for the cooling tower for this facility: [401 KAR 51:017, Section 8(2)]
  - (1) For PM, the cooling towers shall be designed to meet a maximum 0.0005% drift.
  - (2) The cooling tower shall be designed for a maximum 37,560 gallons per minute of water throughput.
  - (3) TDS is limited to 1,500 mg/L

#### **Compliance Demonstration Method:**

Compliance with the BACT items 1 and 2 shall be demonstrated by completing construction of the facility in accordance with the design proposed in the complete application and subsequent information provided to the Division. Compliance with BACT item 3 shall be demonstrated through weekly testing of total dissolved solids in the water supply to the cooling tower. See 6. Specific Reporting Requirements, item  $\mathbf{a}$ , below.
#### 2. <u>Emission Limitations</u>:

a. The hourly emission of PM from a control device or stack of any affected facility shall not exceed the following limits: [401 KAR 59:010, Section 3(2), Appendix A]

For Process Weights = or < 0.5 ton/hr (1000 lb/hr): use E'<sub>PM</sub> = 2.34 lb/hr

For Process Weights up to 60,000 lb/hr: use equation  $E'_{PM}$ = 3.59 $P_{wr}^{0.62}$ 

For Process Weights > 60,000 lb/hr: use equation  $E'_{PM} = 17.31 P_{wr}^{0.16}$ 

Where  $E'_{PM}$  is the allowable particulate emission rate in lb/hr and  $P_{wr}$  is the process weight rate in ton/hr.

#### **Compliance Demonstration Method:**

Compliance is demonstrated by meeting the BACT requirement under 401 KAR 51:017, in that the standard under the incorporated federal MACT is more stringent than the mass emission standard under 401 KAR 59:010, Section 3(2), Appendix A.

b. No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 51:017, 401 KAR 59:010, Section 3(2), Appendix A]

#### **Compliance Demonstration Method:**

Compliance with opacity will be determined by visible emissions testing conducted monthly, in accordance with EPA Method 9. See section **3.** <u>Testing Requirements</u>, item **b**, and **4.** <u>Specific Recordkeeping Requirements</u>, below.

#### 3. <u>Testing Requirements</u>:

- a. Upon request by the Division, the permittee shall perform a cooling water sample analysis to demonstrate compliance with the requirements of 40 CFR 63.402, Subpart Q.
- b. The permittee shall perform a monthly visible emissions test of the cooling tower in accordance with EPA Method 9. Results shall be recorded.
- c. Upon request by the Division, the permittee shall perform a Method 9 Test according to 401 KAR 59:010 Section 4, Test Methods and Procedures, at times other than the scheduled monthly observation.
- d. The permittee shall perform a cooling water sample analysis on a weekly basis to demonstrate compliance with the TDS BACT limit.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall perform monitoring as required under permit SECTION D SOURCE EMISSIONS LIMITATIONS AND TESTING REQUIREMENTS, item **3**, Compliance Demonstration Methods.
- b. The drift eliminators and other cooling tower mechanical controls must be operated and maintained in good working order, consistent with manufacturer's requirements for proper operation.

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the monthly visible emissions observations and any Method 9 opacity readings performed.
- b. The permittee shall retain records and Material Safety Data Sheets documenting that water treatment chemicals used in the cooling tower contain no chromium.
- c. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators (those who will perform the on-site Method 9 observations) and the date of certification for each person.
- d. The permittee shall retain records of the results of all required tests conducted on the cooling water.
- e. Maintenance and repairs of the system shall be documented when they occur.

#### 6. Specific Reporting Requirements:

- a. The permittee shall submit certification that the design elements proposed as BACT for the emission unit or process have been implemented in the final construction. Any deviations from the design elements proposed in the application shall be analyzed for changes in air emissions profile. Design changes and emission analysis shall be submitted in a report to the Division prior to construction of the changed element.
- b. The permittee shall report exceedances or deviations of all operating and emission limitations to the Division in accordance with permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

None

#### Group V: Storage Silos

#### Emission Unit 20 (EU20) Lime Storage Silo

**Description:** This silo stores the dry lime that will be hydrated and then used in the circulating dry scrubber to control emissions due to coking activities. (Group II equipment)

Size/Rated Capacity: 20 ton/hr, 21,400 tpy Planned Construction Commencement: 2014 Controls: Bin Vent with Filter

#### Emission Unit 21 (EU21) Hydrated Lime Storage Silo

**Description:** The dry lime from Emission Unit 20 is mixed with water and held in this silo before it is injected into the absorber unit of the circulating dry scrubber for control of emissions due to coking activities. (Group II equipment)

Size/Rated Capacity: 20 ton/hr, 28,300 tpy Planned Construction Commencement: 2014 Controls: Bin Vent with Filter

#### Emission Unit 22 (EU22) Flue Gas Desulfurization Ash Storage Silo

**Description:** This silo is for storage of solids removed by the baghouse that are not recirculated back into circulating dry scrubber. Collected ash is later sent to a landfill.

Size/Rated Capacity: 20 ton/hr, 50,000 tpy Planned Construction Commencement: 2014 Controls: Bin Vent with Filter

#### **APPLICABLE REGULATIONS:**

## 401 KAR 51:017, Prevention of significant deterioration of air quality 401 KAR 59:010, New process operations

#### 1. **Operating Limitations:**

a. Pursuant to 401 KAR 51:017, the following is established as a BACT requirement for the Group V storage silos for this facility:
(1) For PM, storage silo control (filter) shall be designed to meet a 99 percent control.

#### **Compliance Demonstration Method:**

Compliance with the BACT requirement shall be demonstrated by completing construction of the facility in accordance with the design proposed in the complete application and subsequent information provided to the Division.

- b. Pursuant to 401 KAR 51:017, the following are established as maximum annual throughputs for each of the silos:
  - (1) The total throughput for Emission Unit 20, Lime Storage Silo, shall not exceed 21,400 tpy.
  - (2) The total throughput for Emission Unit 21, Hydrated Lime Storage Silo, shall not exceed 28,300 tpy.
  - (3) The total throughput for Emission Unit 22, Flue Gas Desulfurization Ash Storage Silo, shall not exceed 50,000 tpy.

### **Compliance Demonstration Method:**

Compliance with the annual throughput limits shall be demonstrated through monitoring and recordkeeping as outlined in **4.** <u>Specific Monitoring Requirements</u>, item **a** and **5.** <u>Specific Recordkeeping Requirements</u>, item **a**, below.

#### 2. <u>Emission Limitations</u>:

- a. The following emission limits are established as BACT emissions requirements for each emission unit in Group V: [401 KAR 51:017, Section 8(a)]
  - (1) The total emissions from Emission Unit 20, Lime Storage Silo shall not exceed the following limits:
    - (i) For PM: 0.2354 tpy
    - (ii) For total  $PM_{10}$ : 0.2354 tpy
    - (iii) For total  $PM_{2.5}$ : 0.0589 tpy
  - (2) The total emissions from Emission Unit 21, Hydrated Lime Storage Silo shall not exceed the following limits:
    - (i) For PM: 0.311 tpy
    - (ii) For total  $PM_{10}$ : 0.311 tpy
    - (iii) For total  $PM_{2.5}$ : 0.078 tpy
  - (3) The total emissions from Emission Unit 22, Flue Gas Desulfurization Ash Storage Silo shall not exceed the following limits:
    - (i) For PM: 0.00052 tpy
    - (ii) For total  $PM_{10}$ : 0.000245 tpy
    - (iii) For total PM<sub>2.5</sub>: 0.0000371 tpy

#### **Compliance Demonstration Method:**

Compliance shall be demonstrated by installing bin vent filters that meet the specification of 99 percent control and shall be operated in accordance with the manufacturer's specifications. Bin vent filters shall be in place and operational at all times. See 6. **Specific Reporting Requirements**, item **a**, below.

b. No person shall cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than ten (10) percent opacity. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

Compliance with opacity will be determined by visible emissions testing conducted daily, in accordance with EPA Method 9. See section 3. <u>Testing Requirements</u>, 4. <u>Specific Monitoring Requirements</u>, item b and 5. <u>Specific Recordkeeping Requirements</u>, items b, c, and d, below.

c. The hourly emission of PM from a control device or stack of any affected facility shall not exceed the following limits: [401 KAR 59:010, Section 3(2), Appendix A]

For Process Weights = or < 0.5 ton/hr (1000 lb/hr): use E'<sub>PM</sub> = 2.34 lb/hr

For Process Weights up to 60,000 lb/hr: use equation  $E'_{PM}$  = 3.59 P<sub>wr</sub><sup>0.62</sup>

For Process Weights > 60,000 lb/hr: use equation  $E'_{PM} = 17.31 P_{wr}^{0.16}$ 

Where  $E'_{PM}$  is the allowable particulate emission rate in lb/hr and  $P_{wr}$  is the process weight rate in ton/hr.

#### **Compliance Demonstration Method:**

Compliance is demonstrated by meeting the BACT requirement under 401 KAR 51:017, in that the emission limits established are more stringent than the mass emission standard under 401 KAR 59:010, Section 3(2), Appendix A.

#### 3. <u>Testing Requirements</u>:

Upon request by Division personnel, the permittee shall perform a Method 9 Test according to 401 KAR 59:010 Section (4), Test Methods and Procedures.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor the quantity of lime, hydrated lime, and flue gas desulfurization ash throughput to each (as applicable) silo on an as-loaded basis.
- b. The permittee shall perform a qualitative visible observation of the opacity of emissions from each affected unit on a daily basis and maintain a log of the observation. If visible emissions from the units are seen, the permittee shall determine the opacity using Reference Method 9. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. See 5. <u>Specific Recordkeeping Requirements</u>, items b, c, and d, below.

#### 5. <u>Specific Recordkeeping Requirements</u>:

a. The permittee shall keep monthly records of all lime, hydrated lime, and flue gas desulfurization ash processed through the Group V equipment. The monthly records

shall be added together to produce a rolling 12-month total throughput for each silo. The totals shall be compared to limits listed in **1.** <u>Operating Limitations</u>, item **b**, above, and the results recorded.

- b. The permittee shall maintain a log of the daily visible emissions observations.
- c. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators (those who will perform the on-site Method 9 observations) and the date of certification for each person.
- d. The permittee shall maintain a log of the results of Reference Method 9 observations performed and any corrective actions taken and subsequent results.

#### 6. Specific Reporting Requirements:

- a. The permittee shall submit certification that the design elements proposed as BACT for the emission unit or process have been implemented in the final construction. Any deviations from the design elements proposed in the application shall be analyzed for changes in air emissions profile. Design changes and emission analysis shall be submitted in a report to the Division prior to construction of the changed element.
- b. The permittee shall report exceedances or deviations of all operating and emission limitations to the Division in accordance with Section F of this permit.

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

- a. The filter associated with each Group V storage silo shall be operational whenever the emission unit is in use and maintained and replaced according to manufacturer's recommendations.
- b. See permit SECTION E SOURCE CONTROL EQUIPMENT REQUIREMENTS, for information regarding general control equipment/measure requirements.

#### Emission Unit 23 (EU23) Heat Recovery Steam Generators (HRSGs)

**Description:** Three Heat Recovery Steam Generators, each capable of handling 50 percent of the total waste heat produced, will recover heat from and cool the flue gas produced by the coking process. The recovered heat will be used to generate steam which in turn runs a steam turbine generator to produce electricity. The total potential electrical production for the facility (all three units) will be  $\leq 75$  MW, with 10 MW being used on site. The excess electricity will be sold. These HRSGs meet the definition of cogeneration units under 40 CFR 72.2. There are no emissions from these units.

Size/Rated Capacity: ≤25 MW each Planned Construction Commencement: 2014 Controls: Not Applicable

#### **NON-APPLICABLE REGULATIONS:**

#### 40 CFR 72, Subpart A--ACID RAIN PROGRAM GENERAL PROVISIONS

#### 1. **Operating Limitations**:

To preclude the applicability of 40 CFR 72, Subpart A, Acid Rain Program General Provision, the permittee shall supply equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis).

However, if in any three calendar year period after November 15, 1990, such unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain Program.

#### **Compliance Demonstration Method:**

Permittee shall monitor the electrical output sold and maintain records showing that the limit has not been exceeded on a calendar year total basis. See **4.** <u>Specific Monitoring</u> <u>Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u>, below.

#### 2. <u>Emission Limitations</u>:

Not applicable.

#### 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045, Section 4.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor the actual electrical output of each unit on a monthly basis.
- b. The permittee shall monitor the sale of actual electrical output to any utility power distribution system for each unit on a monthly and yearly basis.
- c. The permittee shall monitor the percentage of potential electrical output from each unit sold to any utility power distribution system.

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the monthly electrical output of each unit.
- b. The permittee shall retain records of the sale of actual electrical output (in MWe-hrs) sold to any utility power distribution system for each unit on a monthly basis. A 12-month total for each unit and for all three units shall be kept for each calendar year of operation. An annual average of electrical output sold for each unit for each 3 year period shall also be kept.

#### 6. <u>Specific Reporting Requirements</u>:

The permittee shall report exceedances or deviations of all operating to the Division in accordance with permit SECTION F – MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS.

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

None

#### Emission Unit 24 (EU24) Emergency Engine A, Fire Pump < 600 HP

**Description:** An emergency stationary diesel-fueled engine for the fire pump that will operate a limited number of hours per year (100 hr/yr) and is an affected source under the federal New Source Performance Standard (NSPS). Unless there is an emergency, the engine will only run for occasional testing. The engine has no controls.

Size/Rated Capacity: 150 HP Displacement: < 10 liter/cylinder Planned Model Year: 2013 or later Controls: None

#### **APPLICABLE REGULATIONS:**

- 401 KAR 51:017, Prevention of significant deterioration of air quality
- 40 CFR 60, Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

#### 1. **Operating Limitations**:

- a. Stationary compression ignition (CI) internal combustion engines (ICE) subject to 40 CFR 60 Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510 (b) for nonroad diesel fuel. [40 CFR 60.4207 (b)]
- b. The permittee shall do all of the following, except as permitted under paragraph (g) of 40 CFR 60.4211: [40 CFR 60.4211 (a)]
  - (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211 (a)(1)]
  - (2) Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211 (a)(2)]
  - (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable. [40 CFR 60.4211 (a)(3)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a CI fire pump engine that is manufactured during or after the model year that applies to the fire pump engine power rating in table 3 of 40 CFR 60, Subpart IIII, and shall comply with the emission standards specific in 40 CFR 60.4205 (c), the permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(c), as applicable, for the same model year and NFPA nameplate engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of 40 CFR 60.4211. See **1. Operating Limitations**, item **d**, below. [40 CFR 60.4211(c)]

- c. If the permittee owns or operates an emergency stationary ICE, the permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211. In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of 40 CFR 60.4211, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211, the engine will not be considered an emergency engine and shall meet all requirements for non-emergency engines. [40 CFR 60.4211(f)]
  - (1) There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4211(f)(1)]
  - (2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of 40 CFR 60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of 40 CFR 60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph. [40 CFR 60.4211 (f)(2)]
    - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 60.4211 (f)(2)(i)]
    - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. [40 CFR 60.4211 (f)(2)(ii)]
    - (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [40 CFR 60.4211 (f)(2)(iii)]
  - (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of 40 CFR 60.4211. Except as provided in paragraph (f)(3)(i) of 40 CFR 60.4211, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4211 (f)(3)]

- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: [40 CFR 60.4211 (f)(3)(i)]
  - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; [40 CFR 60.4211 (f)(3)(i)(A)]
  - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. [40 CFR 60.4211 (f)(3)(i)(B)]
  - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [40 CFR 60.4211 (f)(3)(i)(C)]
  - (D) The power is provided only to the facility itself or to support the local transmission and distribution system. [40 CFR 60.4211 (f)(3)(i)(D)]
  - (E) The permittee identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the permittee. [40 CFR 60.4211 (f)(3)(i)(E)]

#### **Compliance Demonstration Method:**

#### See 6. <u>Specific Reporting Requirements</u>, item **a**, below.

d. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee shall demonstrate compliance with paragraph (g) of 40 CFR 60.4211. [40 CFR 60.4211(g)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, and the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emissionrelated settings in a way that is not permitted by the manufacturer, the permittee shall keep a maintenance plan and records of conducted maintenance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee

changes emission-related settings in a way that is not permitted by the manufacturer. [40 CFR 60.4211 (g)(2)]

e. The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine. [40 CFR 60.4206]

#### **Compliance Demonstration Method:**

#### See 1. Operating Limitations, item b, above.

- f. An affected source that meets any of the criteria in paragraphs (c)(6) and (7) of 40 CFR 63.6590 shall meet the requirements of this 40 CFR Part 63 by meeting the requirements of 40 CFR part 60 Subpart IIII. No further requirements apply for such engines under 40 CFR 63. [40 CFR 63.6590(c)]
  - A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions; [40 CFR 63.6590(c)(6)]
  - (2) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions. [40 CFR 63.6590(c)(7)]

#### **Compliance Demonstration Method:**

Compliance with the requirements of 40 CFR 63 shall be demonstrated by complying with the applicable provisions of 40 CFR 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* as stated in this permit section.

#### 2. <u>Emission Limitations</u>:

a. For each fire pump engine with a displacement of less than 30 liters per cylinder the permittee shall comply with the emission standards in Table 4 to 40 CFR 60 Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, for all pollutants. [40 CFR 60.4205 (c), 401 KAR 51:017]

#### **Compliance Demonstration Method:**

See 1. Operating Limitations, items a, b, and d, above.

b. The following emission limit is established as the BACT emission requirement for EU24: [401 KAR 51:017, Section 8(a)]

For CO<sub>2</sub>: 43 tpy

#### **Compliance Demonstration Method:**

Compliance shall be demonstrated by calculating the GHG emissions as outlined in 40 CFR 98, Subpart C using the manufacturer's design specifications and fuel use on a rolling 12 month total.

#### 3. <u>Testing Requirements</u>:

Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted as required by the Division.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. If the permittee owns or operates an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]
- b. The permittee shall monitor fuel usage and hours of operation on a monthly basis and keep a rolling yearly total for each. [401 KAR 52:020, Section 10].

#### 5. Specific Recordkeeping Requirements:

- a. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the permittee is not required to submit an initial notification. If the emergency stationary CI internal combustion engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]
- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]
- c. The permittee shall maintain records of fuel usage and hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- d. See permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS and 40 CFR 60.4218 (40 CFR 60, Subpart IIII, Table 8) for additional requirements.
- e. The permittee shall maintain records of the calculated GHG emissions based on 40 CFR 98, Subpart C.

#### 6. <u>Specific Reporting Requirements</u>:

- a. If the permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), or operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), the permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of 40 CFR 60.4214. [40 CFR 60.4214 (d)] (1) The report shall contain the following information: [40 CFR 60.4214 (d)(1)]
  - (i) Company name and address where the engine is located. [40 CFR 60.4214 (d)(1)(i)]
  - (ii) Date of the report and beginning and ending dates of the reporting period. [40 CFR 60.4214 (d)(1)(ii)]
  - (iii) Engine site rating and model year. [40 CFR 60.4214 (d)(1)(iii)]
  - (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. [40 CFR 60.4214 (d)(1)(iv)]
  - (v) Hours operated for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). [40 CFR 60.4214 (d)(1)(v)]
  - (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). [40 CFR 60.4214 (d)(1)(vi)]
  - (vii) Hours spent for operation for the purposes specified in 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(3)(i). The report shall also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. [40 CFR 60.4214 (d)(1)(vii)]
  - (2) The first annual report shall cover the calendar year 2015 and shall be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year shall be submitted no later than March 31 of the following calendar year. [40 CFR 60.4214 (d)(2)]
  - (3) The annual report shall be submitted electronically using the subpart-specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to 40 CFR 60, Subpart IIII is not available in CEDRI at the time that the report is due, the written report shall be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4. [40 CFR 60.4214 (d)(3)]
- b. The permittee shall submit engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement to the Division 30 days prior to installation. [401 KAR 52:020, Section 10]

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

None

#### Emission Unit 25 (EU25) Emergency Generator B <600 HP

**Description:** An emergency stationary diesel-fueled engine for operation in the screening station area that will operate a limited number of hours per year (100 hr/yr). It is an affected source under the federal NSPS and has no controls. Unless there is an emergency, the engine will only run for occasional testing.

Size/Rated Capacity: 150 HP Planned Model Year: 2013 or later Controls: None

#### **APPLICABLE REGULATIONS:**

- 401 KAR 51:017 Prevention of significant deterioration of air quality
- 40 CFR 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

#### 1. **Operating Limitations**:

- a. Stationary CI ICE subject to 40 CFR 60 Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510 (b) for nonroad diesel fuel. [40 CFR 60.4207 (b)]
- b. The permittee shall do all of the following, except as permitted under paragraph (g) of 40 CFR 60.4211: [40 CFR 60.4211 (a)]
  - (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211 (a)(1)]
  - (2) Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211 (a)(2)]
  - (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable. [40 CFR 60.4211 (a)(3)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a 2007 model year and later stationary CI internal combustion engine and shall comply with the emission standards specified in 40 CFR 60.4205 (b), the permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205 (b), as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of 40 CFR 60.4211. See **1.** <u>Operating Limitations</u>, item **d**, below. [40 CFR 60.4211(c)]

c. If the permittee owns or operates an emergency stationary ICE, the permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1)

through (3) of 40 CFR 60.4211. In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of 40 CFR 60.4211, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211, the engine will not be considered an emergency engine and shall meet all requirements for non-emergency engines. [40 CFR 60.4211(f)]

- (1) There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4211(f)(1)]
- (2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of 40 CFR 60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of 40 CFR 60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph. [40 CFR 60.4211 (f)(2)]
  - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 60.4211 (f)(2)(i)]
  - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. [40 CFR 60.4211 (f)(2)(ii)]
  - (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [40 CFR 60.4211 (f)(2)(iii)]
- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of 40 CFR 60.4211. Except as provided in paragraph (f)(3)(i) of 40 CFR 60.4211, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4211 (f)(3)]

- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: [40 CFR 60.4211 (f)(3)(i)]
  - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; [40 CFR 60.4211 (f)(3)(i)(A)]
  - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. [40 CFR 60.4211 (f)(3)(i)(B)]
  - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [40 CFR 60.4211 (f)(3)(i)(C)]
  - (D) The power is provided only to the facility itself or to support the local transmission and distribution system. [40 CFR 60.4211 (f)(3)(i)(D)]
  - (E) The permittee identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the permittee. [40 CFR 60.4211 (f)(3)(i)(E)]

#### **Compliance Demonstration Method:**

#### See 6. <u>Specific Reporting Requirements</u>, item **a**, below.

d. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee shall demonstrate compliance with paragraph (g) of 40 CFR 60.4211. [40 CFR 60.4211 (g)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, and the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emissionrelated settings in a way that is not permitted by the manufacturer, the permittee shall keep a maintenance plan and records of conducted maintenance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee

changes emission-related settings in a way that is not permitted by the manufacturer. [40 CFR 60.4211 (g)(2)]

e. The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine. [40 CFR 60.4206]

#### **Compliance Demonstration Method:**

#### See 1. Operating Limitations, item b, above.

- f. An affected source that meets any of the criteria in paragraphs (c)(6) and (7) of 40 CFR 63.6590 shall meet the requirements of this 40 CFR Part 63 by meeting the requirements of 40 CFR part 60 Subpart IIII, for compression ignition engines. No further requirements apply for such engines under 40 CFR 63. [40 CFR 63.6590(c)]
  - (1) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions; [40 CFR 63.6590(c)(6)]
  - (2) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions. [40 CFR 63.6590(c)(7)]

#### **Compliance Demonstration Method:**

Compliance with the requirements of 40 CFR 63 shall be demonstrated by complying with the applicable provisions of 40 CFR 60 Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* as outlined in this permit section.

#### 2. <u>Emission Limitations</u>:

a. If the permittee owns or operates a 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that is not a fire pump engine, the permittee shall comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power. [40 CFR 60.4205(b), 401 KAR 51:017]

#### **Compliance Demonstration Method:**

See 1. <u>Operating Limitations</u>, items **a**, **b**, and **d**, above.

b. If the permittee owns or operates a 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 50 HP, that engine shall meet the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants. [40 CFR 60.4202(a)(2)]

#### **Compliance Demonstration Method:**

See 1. Operating Limitations, items a, b, and d, above.

c. The following emission limit is established as the BACT emission requirement for EU25: [401 KAR 51:017, Section 8(a)]

For CO<sub>2</sub>: 43 tpy

#### **Compliance Demonstration Method:**

Compliance shall be demonstrated by calculating the GHG emissions as outlined in 40 CFR 98, Subpart C using the manufacturer's design specifications and fuel use on a rolling 12 month total.

#### 3. <u>Testing Requirements</u>:

Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted as required by the Division.

#### 4. Specific Monitoring Requirements:

- a. If the permittee owns or operates an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]
- b. The permittee shall monitor fuel usage and hours of operation on a monthly basis and keep a rolling yearly total for each. [401 KAR 52:020, Section 10].

#### 5. Specific Recordkeeping Requirements:

- a. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the permittee is not required to submit an initial notification. If the emergency stationary CI internal combustion engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]
- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]

- c. The permittee shall maintain records of fuel usage and hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- d. See permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS and 40 CFR 60.4218 (40 CFR 60, Subpart III, Table 8) for additional requirements.
- e. The permittee shall maintain records of the calculated GHG emissions based on 40 CFR 98, Subpart C.

#### 6. <u>Specific Reporting Requirements</u>:

- a. If the permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), or operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), the permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of 40 CFR 60.4214. [40 CFR 60.4214 (d)]
  (1) The report shall contain the following information: [40 CFR 60.4214 (d)(1)]
  - (1) The report shall contain the following information: [40 CFR 60.4214 (d)(1)]
    - (i) Company name and address where the engine is located. [40 CFR 60.4214 (d)(1)(i)]
    - (ii) Date of the report and beginning and ending dates of the reporting period. [40 CFR 60.4214 (d)(1)(ii)]
    - (iii) Engine site rating and model year. [40 CFR 60.4214 (d)(1)(iii)]
    - (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. [40 CFR 60.4214 (d)(1)(iv)]
    - (v) Hours operated for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). [40 CFR 60.4214 (d)(1)(v)]
    - (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). [40 CFR 60.4214 (d)(1)(vi)]
    - (vii) Hours spent for operation for the purposes specified in 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(3)(i). The report shall also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. [40 CFR 60.4214 (d)(1)(vii)]
  - (2) The first annual report shall cover the calendar year 2015 and shall be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year shall be submitted no later than March 31 of the following calendar year. [40 CFR 60.4214 (d)(2)]
  - (3) The annual report shall be submitted electronically using the subpart-specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to 40 CFR 60, Subpart IIII is not available in CEDRI at the time that the report is due, the written report shall be submitted to the

Administrator at the appropriate address listed in 40 CFR 60.4. [40 CFR 60.4214 (d)(3)]

b. The permittee shall submit engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement to the Division 30 days prior to installation. [401 KAR 52:020, Section 10]

#### 7. Specific Control Equipment Operating Conditions:

None

#### **Group VI:** Internal Combustion Engines: Emergency Generators = or > 600 HP

Emission Unit 26 (EU26) Emergency Generator C

**Description:** An emergency, limited use, stationary diesel-fueled engine for the power island that will operate a 100 hours per year or less and is an affected source under the federal NSPS. Unless there is an emergency, the engine will only run for occasional testing. The engine has no controls.

Size/Rated Capacity: 610 HP Planned Model Year: 2013 or later Controls: None

#### Emission Unit 27 (EU27) Emergency Generator D

**Description:** An emergency, limited use, stationary diesel-fueled engine for the turbine building that will operate 100 hours per year or less and is an affected source under the federal NSPS. Unless there is an emergency, the engine will only run for occasional testing. The engine has no controls.

Size/Rated Capacity: 610 HP Planned Model Year: 2013 or later Controls: None

#### **APPLICABLE REGULATIONS:**

- 401 KAR 51:017 Prevention of significant deterioration of air quality
- 40 CFR 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

#### 1. **Operating Limitations**:

- a. Stationary CI ICE subject to 40 CFR 60 Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510 (b) for nonroad diesel fuel. [40 CFR 60.4207 (b)]
- b. The permittee shall do all of the following, except as permitted under paragraph (g) of 40 CFR 60.4211: [40 CFR 60.4211 (a)]
  - Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211 (a)(1)]
  - (2) Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211 (a)(2)]

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable. [40 CFR 60.4211 (a)(3)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a 2007 model year and later CI internal combustion engine and shall comply with the emission standards specified in 40 CFR 60.4205 (b), the permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205 (b) or (c), as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of 40 CFR 60.4211. See **1.** <u>Operating Limitations</u>, item **d**, below. [40 CFR 60.4211 (c)]

- c. If the permittee owns or operates an emergency stationary ICE, the permittee shall operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211. In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of 40 CFR 60.4211, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (f)(1) through (3) of 40 CFR 60.4211, the engine will not be considered an emergency engine and shall meet all requirements for non-emergency engines. [40 CFR 60.4211(f)]
  - (1) There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4211(f)(1)]
  - (2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of 40 CFR 60.4211 for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of 40 CFR 60.4211 counts as part of the 100 hours per calendar year allowed by this paragraph. [40 CFR 60.4211 (f)(2)]
    - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 60.4211 (f)(2)(i)]
    - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an

#### Page: 84 of 149

## SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. [40 CFR 60.4211 (f)(2)(ii)]

- (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [40 CFR 60.4211 (f)(2)(iii)]
- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of 40 CFR 60.4211. Except as provided in paragraph (f)(3)(i) of 40 CFR 60.4211, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4211 (f)(3)]
  - (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: [40 CFR 60.4211 (f)(3)(i)]
    - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; [40 CFR 60.4211 (f)(3)(i)(A)]
    - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. [40 CFR 60.4211 (f)(3)(i)(B)]
    - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [40 CFR 60.4211 (f)(3)(i)(C)]
    - (D) The power is provided only to the facility itself or to support the local transmission and distribution system. [40 CFR 60.4211 (f)(3)(i)(D)]
    - (E) The permittee identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the permittee. [40 CFR 60.4211 (f)(3)(i)(E)]

#### **Compliance Demonstration Method:**

See 6. <u>Specific Reporting Requirements</u>, item **a**, below.

d. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee shall demonstrate compliance with paragraph (g) of 40 CFR 60.4211. [40 CFR 60.4211 (g)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a stationary CI internal combustion engine greater than 500 HP, the permittee shall keep a maintenance plan and records of conducted maintenance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after a change in emission-related settings in a way that is not permitted by the manufacturer. The permittee shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [40 CFR 60.4211 (g)(3)]

e. The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine. [40 CFR 60.4206]

#### **Compliance Demonstration Method:**

See 1. <u>Operating Limitations</u>, item **b**, above.

#### 2. Emission Limitations:

a. If the permittee owns or operates a 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines, the permittee shall comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power. [40 CFR 60.4205(b), 401 KAR 51:017]

#### **Compliance Demonstration Method:**

b. If the permittee owns or operates a 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 50 HP, that engine shall meet the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants. [40 CFR 60.4202(a)(2)]

#### **Compliance Demonstration Method:**

See 1. <u>Operating Limitations</u>, items **a**, **b** and **d**, above.

c. The following emission limit is established as the BACT emission requirement for EU26 and EU27 (total): [401 KAR 51:017, Section 8(a)]

For CO<sub>2</sub>: 350 tpy

#### **Compliance Demonstration Method:**

Compliance shall be demonstrated by calculating the GHG emissions as outlined in 40 CFR 98, Subpart C using the manufacturer's design specifications and fuel use on a rolling 12 month total.

#### 3. <u>Testing Requirements</u>:

Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted as required by the Division.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. If the permittee is the owner or operator of a stationary CI internal combustion engine, the permittee shall meet the monitoring requirements of 40 CFR 60.4209. In addition the permittee shall also meet the monitoring requirements specified in 40 CFR 60.4211. [40 CFR 60.4209]
  - (1) If the permittee is the owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]
  - (2) If the permittee is the owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter shall be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]
- b. The permittee shall monitor fuel usage and hours of operation on a monthly basis and keep a rolling yearly total for each. [401 KAR 52:020, Section 10]

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the permittee is not required to submit an initial notification. If the emergency stationary CI internal combustion engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]
- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure

monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]

- c. The permittee shall maintain records of fuel usage and hours of operation on a monthly basis and keep a rolling yearly total for each. [401 KAR 52:020, Section 10]
- d. See permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS and 40 CFR 60.4218 (40 CFR 60, Subpart IIII, Table 8) for additional requirements.
- e. The permittee shall maintain records of the calculated GHG emissions based on 40 CFR 98, Subpart C.

#### 6. Specific Reporting Requirements:

- a. If the permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), or operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), the permittee shall submit an annual report according to the requirements in paragraphs (d)(1) through (3) of 40 CFR 60.4214. [40 CFR 60.4214 (d)] (1) The report shall contain the following information: [40 CFR 60.4214 (d)(1)]
  - (i) Company name and address where the engine is located. [40 CFR 60.4214 (d)(1)(i)]
  - (ii) Date of the report and beginning and ending dates of the reporting period. [40 CFR 60.4214 (d)(1)(ii)]
  - (iii) Engine site rating and model year. [40 CFR 60.4214 (d)(1)(iii)]
  - (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. [40 CFR 60.4214 (d)(1)(iv)]
  - (v) Hours operated for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). [40 CFR 60.4214 (d)(1)(v)]
  - (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). [40 CFR 60.4214 (d)(1)(vi)]
  - (vii) Hours spent for operation for the purposes specified in 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(3)(i). The report shall also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. [40 CFR 60.4214 (d)(1)(vii)]
  - (2) The first annual report shall cover the calendar year 2015 and shall be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year shall be submitted no later than March 31 of the following calendar year. [40 CFR 60.4214 (d)(2)]
  - (3) The annual report shall be submitted electronically using the subpart-specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI)

that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to 40 CFR 60, Subpart IIII is not available in CEDRI at the time that the report is due, the written report shall be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4. [40 CFR 60.4214 (d)(3)]

- b. If the permittee starts up a new stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, the permittee shall submit an Initial Notification not later than 120 days after becoming subject to 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6645(c)]
- c. An affected source which meets either of the criteria in paragraphs (c)(1)(i) through (ii) of this section does not have to meet the requirements of 40 CFR 63, Subpart ZZZZ and of 40 CFR 63 Subpart A except for the initial notification requirements of 40 CFR 63.6645(f). [40 CFR 63.6590(b)]
  - (1) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
  - (2) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
- d. The permittee shall submit engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement to the Division 30 days prior to installation. [401 KAR 52:020, Section 10]

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

None

#### **Group VII:** Internal Combustion Engines: Diesel Engines > 500 and = or < 800 HP

Emission Unit 28 (EU28) Crane E (Barge Unloading)

**Description:** This diesel-fueled engine will power the crane used for barge unloading. This equipment is an affected source under the federal NSPS and has no controls.

Size/Rated Capacity: 800 HP Planned Model Year: 2013 or later Controls: None

#### Emission Unit 29 (EU29) Crane F (Coal Pile)

**Description:** This diesel-fueled engine will power the crane used for coal pile loadout. This equipment is an affected source under the federal NSPS and has no controls.

Size/Rated Capacity: 800 HP Planned Model Year: 2013 or later Controls: None

#### **APPLICABLE REGULATIONS:**

- 401 KAR 51:017 Prevention of significant deterioration of air quality
- 40 CFR 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
- 1. **Operating Limitations**:
  - a. Stationary CI ICE subject to 40 CFR 60 Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510 (b) for nonroad diesel fuel. [40 CFR 60.4207 (b)]
  - b. The permittee shall do all of the following, except as permitted under paragraph (g) of 40 CFR 60.4211: [40 CFR 60.4211 (a)]
    - Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211 (a)(1)]
    - (2) Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211 (a)(2)]
    - (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable. [40 CFR 60.4211 (a)(3)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a 2007 model year and later stationary CI internal combustion engine and shall comply with the emission standards specified in 40 CFR 60.4204 (b), the permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b), as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of 40 CFR 60.4211. See **1. Operating Limitations**, item **c**, below. [40 CFR 60.4211(c)]

c. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee shall demonstrate compliance with paragraph (g) of 40 CFR 60.4211. [40 CFR 60.4211 (g)]

#### **Compliance Demonstration Method:**

If the permittee owns or operates a stationary CI internal combustion engine greater than 500 HP, the permittee shall keep a maintenance plan and records of conducted maintenance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after a change in emission-related settings in a way that is not permitted by the manufacturer. The permittee shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [40 CFR 60.4211 (g)(3)]

d. The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine. [40 CFR 60.4206]

#### **Compliance Demonstration Method:**

#### See 1. <u>Operating Limitations</u>, item **b**, above.

e. If the permittee operates a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, the permittee shall comply with the emission limitations in Table 2a to 40 CFR 63 Subpart ZZZZ and the operating limitations in Table 2b to 40 CFR 63 Subpart ZZZZ which apply. [40 CFR 63.6600(b)]

#### **Compliance Demonstration Method:**

Compliance with the numerical emission limitations established in 40 CFR 63 Subpart ZZZZ is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6600]

f. The permittee shall demonstrate initial compliance with each emission and operating limitation that applies according to Table 5 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6630(a)]

#### **Compliance Demonstration Method:**

During the initial performance test, the permittee shall establish each operating limitation in Tables 1b and 2b of 40 CFR 63 Subpart ZZZZ that applies. [40 CFR 63.6630(b)]

g. The permittee shall be in compliance with the emission limitations and operating limitations in 40 CFR 63 Subpart ZZZZ that apply at all times. [40 CFR 63.6605(a)]

#### **Compliance Demonstration Method:**

At all times the permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance procedures [40 CFR 63.6605(b)]

h. The permittee shall demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c and Table 2d to 40 CFR 63 Subpart ZZZZ that apply according to methods specified in Table 6 to 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6640(a)]

#### **Compliance Demonstration Method:**

See 6. <u>Specific Reporting Requirements</u>, item d, for continuous compliance requirements.

For new stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. [40 CFR 63.6640(d)]

i. The permittee shall restrict hours of operation to no more than 16 hours per day for each engine on a monthly average. [401 KAR 51:017]

#### **Compliance Demonstration Method:**

For each calendar month, the permittee shall calculate average hours of operation per day, for each engine, by dividing the total hours the engine operated by the number of days in the calendar month. See **5.** <u>Specific Recordkeeping Requirements</u>, item **d**, below, and **6.** <u>Specific Reporting Requirements</u>, item **a**, below. [401 KAR 52:020 Section 10]

#### 2. <u>Emission Limitations</u>:

a. If the permittee owns or operates a 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder, the permittee shall comply with the emission standards for new CI engines in 40 CFR 60.4201 for the 2007 model year and later stationary CI ICE, as applicable. [40 CFR 60.4204 (b), 401 KAR 51:017]

#### **Compliance Demonstration Method:**

#### See 1. Operating Limitations, items **a**, **b**, and **c**, above.

b. If the permittee owns or operates a 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 3,000 HP and a displacement of less than 10 liters per cylinder, that engine shall meet the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power. [40 CFR 60.4201 (a)]

#### **Compliance Demonstration Method:**

#### See 1. <u>Operating Limitations</u>, items **a**, **b**, and **c**, above.

c. The following emission limit is established as the BACT emission requirement for EU28 and EU29 (total): [401 KAR 51:017, Section 8(a)]

For CO<sub>2</sub>: 5,430 tpy

#### **Compliance Demonstration Method:**

Compliance shall be demonstrated by calculating the GHG emissions as outlined in 40 CFR 98, Subpart C using the manufacturer's design specifications and fuel use on a rolling 12 month total.

#### 3. <u>Testing Requirements</u>:

- a. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted as required by the Division.
- b. For each stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, the permittee shall test according to the following requirements: [40 CFR 63.6610]

The permittee shall conduct the initial performance test or other initial compliance demonstrations in Table 4 to 40 CFR 63 Subpart ZZZZ that apply within 180 days after the compliance date that is specified for the stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2). [40 CFR 63.6610(a)]

- c. The permittee shall conduct each performance test in Tables 3 and 4 of 40 CFR 63 Subpart ZZZZ that apply. [40 CFR 63.6620(a)]
- d. Each performance test shall be conducted according to the requirements specified by Table 4 to 40 CFR 63 Subpart ZZZZ. If the permittee owns or operates a non-operational stationary RICE that is subject to performance testing, the permittee does not need to start up the engine solely to conduct the performance test. Owners and operators of a nonoperational engine can conduct the performance test when the engine is started up again. [40 CFR 63.6620(b)]
- e. The permittee shall conduct three separate test runs for each performance test required in 40 CFR 63 Subpart ZZZZ, as specified in 40 CFR 63.7(e)(3). Each test run shall last at least 1 hour unless otherwise specified. [40 CFR 63.6620(d)]
- f. The permittee shall determine compliance with the percent reduction requirement if this option is selected according to the methods specified in 40 CFR 63.6620(e).
- g. If the permittee complies with the emission limitation to reduce CO without using an oxidation catalyst, the permittee shall petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. The permittee shall not conduct the initial performance test until after the petition has been approved by the Administrator. [40 CFR 63.6620(f)]
- h. If the permittee petitions the Administrator for approval of operating limitations, the petition shall include the information described in 40 CFR 63.6620(g)(1)-(5). [40 CFR 63.6620(g)]
- i. If the permittee petitions the Administrator for no operating limitations, the petition shall include the information described in 40 CFR 63.6620(h)(1)-(7). [40 CFR 63.6620(h)]

- j. The engine percent load during a performance test shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination shall be included in the notification of compliance status. The following information shall be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test shall be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value shall be provided. [40 CFR 63.6620(i)]
- k. If the permittee must comply with the emission limitations and operating limitations, the permittee shall conduct subsequent performance tests as specified in Table 3 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6615]
- 1. An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test shall meet all of the conditions described in paragraphs (d)(1) through (5) of 40 CFR 63.6610. [40 CFR 63.6610(d)]
  - (1) The test shall have been conducted using the same methods specified in 40 CFR 63 Subpart ZZZZ, and these methods must have been followed correctly.
  - (2) The test shall not be older than 2 years.
  - (3) The test shall be reviewed and accepted by the Administrator.
  - (4) Either no process or equipment changes shall have been made since the test was performed, or the owner or operator shall be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.
  - (5) The test shall be conducted at any load condition within plus or minus 10 percent of 100 percent load.

#### 4. <u>Specific Monitoring Requirements</u>:

- a. If the permittee is the owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter shall be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached. [40 CFR 60.4209 (b)]
- b. The permittee shall monitor fuel usage and hours of operation on a monthly basis and keep a rolling yearly total for each. [401 KAR 52:020, Section 10].
- c. If the permittee elects to install a CEMS as specified in Table 5 of 40 CFR 63 Subpart ZZZZ, the permittee shall install, operate, and maintain a CEMS to monitor CO and either oxygen or  $CO_2$  according to the requirements of (a)(1)-(4) of 40 CFR 63.6625. If

## Page: 95 of 149

## SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

the permittee meets a requirement to reduce CO emissions, the CEMS shall be installed at both the inlet and outlet of the control device. If the permittee meets a requirement to limit the concentration of CO, the CEMS shall be installed at the outlet of the control device. [40 CFR 63.6625(a)]

- (1) Each CEMS shall be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B. [40 CFR 63.6625(a)(1)]
- (2) The permittee shall conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1. [40 CFR 63.6625(a)(2)]
- (3) As specified in 40 CFR 63.8(c)(4)(ii), each CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. The permittee shall have at least two data points, with each representing a different 15-minute period, to have a valid hour of data. [40 CFR 63.6625(a)(3)]
- (4) The CEMS data shall be reduced as specified in 40 CFR 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration. [40 CFR 63.6625(a)(4)]
- d. If the permittee is required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of 40 CFR 63 Subpart ZZZZ, the permittee shall install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of 40 CFR 63.6625. [40 CFR 63.6625(b)]
  - (1) The permittee shall prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of 40 CFR 63.6625 and in 40 CFR 63.8(d). As specified in 40 CFR 63.8(f)(4), the permittee may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of 40 CFR 63.6625 in the site-specific monitoring plan.
    - (i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
    - (ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;
    - (iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;
    - (iv) Ongoing operation and maintenance procedures in accordance with provisions in 49 CFR 63.8(c)(1)(ii) and (c)(3); and
    - (v) Ongoing reporting and recordkeeping procedures in accordance with provisions in 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
  - (2) The permittee shall install, operate, and maintain each CPMS in continuous operation according to the procedures in the site-specific monitoring plan.
  - (3) The CPMS shall collect data at least once every 15 minutes (see also section 63.6635).

#### Page: 96 of 149

## SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.
- (5) The permittee shall conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in the site-specific monitoring plan at least annually.
- (6) The permittee shall conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.
- e. If the permittee operates a new, reconstructed, or existing stationary engine, the permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to 40 CFR 63 Subpart ZZZZ apply. [40 CFR 63.6625(h)]
- f. If the permittee must comply with emission and operating limitations, the permittee shall monitor and collect data according to the following requirements. [40 CFR 63.6635(a)]
  - (1) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall monitor continuously at all times that the stationary RICE is operating.
  - (2) The permittee shall not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The permittee shall, however, use all the valid data collected during all other periods.

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]
- b. The permittee shall maintain records of fuel usage and hours of operation on a monthly basis and maintain a record of the rolling yearly total for each. [401 KAR 52:020, Section 10].
- c. See permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS and 40 CFR 60.4218 (40 CFR 60, Subpart IIII, Table 8) for additional requirements.
- d. The permittee shall maintain records of the daily hours of operation, for each crane, averaged for each month, as determined by 1. <u>Operating Limitations</u> Compliance Demonstration Method, item f, above. [401 KAR 52:020 Section 10]
# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- e. The permittee shall maintain records of the calculated GHG emissions based on 40 CFR 98, Subpart C.
- f. If the permittee must comply with the emission and operating limitations, the permittee shall keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of 40 CFR 63.6655. [40 CFR 63.6655(a)]
  - (1) A copy of each notification and report that the permittee submitted to comply with 40 CFR 63 Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that the permittee submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).
  - (2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
  - (3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).
  - (4) Records of all required maintenance performed on the air pollution control and monitoring equipment.
  - (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.
- g. For each CEMS or CPMS, the permittee shall keep the records listed in paragraphs (b)(1) through (3) of 40 CFR 63.6655.
  - (1) Records described in 40 CFR 63.10(b)(2)(vi) through (xi).
  - (2) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).
  - (3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in 40 CFR 63.8(f)(6)(i), if applicable. [40 CFR 63.6655(b)]
- h. The permittee shall keep the records required in Table 6 of 40 CFR 63 Subpart ZZZZ to show continuous compliance with each emission or operating limitation that applies.

### 6. <u>Specific Reporting Requirements</u>:

- a. The permittee shall include, in each semi-annual reports required by SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS, item 6, the daily hours of operation, for each crane, averaged for each month in the reporting period, and a comparison with the limitation in 1. <u>Operating Limitations</u>, item f, above. [401 KAR 52:020 Section 10]
- b. See permit SECTION F MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS for any applicable requirements.
- c. The permittee shall submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]

## SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d. The permittee shall report each instance in which the permittee did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to 40 CFR 63 Subpart ZZZZ that apply. These instances are deviations from the emission and operating limitations in 40 CFR 63 Subpart ZZZZ. These deviations shall be reported according to the requirements in 40 CFR 63.6650. If the permittee changes the catalyst, the permittee shall reestablish the values of the operating parameters measured during the initial performance test. When the permittee reestablishes the values of the operating parameters, the permittee shall also conduct a performance test to demonstrate that the permittee is meeting the required emission limitation applicable to the stationary RICE. [40 CFR 63.6640(b)]
- e. The permittee shall submit all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply by the dates specified if the permittee owns or operates a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions. [40 CFR 63.6645(a)]
- f. If the permittee starts up a new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, the permittee shall submit an Initial Notification not later than 120 days after the permittee becomes subject to 40 CFR 63 Subpart ZZZZ.
- g. If the permittee is required to conduct a performance test, the permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1).
- h. If the permittee is required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to 40 CFR 63 Subpart ZZZZ, the permittee shall submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii).
  - (1) For each initial compliance demonstration required in Table 5 to 40 CFR 63 Subpart ZZZZ that does not include a performance test, the permittee shall submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
  - (2) For each initial compliance demonstration required in Table 5 to 40 CFR 63 Subpart ZZZZ that includes a performance test conducted according to the requirements in Table 3 to 40 CFR 63 Subpart ZZZZ, the permittee shall submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 40 CFR 63.10(d)(2).
- i. The permittee shall submit each report in Table 7 of 40 CFR 63 Subpart ZZZZ that applies. [40 CFR 63.6650(a)]
- j. The Compliance report shall contain the information in paragraphs (c)(1) through (6) of 40 CFR 63.6650.
  - (1) Company name and address.

#### Page: 99 of 149

## SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report
- (3) Date of report and beginning and ending dates of the reporting period.
- (4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.6605(b), including actions taken to correct a malfunction.
- (5) If there are no deviations from any emission or operating limitations that apply, a statement that there were no deviations from the emission or operating limitations during the reporting period.
- (6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.
- k. For each deviation from an emission or operating limitation that occurs for a stationary RICE where the permittee is not using a CMS to comply with the emission or operating limitations in 40 CFR 63 Subpart ZZZZ, the Compliance report shall contain the information in paragraphs (c)(1) through (4) of 40 CFR 63.6650 and the information in paragraphs (d)(1) and (2) of 40 CFR 63.6650. [40 CFR 63.6650(d)]
  - (1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.
  - (2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.
- 1. For each deviation from an emission or operating limitation occurring for a stationary RICE where the permittee is using a CMS to comply with the emission and operating limitations in 40 CFR 63 Subpart ZZZZ, the permittee shall include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of 40 CFR 63.6650. [40 CFR 63.6650(e)]
  - (1) The date and time that each malfunction started and stopped.
  - (2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.
  - (3) The date, time, and duration that each CMS was out-of-control, including the information in 40 CFR 63.8(c)(8).
  - (4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.
  - (5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.
  - (6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

## SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.
- (8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.
- (9) A brief description of the stationary RICE.
- (10)A brief description of the CMS.
- (11)The date of the latest CMS certification or audit.
- (12)A description of any changes in CMS, processes, or controls since the last reporting period.
- m. The permittee shall submit engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement to the Division 30 days prior to installation. [401 KAR 52:020, Section 10]

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

None

## SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. Although these activities are designated as insignificant the permittee shall comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

	Description	Generally Applicable Regulation
1.	14 Diesel Storage Tanks	401 KAR 59:050
2.	Gasoline Storage Tank	401 KAR 59:050
3.	3 Kerosene Storage Tanks	NA

- 1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.
- 2. PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, VOC, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, and NOx, emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.
- 3. Pursuant to 401 KAR 63:010, Standards for Fugitive Emissions [Section 3(1)]:
  - a. No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:
    - (i) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land; [401 KAR 63:010, Section 3(1)(a)]
    - (ii) Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts; [401 KAR 63:010, Section 3(1)(b)]
    - (iii) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations; [401 KAR 63:010, Section 3(1)(c)]
    - (iv) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]
    - (v) The maintenance of paved roadways in a clean condition; [401 KAR 63:010, Section 3(1)(e)]
    - (vi) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water. [401 KAR 63:010, Section 3(1)(f)]
    - (vii) Open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered at all times when in motion. [401 KAR 63:010, Section 4(1)]

#### **Compliance Demonstration Method:**

Compliance with fugitive emissions requirements shall be demonstrated by applying the applicable reasonable precautions, including the use of water and chemical suppressants to minimize PM emission generation due to vehicle movement. Additionally, the permittee shall perform daily inspections of trucks leaving the property for proper coverage of materials likely to become airborne, perform daily observations of paved streets and roadways, and take corrective actions as necessary.

The permittee shall keep records that daily inspections of trucks and road surfaces are performed and shall keep records of any corrective actions taken as a result of observing material deposits on paved streets and roadways.

b. The Permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. [401 KAR 63:010, Section 3(2)]

#### **Compliance Demonstration Method:**

The permittee shall perform the daily qualitative visual observations at the lot lines (edge of the property) and maintain a log of observations. The daily observation log at the edge of the property shall note time, section of lot line, and any visible emissions observed. Should emissions be seen crossing the lot line, corrective measures shall be implemented, and noted in the log book.

- c. Pursuant to 401 KAR 63:010, *Standards for Fugitive Emissions* [Section 3(3)], when dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air. [401 KAR 63:010, Section 3(3)]
- 4. Group II Applicable Federal MACT Standards and Requirements:

## A. Pursuant to 40 CFR 63, Subpart L, National Emission Standards for Coke Oven Batteries:

#### 1. **Operating Limitations**:

- a. The emission limitations set forth in 40 CFR 63, Subpart L, shall apply at all times except during a period of startup, shutdown, or malfunction. The startup period shall be determined by the Administrator and shall not exceed 180 days. [40 CFR 63.300(e)]
- b. For charging operations, the owner or operator shall install, operate, and maintain an emission control system for the capture and collection of emissions in a manner consistent with good air pollution control practices for minimizing emissions from the charging operation. [40 CFR 63.303(b)(2)]
- c. The owner or operator of any nonrecovery coke oven battery shall meet the work practice standards in paragraphs (c)(1) and (2) of 40 CFR 63.303. [40 CFR 63.303(c)]

- (1) The owner or operator shall observe each coke oven door after charging and record the oven number of any door from which visible emissions occur. Emissions from coal spilled during charging or from material trapped within the seal area of the door are not considered to be a door leak if the owner or operator demonstrates that the oven is under negative pressure, and that no emissions are visible from the top of the door or from dampers on the door. [40 CFR 63.303(c)(1)]
- (2) Except as provided in paragraphs (c)(2)(i) of 40 CFR 63.303, if a coke oven door leak is observed at any time during the coking cycle, the owner or operator shall take corrective action and stop the leak within 15 minutes from the time the leak is first observed. No additional leaks are allowed from doors on that oven for the remainder of that oven's coking cycle. [40 CFR 63.303(c)(2)]

The owner or operator may take corrective action and stop the leak within 45 minutes (instead of 15 minutes) from the time the leak is first observed for a maximum of two times per battery in any semiannual reporting period. [40 CFR 63.303(c)(2)(i)]

- d. The owner or operator shall develop and implement written procedures for adjusting the oven uptake damper to maximize oven draft during charging and for monitoring the oven damper setting during each charge to ensure that the damper is fully open. [40 CFR 63.303(d)(4)]
- e. Each owner or operator shall prepare and submit a written emission control work practice plan for each coke oven battery. The plan shall be designed to achieve compliance with visible emission limitations for coke oven doors and charging operations under 40 CFR 63, Subpart L. [40 CFR 63.306(a)]
  - (1) The work practice plan shall address each of the topics specified in paragraph (b) of 40 CFR 63.306 in sufficient detail and with sufficient specificity to allow the Division to evaluate the plan for completeness and enforceability. [40 CFR 63.306(a)(1)]
  - (2) The initial plan and any revisions shall be submitted to the Administrator or the delegated State, local or Tribal authority. The Administrator (or the delegated State, local or Tribal authority) may require revisions to the initial plan only where the Administrator finds either that the plan does not address each subject area listed in paragraph (b) of 40 CFR 63.306 for each emission point subject to a visible emission standard under 40 CFR 63, Subpart L, or that the plan in unenforceable because it contains requirements that are unclear. [40 CFR 63.306(a)(2)]
  - (3) During any period of time that an owner or operator is required to implement the provisions of a plan for a particular emission point, the failure to implement one or more obligations under the plan and/or any recordkeeping requirement(s) under 40 CFR 63.311(f)(4) for the emission point during a particular day is a single violation. [40 CFR 63.306(a)(3)]

- f. The owner or operator shall organize the work practice plan to indicate clearly which parts of the plan pertain to each emission point subject to visible emission standards under 40 CFR 63, Subpart L. Each of the following provisions, at a minimum, shall be addressed in the plan: [40 CFR 63.306(b)]
  - (1) An initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors, in job requirements related to emission control and the requirements of 40 CFR, Subpart L, including work practice requirements. Contractors with responsibilities that impact emission control may be trained by the owner or operator or by qualified contractor personnel; however, the owner or operator shall ensure that the contractor training program complies with the requirements of 40 CFR 63.306. The training program in the plan shall include: [40 CFR 63.306(b)(1)]
    - (i) A list, by job title, of all personnel that are required to be trained and the emission point(s) associated with each job title; [40 CFR 63.306(b)(1)(i)]
    - (ii) An outline of the subjects to be covered in the initial and refresher training for each group of personnel; [40 CFR 63.306(b)(1)(ii)]
    - (iii) A description of the training method(s) that will be used (e.g., lecture, video tape); [40 CFR 63.306(b)(1)(iii)]
    - (iv) A statement of the duration of initial training and the duration and frequency of refresher training; [40 CFR 63.306(b)(1)(iv)]
    - (v) A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion of the initial and refresher training; and [40 CFR 63.306(b)(1)(v)]
    - (vi) A description of the procedure to be used to document performance of plan requirements pertaining to daily operation of the coke oven battery and its emission control equipment, including a copy of the form to be used, if applicable, as required under the plan provisions implementing paragraph (b)(7) of 40 CFR 63.306. [40 CFR 63.306(b)(1)(vi)]
  - (2) Procedures for controlling emissions from nonrecovery coke oven batteries including: [40 CFR 63.306(b)(6)]
    - (i) Procedures for charging coal into the oven, including any special procedures for minimizing air infiltration during charging, maximizing the draft on the oven, and for replacing the door promptly after charging; [40 CFR 63.306(b)(6)(i)]
    - (ii) If applicable, procedures for the capture and control of charging emissions; [40 CFR 63.306(b)(6)(ii)]
    - (iii) Procedures for cleaning coke from the door sill area for both sides of the battery after completing the pushing operation and before replacing the coke oven door; [40 CFR 63.306(b)(6)(iii)]
    - (iv) Procedures for cleaning coal from the door sill area after charging and before replacing the push side door; [40 CFR 63.306(b)(6)(iv)]
    - (v) Procedures for filling gaps around the door perimeter with sealant material, if applicable; and [40 CFR 63.306(b)(6)(v)]
    - (vi) Procedures for detecting and controlling emissions from smoldering coal. [40 CFR 63.306(b)(6)(vi)]

- (3) Procedures for maintaining, for each emission point subject to visible emission limitations under 40 CFR 63, Subpart L, a daily record of the performance of plan requirements pertaining to the daily operation of the coke oven battery and its emission control equipment, including: [40 CFR 63.306(b)(7)]
  - (i) Procedures for recording the performance of such plan requirements; and [40 CFR 63.306(b)(7)(i)]
  - (ii) Procedures for certifying the accuracy of such records by the owner or operator. [40 CFR 63.306(b)(7)(ii)]
- (4) Any additional work practices or requirements specified by the Administrator according to paragraph (d) of 40 CFR 63.306. [40 CFR 63.306(b)(8)]
- g. [If required] The owner or operator of a coke oven battery shall implement the provisions of the coke oven emission control work practice plan according to the following requirements: [40 CFR 63.306(c)]
  - (1) The owner or operator of a coke oven battery subject to visible emission limitations under 40 CFR 63, Subpart L shall: [40 CFR 63.306(c)(1)]
    - (i) Implement the provisions of the work practice plan pertaining to a particular emission point following the second independent exceedance of the visible emission limitation for the emission point in any consecutive 6-month period, by no later than 3 days after receipt of written notification of the second such exceedance from the certified observer. For the purpose of this paragraph (c)(1)(i), the second exceedance is "independent" if either of the following criteria is met: [40 CFR 63.306(c)(1)(i)]
      - (A) The second exceedance occurs 30 days or more after the first exceedance; [40 CFR 63.306(c)(1)(i)(A)]
      - (B) In the case of coke oven doors, the 29-run average, calculated by excluding the highest value in the 30-day period, exceeds the value of the applicable emission limitation; or [40 CFR 63.306(c)(1)(i)(B)]
      - (C) In the case of charging emissions, the 29-day logarithmic average, calculated in accordance with Method 303 in appendix A to 40 CFR 63 by excluding the valid daily set of observations in the 30-day period that had the highest arithmetic average, exceeds the value of the applicable emission limitation. [40 CFR 63.306(c)(1)(i)(C)]
    - (ii) Continue to implement such plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days if work practice requirements are implemented pursuant to paragraph (c)(1)(i) of 40 CFR 63.306. After the visible emission limitation for a particular emission point is achieved for 90 consecutive days, any exceedances prior to the beginning of the 90 days are not included in making a determination under paragraph (c)(1)(i) of 40 CFR 63.306. [40 CFR 63.306(c)(1)(ii)]
  - (2) The owner or operator of a coke oven battery not subject to visible emission limitations under 40 CFR 63, Subpart L shall: [40 CFR 63.306(c)(2)]
    - (i) Implement the provisions of the work practice plan pertaining to a particular emission point following the second exceedance in any consecutive 6-month period of a federally enforceable emission limitation for that emission point for coke oven doors or charging operations by no later than 3 days after

receipt of written notification from the applicable enforcement agency; and [40 CFR 63.306(c)(2)(i)]

- (ii) Continue to implement such plan provisions for 90 consecutive days after the most recent written notification from the enforcement agency of an exceedance of the visible emission limitation. [40 CFR 63.306(c)(2)(ii)]
- h. [If required] Revisions to the work practice emission control plan will be governed by the provisions in paragraph (d) and in paragraph (a)(2) of 40 CFR 63.306. [40 CFR 63.306(d)]
  - (1) The Division may request the owner or operator to review and revise as needed the work practice emission control plan for a particular emission point if there are 2 exceedances of the applicable visible emission limitation in the 6-month period that starts 30 days after the owner or operator is required to implement work practices under paragraph (c) of 40 CFR 63.306. In the case of a coke oven battery subject to visual emission limitations under 40 CFR 63, Subpart L, the second exceedance shall be independent of the criteria in paragraph (c)(1)(i) of 40 CFR 63.306. [40 CFR 63.306(d)(1)]
  - (2) The Division may not request the owner or operator to review and revise the plan more than twice in any 12 consecutive month period for any particular emission point unless the Division disapproves the plan according to the provisions in paragraph (d)(6) of 40 CFR 63.306. [40 CFR 63.306(d)(2)]
  - (3) If the certified observer calculates that a second exceedance (or, if applicable, a second independent exceedance) has occurred, the certified observer shall notify the owner or operator. No later than 10 days after receipt of such a notification, the owner or operator shall notify the Division of any finding of whether work practices are related to the cause or the solution of the problem. The notification is subject to review by the Division according to the provisions in paragraph (d)(6) of 40 CFR 63.306. [40 CFR 63.306(d)(3)]
  - (4) The owner or operator shall submit a revised work practice plan within 60 days of notification from the Division under paragraph (d)(1) of 40 CFR 63.306, unless the Division grants an extension of time to submit the revised plan. [40 CFR 63.306(d)(4)]
  - (5) If the Division requires a plan revision, the Division may require the plan to address a subject area or areas in addition to those in paragraph (b) of 40 CFR 63.306, if the Division determines that without plan coverage of such an additional subject area, there is a reasonable probability of further exceedances of the visible emission limitation for the emission point for which a plan revision is required. [40 CFR 63.306(d)(5)]
  - (6) The Division may disapprove a plan revision required under paragraph (d) of 40 CFR 63.306 if the Division determines that the revised plan is inadequate to prevent exceedances of the visible emission limitation under 40 CFR 63, Subpart L for the emission point for which a plan revision is required or, in the case of a battery not subject to visual emission limitations under 40 CFR 63, Subpart L, other federally enforceable emission limitations for such emission point. The Division may also disapprove the finding that may be submitted pursuant to paragraph (d)(3) of 40 CFR 63.306 if the Division determines that a revised plan

is needed to prevent exceedances of the applicable visible emission limitations. [40 CFR 63.306(d)(6)]

- i. At all times including periods of startup, shutdown, and malfunction, the owner or operator shall operate and maintain the coke oven battery and its pollution control equipment required under 40 CFR 63, Subpart L, in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by any applicable performance standards under 40 CFR 63, Subpart L. Failure to adhere to the requirement of this paragraph shall not constitute a separate violation if a violation of an applicable performance or work practice standard has also occurred. [40 CFR 63.310(a)]
- j. Each owner or operator of a coke oven battery shall develop, according to paragraph (c) of 40 CFR 63.310, a written startup, shutdown, and malfunction plan that describes procedures for operating the battery, including associated air pollution control equipment, during a period of a startup, shutdown, or malfunction in a manner consistent with good air pollution control practices for minimizing emissions, and procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable. [40 CFR 63.310(b)]
- k. Malfunctions shall be corrected as soon as practicable after their occurrence. [40 CFR 63.310(c)]
- 1. In order for the provisions of paragraph (i) of 40 CFR 63.310 to apply with respect to the observation (or set of observations) for a particular day, notification of a startup, shutdown, or a malfunction shall be made by the owner or operator: [40 CFR 63.310(d)]
  - (1) If practicable, to the certified observer if the observer is at the facility during the occurrence; or [40 CFR 63.310(d)(1)]
  - (2) To the enforcement agency, in writing, within 24 hours of the occurrence first being documented by a company employee, and if the notification under paragraph (d)(1) of 40 CFR 63.310 was not made, an explanation of why no such notification was made. [40 CFR 63.310(d)(2)]
- m. Within 14 days of the notification made under paragraph (d) of 40 CFR 63.310, or after a startup or shutdown, the owner or operator shall submit a written report to the applicable permitting authority that: [40 CFR 63.310(e)]
  - (1) Describes the time and circumstances of the startup, shutdown, or malfunction; and [40 CFR 63.310 (e)(1)]
  - (2) Describes actions taken that might be considered inconsistent with the startup, shutdown, or malfunction plan. [40 CFR 63.310(e)(2)]
- n. To satisfy the requirements of 40 CFR 63.310 to develop a startup, shutdown, and malfunction plan, the owner or operator may use the standard operating procedures manual for the battery, provided the manual meets all the requirements for 40 CFR

63.310 and is made available for inspection at reasonable times when requested by the Administrator. [40 CFR 63.310(g)]

- o. The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan: [40 CFR 63.310(h)]
  - (1) Does not address a startup, shutdown, or malfunction event that has occurred; [40 CFR 63.310(h)(1)]
  - (2) Fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions; or [40 CFR 63.310(h)(2)]
  - (3) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable. [40 CFR 63.310(h)(3)]
- p. If the owner or operator demonstrates to the satisfaction of the Administrator that a startup, shutdown, or malfunction has occurred, then an observation occurring during such startup, shutdown, or malfunction shall not: [40 CFR 63.310(i)]
  - (1) Constitute a violation of relevant requirements of 40 CFR 63.310; [40 CFR 63.310(i)(1)]
  - (2) Be used in any compliance determination under 40 CFR 63.309; or [40 CFR 63.310(i)(2)]
  - (3) Be considered for purposes of 40 CFR 63.306, until the Administrator has resolved the claim that a startup, shutdown, or malfunction has occurred. If the Administrator determines that a startup, shutdown, or malfunction has not occurred, such observations may be used for purposes of 40 CFR 63.306, regardless of whether the owner or operator further contests such determination. The owner's or operator's receipt of written notification from the Administrator that a startup, shutdown, or malfunction has not occurred will serve, where applicable under 40 CFR 63.306, as written notification from the certified observer that an exceedance has occurred. [40 CFR 63.310(i)(3)]
- q. The owner or operator of a nonrecovery coke oven battery subject to the work practice standards for door leaks in 40 CFR 63.303(c) shall include the information specified in paragraphs (j)(1) and (2) of 40 CFR 63.310 in the startup, shutdown, and malfunction plan. [40 CFR 63.310(j)]
  - (1) Identification of potential malfunctions that will cause a door to leak, preventative maintenance procedures to minimize their occurrence, and corrective action procedures to stop the door leak. [40 CFR 63.310(j)(1)]
  - (2) Identification of potential malfunctions that affect charging emissions, preventative maintenance procedures to minimize their occurrence, and corrective action procedures. [40 CFR 63.310(j)(2)]

#### **Compliance Demonstration Method:**

For items **a** through **q**,

For compliance demonstration methods for 40 CFR 63, Subpart L requirements, see **4.** <u>Specific Monitoring Requirements</u>, **5.** <u>Specific Recordkeeping Requirements</u>, and **6.** <u>Specific Reporting Requirements</u>, below, in this section.

#### 2. <u>Emission Limitations</u>:

a. No owner or operator shall cause to be discharged or allow to be discharged to the atmosphere coke oven emissions from each affected new nonrecovery coke oven battery subject to the applicability requirements in 40 CFR 63.300(b) that exceed any of the following emission limitations or requirements: [40 CFR 63.300(b)] For coke oven doors;

0.0 percent leaking coke oven doors, as determined by the procedures in 40 CFR 63.309(d)(1); [40 CFR 63.303(b)(1)(i)]

or

The owner or operator shall monitor and record, once per day for each day of operation, the pressure in each oven or in a common battery tunnel to ensure that the ovens are operated under a negative pressure. [40 CFR 63.303(b)(1)(ii)]

#### **Compliance Demonstration Method:**

For Coke Oven Doors:

Compliance with 40 CFR 303(b)(1)(i) shall be demonstrated by meeting the conditions in **3.** <u>Testing Requirements</u>, item **d**, below. [40 CFR 63.309(d)(1)]

Compliance with 40 CFR 303(b)(1)(ii) shall be demonstrated by monitoring and recording as required.

- b. The owner or operator of a new nonrecovery coke oven battery shall meet the emission limitations and work practice standards in paragraphs (d)(1) and (2) of 40 CFR 63.303. [40 CFR 63.303(d)]
  - (1) The owner or operator shall not discharge or cause to be discharged to the atmosphere from charging operations any fugitive emissions that exhibit an opacity greater than 20 percent, as determined by the procedures in 40 CFR 63.309(j). [40 CFR 63.303(d)(1)]
  - (2) The owner or operator shall not discharge or cause to be discharged to the atmosphere any emissions of particulate matter (PM) from a charging emissions control device that exceed 0.0081 pounds per ton (lb/ton) of dry coal charged, as determined by the procedures in 40 CFR 63.309(k). [40 CFR 63.303(d)(2)]

#### **Compliance Demonstration Method:**

Compliance with 40 CFR 63.303(d)(1) shall be demonstrated by implementing item h in 3. <u>Testing Requirements</u>, below, recording the results, as outlined in

- **5.** <u>Specific Recordkeeping Requirements</u>, item a(1)(vi), below, and making the records available for inspection.
- (2) Compliance with 40 CFR 63.303(d)(2) shall be demonstrated by implementing item i in 3. <u>Testing Requirements</u>, below, and by following the procedures in the emissions control Work Practice Plan per 40 CFR 63.306. Non-compliant results shall be reported in accordance with 40 CFR 63.303(d)(3)(iv).

#### 3. <u>Testing Requirements</u>:

- a. Except as otherwise provided, a daily performance test shall be conducted each day, 7 days per week for each new coke oven battery, the results of which shall be used in accordance with procedures specified in 40 CFR 63, Subpart L, to determine compliance with each of the applicable visible emission limitations for coke oven doors and charging operations in 40 CFR 63, Subpart L. If a facility pushes and charges only at night, then that facility shall, at its option, change their schedule and charge during daylight hours or provide adequate lighting so that visible emission inspections can be made at night. "Adequate lighting" will be determined by the enforcement agency. [40 CFR 63.309(a)]
  - (1) Each performance test is to be conducted according to the procedures and requirements in 40 CFR 63.309 and in Method 303 or 303A in appendix A to 40 CFR 63 or Methods 9 and 22 in appendix A to part 60 of 40 CFR (where applicable). [40 CFR 63.309(a)(1)]
  - (2) Each performance test is to be conducted by a certified observer. [40 CFR 63.309(a)(2)]
  - (3) The certified observer shall complete any reasonable safety training program offered by the owner or operator prior to conducting any performance test at a coke oven battery. [40 CFR 63.309(a)(3)]
  - (4) (i) The EPA shall be the enforcement agency during any period of time that a delegation of enforcement authority is not in effect or a withdrawal of enforcement authority under 40 CFR 63.313 is in effect, and the Administrator is responsible for performing the inspections required by 40 CFR 63.309, pursuant to 40 CFR 63.313(c). [40 CFR 63.309(a)(5)(i)]
    - (ii) Within thirty (30) days of receiving notification from the Administrator that the EPA is the enforcement agency for a coke oven battery, the owner or operator shall enter into a contract providing for the inspections and performance tests required under 40 CFR 63.309 to be performed by a Method 303 certified observer. The inspections and performance tests will be conducted at the expense of the owner or operator, during the period that the EPA is the implementing agency. [40 CFR 63.309(a)(5)(ii)]
- b. The enforcement agency shall commence daily performance tests on the applicable date (initial start-up) specified in 40 CFR 63.300(a). [40 CFR 63.309(b)]
- c. The certified observer shall conduct each performance test according to the requirements in paragraph (c) of 40 CFR 63.309: [40 CFR 63.309(c)]

- (1) The certified observer shall conduct one run each day to observe and record visible emissions from each coke oven on each coke oven battery. The certified observer also shall conduct five runs to observe and record the seconds of visible emissions per charge for five consecutive charges from each coke oven battery. The observer may perform additional runs as needed to obtain and record a visible emissions value (or set of values) for an emission point that is valid under Method 303 or Method 303A in appendix A to 40 CFR 63. Observations from fewer than five consecutive charges shall constitute a valid set of charging observations only in accordance with the procedures and conditions specified in sections 3.8 and 3.9 of Method 303 in appendix A to 40 CFR 63. [40 CFR 63.309(c)(1)]
- (2) If a valid visible emissions value (or set of values) is not obtained for a performance test, there is no compliance determination for that day. Compliance determinations will resume on the next day that a valid visible emissions value (or set of values) is obtained. [40 CFR 63.309(c)(2)]
- (3) In no case shall the owner or operator knowingly block a coke oven door, or any portion of a door for the purpose of concealing emissions or preventing observations by the certified observer. [40 CFR 63.309(c)(6)]
- d. Using the observations obtained from each performance test, the enforcement agency shall compute and record, in accordance with the procedures and requirements of Method 303 or 303A in appendix A to 40 CFR 63, for each day of operations on which a valid emissions value (or set of values) is obtained: [40 CFR 63.309(d)]

The 30-run rolling average of the percent leaking coke oven doors on each coke oven battery, using the equations in section 3.4.3.2 of Method 303A in appendix A to 40 CFR 63. [40 CFR 63.309(d)(1)]

- e. The certified observer shall make available to the implementing agency as well as to the owner or operator, a copy of the daily inspection results by the end of the day and shall make available the calculated rolling average for each emission point to the owner or operator as soon as practicable following each performance test. The information provided by the certified observer is not a compliance determination. For the purpose of notifying an owner or operator of the results obtained by a certified observer, the person does not have to be certified. [40 CFR 63.309(e)]
- f. Compliance shall not be determined more often than the schedule provided for performance tests under 40 CFR 63.309. If additional valid emissions observations are obtained (or in the case of charging, valid sets of emission observations), the arithmetic average of all valid values (or valid sets of values) obtained during the day shall be used in any computations performed to determine compliance under paragraph (d) of 40 CFR 63.309 or determinations under 40 CFR 63.306. [40 CFR 63.309(f)]
- g. No observations obtained during any program for training or for certifying observers under 40 CFR 63, Subpart L shall be used to determine compliance with the requirements of 40 CFR 63, Subpart L, or any other federally enforceable standard.

[40 CFR 63.309(i)]

- h. The owner or operator of a new nonrecovery coke oven battery shall conduct a performance test once each week to demonstrate compliance with the opacity limit in 40 CFR 63.303(d)(1). The owner or operator shall conduct each performance test according to the procedures and requirements in paragraphs (j)(1) through (3) of 40 CFR 63.309. [40 CFR 63.309(j)]
  - (1) Using a certified observer, determine the average opacity of five consecutive charges per week for each charging emissions capture system if charges can be observed according to the requirements of Method 9 (40 CFR part 60, appendix A), except as specified in paragraphs (j)(1)(i) and (ii) of 40 CFR 63.309. [40 CFR 63.309(j)(1)]
    - (i) Instead of the procedures in section 2.4 of Method 9 (40 CFR part 60, appendix A), record observations to the nearest 5 percent at 15-second intervals for at least five consecutive charges. [40 CFR 63.309(j)(1)(i)]
    - (ii) Instead of the procedures in section 2.5 of Method 9 (40 CFR part 60, appendix A), determine and record the highest 3-minute average opacity for each charge from the consecutive observations recorded at 15-second intervals. [40 CFR 63.309(j)(1)(ii)]
  - (2) Opacity observations are to start when the door is removed for charging and end when the door is replaced. [40 CFR 63.309(j)(2)]
  - (3) Using the observations recorded from each performance test, the certified observer shall compute and record the average of the highest 3-minute averages for five consecutive charges. [40 CFR 63.309(j)(3)]
- i. The owner or operator of a new nonrecovery coke oven battery shall conduct a performance test to demonstrate initial compliance with the emission limitations for a charging emissions control device in 40 CFR 63.303(d)(2) within 180 days of the compliance date (initial start-up) that is specified for the affected source in 40 CFR 63.300(a)(4) and report the results in the notification of compliance status. The owner or operator shall prepare a site-specific test plan according to the requirements in 40 CFR 63.7(c) and shall conduct each performance test according to the requirements in 40 CFR 63.7(e)(1) and paragraphs (k)(1) through (4) of 40 CFR 63.309. [40 CFR 63.309(k)]
  - (1) Determine the concentration of PM according to the following test methods in appendix A to 40 CFR part 60. [40 CFR 63.309(k)(1)]
    - (i) Method 1 to select sampling port locations and the number of traverse points. Sampling sites shall be located at the outlet of the control device and prior to any releases to the atmosphere. [40 CFR 63.309(k)(1)(i)]
    - (ii) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.[40 CFR 63.309(k)(1)(ii)]
    - (iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas. The permittee may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas, ANSI/ASME PTC 19.10-1981, "Flue and Exhaust

Gas Analyses" (incorporated by reference, see 40 CFR 63.14). [40 CFR 63.309(k)(1)(iii)]

- (iv) Method 4 to determine the moisture content of the stack gas. [40 CFR 63.309(k)(1)(iv)]
- (v) Method 5 or 5D, as applicable, to determine the concentration of front half PM in the stack gas. [40 CFR 63.309(k)(1)(v)]
- (2) During each PM test run, sample only during periods of actual charging when the capture system fan and control device are engaged. Collect a minimum sample volume of 30 dry standard cubic feet (dscf) during each test run. Three valid test runs are needed to comprise a performance test. Each run shall start at the beginning of a charge and finish at the end of a charge (i.e., sample for an integral number of charges). [40 CFR 63.309(k)(2)]
- (3) Determine and record the total combined weight of tons of dry coal charged during the duration of each test run. [40 CFR 63.309(k)(3)]
- (4) Compute the process-weighted mass emissions  $(E_p)$  for each test run using Equation 1 of 40 CFR 63.309 as follows: [40 CFR 63.309(k)(4)]

$$E_{p} = \frac{C \times Q \times T}{P \times K} \qquad (\text{Eq 1})$$

Where:

E<sub>p</sub> = Process weighted mass emissions of PM, lb/ton;

- C = Concentration of PM, grains per dry standard cubic foot (gr/dscf);
- Q = Volumetric flow rate of stack gas, dscf/hr;
- T = Total time during a run that a sample is withdrawn from the stack during charging, hr;
- P = Total amount of dry coal charged during the test run, tons; and
- K = Conversion factor, 7,000 grains per pound (gr/lb).
- j. The owner or operator of a new nonrecovery coke oven battery shall conduct subsequent performance tests for each charging emissions control device subject to the PM emissions limit in 40 CFR 63.303(d)(2) at least once during each term of their title V operating permit. [40 CFR 63.309(1)]
- k. Visible emission observations of a charging emissions control device required by 40 CFR 63.303(d)(3)(iii) shall be performed by a certified observer according to Method 9 (40 CFR part 60, appendix A) for one 6-minute period. [40 CFR 63.309(m)]

#### 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor coke oven door emissions pursuant to 40 CFR 63.303(c), as outlined in 1. <u>Operating Limitations</u>, item c, above and in accordance with the work practice emission control plan.
- b. For charging operations, the owner or operator shall implement, for each day of operation, the work practices specified in 40 CFR 63.306(b)(6) and record the performance of the work practices as required in 40 CFR 63.306(b)(7). [40 CFR 63.303(b)(3)]

- c. The owner or operator shall observe the exhaust stack of each charging emissions control device at least once each day of operation during charging to determine if visible emissions are present and shall record the results of each daily observation or the reason why conditions did not permit a daily observation. If any visible emissions are observed, the owner or operator shall: [40 CFR 63.303(d)(3)]
  - (1) Take corrective action to eliminate the presence of visible emissions; [40 CFR 63.303(d)(3)(i)]
  - (2) Record the cause of the problem creating the visible emissions and the corrective action taken; [40 CFR 63.303(d)(3)(ii)]
  - (3) Conduct visible emission observations according to the procedures in 40 CFR 63.309(m) within 24 hours after detecting the visible emissions; and [40 CFR 63.303(d)(3)(iii)]
  - (4) Report any 6-minute average, as determined according to the procedures in 40 CFR 63.309(m), that exceeds 10 percent opacity as a deviation in the semiannual compliance report required by 40 CFR 63.311(d). [40 CFR 63.303(d)(3)(iv)]
- d. The permittee shall monitor all parameters (including those for equipment and associated controls) required pursuant to 40 CFR 63.311, *Reporting and recordkeeping*. See, also, **5.** <u>Specific Recordkeeping Requirements</u>, item **a**, below

#### 5. <u>Specific Recordkeeping Requirements</u>:

a. Copies of the work practice plan developed under 40 CFR 63.306 and the startup, shutdown, and malfunction plan developed under 40 CFR 63.310 shall be kept onsite at all times. The owner or operator shall maintain the following information: [40 CFR 63.311(f)]

(1) For nonrecovery coke oven batteries, [40 CFR 63.311(f)(1)]

- (i) Records of daily pressure monitoring, if applicable according to 40 CFR 63.303(a)(1)(ii) or 40 CFR 63.303(b)(1)(ii). [40 CFR 63.311(f)(1)(i)]
- (ii) Records demonstrating the performance of work practice requirements according to 40 CFR 63.306(b)(7). This requirement applies to nonrecovery coke oven batteries subject to the work practice requirements in 40 CFR 63.303(a)(2) or 40 CFR 63.303(b)(3). [40 CFR 63.311(f)(1)(ii)]
- (iii) Design characteristics of each emission control system for the capture and collection of charging emissions, as required by 40 CFR 63.303(b)(2). [40 CFR 63.311(f)(1)(iii)]
- (iv) Records to demonstrate compliance with the work practice requirement for door leaks in 40 CFR 63.303(c). These records shall include the oven number of each leaking door, total duration of the leak from the time the leak was first observed, the cause of the leak (including unknown cause, if applicable), the corrective action taken, and the amount of time taken to stop the leak from the time the leak was first observed. [40 CFR 63.311(f)(1)(iv)]
- (v) Records to demonstrate compliance with the work practice requirements for oven uptake damper monitoring and adjustments in 40 CFR 63.303 (d)(4). [40 CFR 63.311(f)(1)(v)]

- (vi) Records of weekly performance tests to demonstrate compliance with the opacity limit for charging operations in 40 CFR 63.303(d)(1). These records shall include calculations of the highest 3-minute averages for each charge, the average opacity of five charges, and, if applicable, records demonstrating why five consecutive charges were not observed (e.g., the battery was charged only at night). [40 CFR 63.311(f)(1)(vi)]
- (vii) Records of all PM performance tests for a charging emissions control device to demonstrate compliance with the limit in 40 CFR 63.303(d)(2). [40 CFR 63.311(f)(1)(vii)]
- (viii) Records of all daily visible emission observations for a charging emission control device to demonstrate compliance with the requirements limit in 40 CFR 63.303(d)(3). [40 CFR 63.311(f)(1)(viii)]
- (ix) Records to demonstrate compliance with the work practice requirements for oven uptake damper monitoring and adjustments in 40 CFR 63.303(d)(4). [40 CFR 63.311(f)(1)(ix)]
- (2) A copy of the work practice plan required by 40 CFR 63.306 and any revision to the plan; [40 CFR 63.311(f)(3)]
- (3) If the owner or operator is required under 40 CFR 63.306(c) to implement the provisions of a work practice plan for a particular emission point, the following records regarding the implementation of plan requirements for that emission point during the implementation period; [40 CFR 63.311(f)(4)]
  - (i) Copies of all written and audiovisual materials used in the training, the dates of each class, the names of the participants in each class, and documentation that all appropriate personnel have successfully completed the training required under 40 CFR 63.306(b)(1); [40 CFR 63.311(f)(4)(i)]
  - (ii) The records required to be maintained by the plan provisions implementing 40 CFR 63.306(b)(7); [40 CFR 63.311(f)(4)(ii)]
- (4) Records specified in 40 CFR 63.310(f) regarding the basis of each malfunction notification. [40 CFR 63.311(f)(6)]
- (5) The time and date a malfunction is first observed, the time and date the malfunction is corrected and a brief description of repairs or corrective actions taken as part of compliance with 40 CFR 63.310(b).
- b. The owner or operator shall maintain a record of internal reports which form the basis of each malfunction notification under paragraph (d) of 40 CFR 63.310. [40 CFR 63.310(f)]

#### 6. Specific Reporting Requirements:

a. [Except as otherwise provided,] Pursuant to 40 CFR 63.306(d)(3), no later than 10 days after receipt of a second exceedance notice from the certified observer, the owner or operator shall notify the Division of any finding of whether work practices are related to the cause or the solution of the problem. The notification is subject to review by the Division according to the provisions in paragraph (d)(6) of 40 CFR 63.306.

- b. After the effective date of an approved permit in a State under part 70 of 40 CFR, the owner or operator shall submit all notifications and reports required by 40 CFR 63, Subpart L, to the State permitting authority. [Except as otherwise provided] Use of information provided by the certified observer shall be a sufficient basis for notifications required under 40 CFR 70.5(c)(9) and the reasonable inquiry requirement of 40 CFR 70.5(d). [40 CFR 63.311(a)]
- c. The owner or operator of a new coke oven battery shall provide a written statement(s) to certify compliance to the Administrator within 45 days of the applicable compliance date (initial start-up) for the emission limitations or requirements in 40 CFR 63, Subpart L. The owner or operator shall include the following information in the initial compliance certification: [40 CFR 63.311(b)]
  - (1) Statement, signed by the owner or operator, certifying that a written startup, shutdown, and malfunction plan has been prepared as required in 40 CFR 63.310.
     [40 CFR 63.311(b)(2)]
  - (2) Statement, signed by the owner or operator, certifying that all work practice standards for charging operations have been met as required in 40 CFR 63.303(b)(3). [40 CFR 63.311(b)(3)]
  - (3) Statement, signed by the owner or operator, certifying that all work practice standards for door leaks have been met as required in 40 CFR 63.303(c). [40 CFR 63.311(b)(4)]
  - (4) Statement, signed by the owner or operator, certifying that the information on potential malfunctions has been added to the startup, shutdown and malfunction plan as required in 40 CFR 63.310(j). [40 CFR 63.311(b)(5)]
  - (5) Statement, signed by the owner or operator, that all applicable emission limitations in 40 CFR 63.303(d)(1) and (2) for a new nonrecovery coke oven battery have been met. The owner or operator shall also include the results of the PM performance test required in 40 CFR 63.309(k). [40 CFR 63.311(b)(6)]
  - (6) Statement, signed by the owner or operator, certifying that all work practice standards in 40 CFR 63.303(d)(3) and (4) for a new nonrecovery coke oven battery have been met. [40 CFR 63.311(b)(7)]
- d. The owner or operator shall provide written notification(s) to the Administrator of: [40 CFR 63.311(c)]
  - (1) Intention to construct a new coke oven battery including the anticipated date of startup. [40 CFR 63.311(c)(1)]
  - (2) Intention to conduct a PM performance test for a new nonrecovery coke oven battery subject to the requirements in 40 CFR 63.303(d)(2). The owner or operator shall provide written notification according to the requirements in 40 CFR 63.7(b). [40 CFR 63.311(c)(3)]
- e. The owner or operator of a coke oven battery shall include the following information in the semiannual compliance certification: [40 CFR 63.311(d)]
  - (1) Certification, signed by the owner or operator, that a startup, shutdown, or malfunction event did not occur for a coke oven battery during the reporting period or that a startup, shutdown, and malfunction event did occur and a report

was submitted according to the requirements in 40 CFR 63.310(e). [40 CFR 63.311(d)(2)]

- (2) Certification, signed by the owner or operator, that work practices were implemented if applicable under 40 CFR 63.306. [40 CFR 63.311(d)(3)]
- (3) Certification, signed by the owner or operator, that all work practices for nonrecovery coke oven batteries were implemented as required in 40 CFR 63.303(b)(3). [40 CFR 63.311(d)(4)]
- (4) Certification, signed by the owner or operator, that all coke oven door leaks on a nonrecovery battery were stopped according to the requirements in 40 CFR 63.303(c)(2) and (3). If a coke oven door leak was not stopped according to the requirements in 40 CFR 63.303(c)(2) and (3), or if the door leak occurred again during the coking cycle, the owner or operator shall report the information in paragraphs (d)(5)(i) through (iii) of 40 CFR 63.311. [40 CFR 63.311(d)(5)]
  - (i) The oven number of each coke oven door for which a leak was not stopped according to the requirements in 40 CFR 63.303(c)(2) and (3) or for a door leak that occurred again during the coking cycle. [40 CFR 63.311(d)(5)(i)]
  - (ii) The total duration of the leak from the time the leak was first observed. [40 CFR 63.311 (d)(5)(ii)]
  - (iii) The cause of the leak (including unknown cause, if applicable) and the corrective action taken to stop the leak. [40 CFR 63.311(d)(5)(iii)]
- (5) Certification, signed by the owner or operator, that the opacity of emissions from charging operations for a new nonrecovery coke oven battery did not exceed 20 percent. If the opacity limit in 40 CFR 63.303(d)(1) was exceeded, the owner or operator shall report the number, duration, and cause of the deviation (including unknown cause, if applicable), and the corrective action taken. [40 CFR 63.311(d)(6)]
- (6) Results of any PM performance test for a charging emissions control device for a new nonrecovery coke oven battery conducted during the reporting period as required in 40 CFR 63.309(1). [40 CFR 63.311(d)(7)]
- (7) Certification, signed by the owner or operator, that all work practices for a charging emissions control device for a new nonrecovery coke oven battery were implemented as required in 40 CFR 63.303(d)(3). If a Method 9 (40 CFR part 60, appendix A) visible emissions observation exceeds 10 percent, the owner or operator shall report the duration and cause of the deviation (including unknown cause, if applicable), and the corrective action taken. [40 CFR 63.311(d)(8)]
- (8) Certification, signed by the owner or operator, that all work practices for oven dampers on a new nonrecovery coke oven battery were implemented as required in 40 CFR 63.303(d)(4). [40 CFR 63.311(d)(9)]

#### 7. <u>Specific Control Equipment Operating Conditions</u>:

See the Work Practice Plan for specific information regarding control and capture equipment measures for related Group II equipment. See **1.** <u>Operating Limitations</u>, item **e**, above, for additional information regarding these plans.

B. Pursuant to 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks:

#### 1. **Operating Limitations:**

- a. The permittee shall meet each operating limit in paragraphs (b)(3) and (b)(4) of 40 CFR 63.7290 that applies to the facility for a new coke oven battery. [40 CFR 63.7290(b)]
  - For each capture system applied to pushing emissions, that uses an electric motor to drive the fan, the permittee shall maintain the daily average fan motor amperes at or above the minimum level established during the initial performance test; and [40 CFR 63.7290(b)(3)(i)]
  - (2) For each multicyclone, the permittee shall maintain the daily average pressure drop at or below the minimum level established during the initial performance test. [40 CFR 63.7290(b)(4)]

#### **Compliance Demonstration Method:**

Compliance for Controls

(1) For each capture system applied to pushing emissions and subject to the operating limit in 40 CFR 63.7290(b)(3)(i), the permittee must demonstrate continuous compliance by meeting the requirements in paragraph (d)(2) of 40 CFR 63.7333: [40 CFR 63.7333(d)]

If the permittee elects the operating limit for fan motor amperes in 40 CFR 63.7290(b)(3)(i): [40 CFR 63.7333(d)(2)]

- (i) Maintaining the daily average fan motor amperages at or above the minimum level established during the initial or subsequent performance test; and [40 CFR 63.7333(d)(2)(i)]
- (ii) Checking the fan motor amperage at least every 8 hours [during production] to verify the daily average is at or above the minimum level established during the initial or subsequent performance test and recording the results of each check. [40 CFR 63.7333(d)(2)(ii)]
- (2) Multiclone: For each multicyclone applied to pushing emissions and subject to the operating limit in 40 CFR 63.7290(b)(4), the permittee shall demonstrate compliance by meeting the requirements in paragraphs (h)(1) through (3) of 40 CFR 63.7333. [40 CFR 63.7333(h)]
  - (i) Maintaining the daily average pressure drop at a level at or below the level established during the initial or subsequent performance test. [40 CFR 63.7333(h)(1)]
  - (ii) Operating and maintaining each CPMS according to 40 CFR 63.7331(k) and recording all information needed to document conformance with these requirements. [40 CFR 63.7333(h)(2)]
  - (iii)Collecting and reducing monitoring data for pressure drop according to 40 CFR 63.7331(e)(1) through (3). [40 CFR 63.7333(h)(3)]
- b. The permittee shall meet the requirements in paragraphs (a)(1) and (2) of 40 CFR 63.7293 for each new non-recovery coke oven battery. [40 CFR 63.7293(a)]

- (1) The permittee shall visually inspect each oven prior to pushing by opening the door damper and observing the bed of coke. [40 CFR 63.7293(a)(1)]
- (2) Do not push the oven unless the visual inspection indicates that there is no smoke in the open space above the coke bed and that there is an unobstructed view of the door on the opposite side of the oven. [40 CFR 63.7293(a)(2)]

#### **Compliance Demonstration Method:**

Initial and continuing compliance with work practice standards

- (1) For each non-recovery coke oven battery subject to the work practice standards for fugitive pushing emissions in 40 CFR 63.7293(a), the permittee has demonstrated initial compliance if the permittee certifies in the notification of compliance status that the facility will meet each of the work practice requirements beginning no later than the compliance date (initial start-up) that is specified in 40 CFR 63.7283. [40 CFR 63.7327(c)]
- (2) For each non-recovery coke oven battery subject to the work practice standards in 40 CFR 63.7293(a), the permittee shall demonstrate continuous compliance by maintaining records that documents each visual inspection of an oven prior to pushing and that the oven was not pushed unless there was no smoke in the open space above the coke bed and there was an unobstructed view of the door on the opposite side of the oven. [40 CFR 63.7334(c)]
- c. As provided in 40 CFR 63.6(g), the permittee may request to use an alternative to the work practice standard in paragraph (a) of 40 CFR 63.7293. [40 CFR 63.7293(b)]

#### **Compliance Demonstration Method:**

For compliance demonstration methods for 40 CFR 63, Subpart CCCCC requirements, see **4.** <u>Specific Monitoring Requirement</u>, **5.** <u>Specific Recordkeeping</u> <u>Requirements</u>, and **6.** <u>Specific Reporting Requirements</u>, below.

- d. The permittee shall meet the requirements in paragraphs (a)(1) and (2) of 40 CFR 63.7295 for each quench tower at a new coke oven battery. [40 CFR 63.7295(a)]
  - (1) For the quenching of hot coke, the permittee shall meet the requirements in paragraph (a)(1)(i) or (ii) of 40 CFR 63.7295. [40 CFR 63.7295(a)(1)]
    - (i) The concentration of total dissolved solids (TDS) in the water used for quenching shall not exceed 1,100 milligrams per liter (mg/L); or [40 CFR 63.7295(a)(1)(i)]
    - (ii) The sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used for quenching must not exceed the applicable site-specific limit approved by the permitting authority. [40 CFR 63.7295(a)(1)(ii)]
  - (2) The permittee shall use acceptable makeup water, as defined in 40 CFR 63.7352, as makeup water for quenching. [40 CFR 63.7295(a)(2)]

#### **Compliance Demonstration Method:**

Initial and continuous compliance with quenching requirements set forth in 40 CFR 63.7295(a)(1)(i) or (ii):

- Upon initial start-up, when compliance is required under 40 CFR 63.7283, the permittee shall demonstrate continuous compliance with the TDS limit for quenching in 40 CFR 63.7295(a)(1)(i) by meeting the requirements in paragraphs (f)(1) and (2) of 40 CFR 63.7333: [40 CFR 63.7333(f)]
  - (i) Maintaining the TDS content of the water used to quench hot coke at 1,100 mg/L or less; and [40 CFR 63.7333(f)(1)]
  - (ii) Determining the TDS content of the quench water at least weekly according to the requirements in 40 CFR 63.7325(a) and recording the sample results; or [40 CFR 63.7333(f)(2)]; or
- (2) Upon initial start-up, the permittee must demonstrate continuous compliance with the constituent limit for quenching in 40 CFR 63.7295(a)(1)(ii) by meeting the requirements in paragraphs (g)(1) and (2) of 40 CFR 63.7333: [40 CFR 63.7333(g)]
  - (i) Maintaining the sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used to quench hot coke at levels less than or equal to the site-specific limit approved by the permitting authority; and [40 CFR 63.7333(g)(1)]
  - (ii) Determining the sum of constituent concentrations at least monthly according to the requirements in 40 CFR 63.7325(c) and recording the sample results.
     [40 CFR 63.7333(g)(2)]
- (3)See additional information about required testing under 3. <u>Testing</u> <u>Requirements</u>, item g, below.
- e. For each quench tower at a new coke oven battery, the permittee shall meet each of the requirements in paragraphs (b)(1) through (4) of 40 CFR 63.7295. [40 CFR 63.7295(b)]
  - (1) The permittee shall equip each quench tower with baffles such that no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky. [40 CFR 63.7295(b)(1)]
  - (2) The permittee shall wash the baffles in each quench tower once each day that the tower is used to quench coke, except as specified in paragraph (b)(2)(i) of 40 CFR 63.7295. [40 CFR 63.7295(b)(2)]

The permittee is not required to wash the baffles in a quench tower if the highest measured ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). If the measured ambient temperature rises to 30 degrees Fahrenheit or more during the day, the permittee shall resume daily washing according to the schedule in the facility operation and maintenance plan. [40 CFR 63.7295(b)(2)(i)]

(3) The permittee shall initiate repair or replacement of damaged or missing baffles within 30 days and complete as soon as practicable. [40 CFR 63.7295(b)(4)]

#### **Compliance Demonstration Method:**

Initial and continuing compliance with work practice standards for quenching

- (1) For each coke oven battery, the permittee has demonstrated initial compliance with the work practice standards for quenching in 40 CFR 63.7295(b) if the permittee certifies in the notification of compliance status that the permittee has met the requirements of paragraphs (e)(1) and (2) of 40 CFR 63.7327: [40 CFR 63.7327(e)]
  - (i) The permittee has installed the required equipment in each quench tower; and [40 CFR 63.7327(e)(1)]
  - (ii) The permittee will meet each of the work practice requirements beginning no later than the compliance date (initial start-up) that is specified 40 CFR 63.7283. [40 CFR 63.7327(e)(2)]
- (2) For each work practice standard that applies, the permittee shall submit a notification of compliance status according to the requirements in 40 CFR 63.7340(e)(1). [40 CFR 63.7327(f)]
- (3) For each coke oven battery subject to the work practice standard for quenching in 40 CFR 63.7295(b), the permittee shall demonstrate continuous compliance according to the requirements of paragraphs (e)(1) through (3) of 40 CFR 63.7334: [40 CFR 63.7334(e)]
  - (i) Maintaining baffles in each quench tower such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky as required in 40 CFR 63.7295(b)(1); [40 CFR 63.7334(e)(1)]
  - (ii) Maintaining records that document conformance with the washing, inspection, and repair requirements in 40 CFR 63.7295(b)(2), including records of the ambient temperature on any day that the baffles were not washed; and [40 CFR 63.7334(e)(2)]
  - (iii)Maintaining records of the source of makeup water to document conformance with the requirement for acceptable makeup water in 40 CFR 63.7295(a)(2). [40 CFR 63.7334(e)(3)]
- f. As provided in 40 CFR 63.6(g), the permittee may request to use an alternative to the work practice standards in paragraph (b) of 40 CFR 63.7295. [40 CFR 63.7295(c)]

#### **Compliance Demonstration Method:**

For compliance demonstration methods for 40 CFR 63, Subpart CCCCC requirements, see 4. <u>Specific Monitoring Requirement</u>, 5. <u>Specific Reporting Requirements</u>, and 6. <u>Specific Reporting Requirements</u>, below.

g. As required by 40 CFR 63.6(e)(1)(i), the permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63, Subpart CCCCC. [40 CFR 63.7300(a)]

#### **Compliance Demonstration Method:**

For compliance demonstration methods for 40 CFR 63, Subpart CCCCC requirements, see **4.** <u>Specific Monitoring Requirement</u>, **5.** <u>Specific Recordkeeping Requirements</u>, and **6.** <u>Specific Reporting Requirements</u>, below.

- h. The permittee shall prepare and operate at all times according to a written operation and maintenance plan for each capture system and control device applied to pushing emissions from a new coke oven battery. Each plan shall address at a minimum the elements in paragraphs (c)(1) through (2) of 40 CFR 63.7300. [40 CFR 63.7300 (c)]
  - (1) Monthly inspections of the equipment that are important to the performance of the total capture system (e.g., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). In the event a defect or deficiency is found in the capture system (during a monthly inspection or between inspections), the permittee shall complete repairs within 30 days after the date that the defect or deficiency is discovered. If the permittee determines that the repairs cannot be completed within 30 days, the permittee shall submit a written request for an extension of time to complete the repairs that shall be received by the permitting authority not more than 20 days after the date that the defect or deficiency is discovered. The request shall contain a description of the defect or deficiency, the steps needed and taken to correct the problem, the interim steps being taken to mitigate the emissions impact of the defect or deficiency, and a proposed schedule for completing the repairs. The request shall be deemed approved unless and until such time as the permitting authority notifies the permittee that it objects to the request. The permitting authority may consider all relevant factors in deciding whether to approve or deny the request (including feasibility and safety). Each approved schedule shall provide for completion of repairs as expeditiously as practicable, and the permitting authority may request modifications to the proposed schedule as part of the approval process. [40 CFR 63.7300(c)(1)]
  - (2) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance. [40 CFR 63.7300(c)(2)]

#### **Compliance Demonstration Method:**

Capture System and Control device operation initial and continuing compliance

- (1) The permittee has demonstrated initial compliance if the permittee certifies in the notification of compliance status that the permittee has met the requirements of paragraphs (a) through (d) of 40 CFR 63.7328: [40 CFR 63.7328]
  - (i) The permittee has prepared the operation and maintenance plans according to the requirements in 40 CFR 63.7300(c); [40 CFR 63.7328(a)]
  - (ii) The permittee will operate each capture system and control device applied to pushing emissions from a coke oven battery according to the procedures in the

operation and maintenance plans beginning no later than the compliance date (initial start-up) that is specified in 40 CFR 63.7283; [40 CFR 63.7328(b)]

- (iii)The permittee has prepared a site-specific monitoring plan according to the requirements in 40 CFR 63.7331(b); and [40 CFR 63.7328(c)]
- (iv)The permittee submits a notification of compliance status according to the requirements in 40 CFR 63.7340(e). [40 CFR 63.7328(d)]
- (2) For each coke oven battery with a capture system or control device applied to pushing emissions, the permittee shall demonstrate continuous compliance with the operation and maintenance requirements in 40 CFR 63.7300(c) by meeting the requirements of paragraphs (b)(1) through (3) of 40 CFR 63.7335: [40 CFR 63.7335(b)]
  - (i) Making monthly inspections of capture systems according to 40 CFR 63.7300(c)(1) and recording all information needed to document conformance with these requirements; and [40 CFR 63.7335(b)(1)]
  - (ii) Performing preventative maintenance for each control device according to 40 CFR 63.7300(c)(2) and recording all information needed to document conformance with these requirements. [40 CFR 63.7335(b)(2)]
- i. The permittee shall develop a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR 63.6(e)(3). [40 CFR 63.7310(c)]
- j. For a capture system applied to pushing emissions from a coke oven battery, the permittee shall establish a site-specific operating limit according to the procedures in paragraph (c)(2)of 40 CFR 63.7323. [40 CFR 63.7323(c)]
  If the permittee elects the operating limit in 40 CFR 63.7290(b)(3)(i) for fan motor amperes, measure and record the fan motor amperes during each push sampled for each particulate matter test run. The operating limit is the lowest fan motor amperes recorded during any of the three runs that meet the emission limit. [40 CFR 63.7323(c)(2)]
- k. For a multicyclone applied to pushing emissions from a coke oven battery, the permittee shall establish a site-specific operating limit for pressure drop according to the procedures in paragraphs (d)(1) and (2) of 40 CFR 63.7323. [40 CFR 63.7323(d)]
  - Using the CPMS required in 40 CFR 63.7330(f), measure and record the pressure drop for each particulate matter test run during periods of pushing. A minimum of one pressure drop measurement shall be obtained for each push. [40 CFR 63.7323 (d)(1)]
  - (2) Compute and record the average pressure drop for each test run. The operating limit is the highest average pressure drop value recorded during any of the three runs that meet the emission limit. [40 CFR 63.7323 (d)(2)]
- 1. The permittee may change the operating limit for a capture system or mobile control device that captures emissions during pushing if the permittee meet the requirements in paragraphs (e)(1) through (3) of 40 CFR 63.7323. [40 CFR 63.7323(e)]

- (1) Submit a written notification to the Administrator of the permittee's request to conduct a new performance test to revise the operating limit. [40 CFR 63.7323(e)(1)]
- (2) Conduct a performance test to demonstrate that emissions of particulate matter from the control device do not exceed the applicable limit in 40 CFR 63.7290(a). [40 CFR 63.7323(e)(2)]
- (3) Establish revised operating limits according to the applicable procedures in paragraphs (a) through (d) of 40 CFR 63.7323. [40 CFR 63.7323(e)(3)]
- m. The permittee shall operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan. [40 CFR 63.7331(d)]

#### **Compliance Demonstration Method:**

For items **i** through **l**:

For compliance demonstration methods for 40 CFR 63, Subpart CCCCC requirements, see **4.** <u>Specific Monitoring Requirement</u>, **5.** <u>Specific Recordkeeping Requirements</u>, and **6.** <u>Specific Reporting Requirements</u>, below.

#### 2. <u>Emission Limitations</u>:

The permittee shall not discharge to the atmosphere emissions of particulate matter from a control device applied to pushing emissions from a new coke oven battery that exceed the applicable limit in paragraph (a)(4) of 40 CFR 63.7290: [40 CFR 63.7290(a)]

0.04 lb/ton of coke if a mobile control device that captures emissions during travel is used. [40 CFR 63.7290(a)(4)]

#### **Compliance Demonstration Method:**

PM limit from a control device applied to pushing emissions

- For each coke oven battery subject to the emission limit for particulate matter from a control device applied to pushing emissions, initial compliance has been demonstrated if the permittee meets the applicable requirements in paragraphs (a)(1), (a)(4) and (a)(5) of 40 CFR 63.7326 [40 CFR 63.7326(a)]
  - (i) The process-weighted mass rate of particulate matter (lb/ton of coke), measured in accordance with the performance test procedures in 40 CFR 63.7322(b)(1) through (4), did not exceed: [40 CFR 63.7326(a)(1)]
    (A)0.04 lb/ton of coke if a mobile control device that captures emissions during travel is used. [40 CFR 63.7326(a)(1)(iii)]
  - (ii) For each capture system applied to pushing emissions, the permittee has established an appropriate site-specific operating limit, and: [40 CFR 63.7326(a)(4)]

If the permittee elects the operating limit in 40 CFR 63.7290(b)(3)(i) for fan motor amperes, the permittee has a record of the fan motor amperes during the

performance test in accordance with 40 CFR 63.7323(c)(2); or [40 CFR 63.7326(a)(4)(ii)]

- (iii)For each multicyclone applied to pushing emissions, the permittee has established an appropriate site-specific operating limit and has a record of the pressure drop measured during the performance test in accordance with 40 CFR 63.7323(d). [40 CFR 63.7326(a)(5)]
- (2) For each control device applied to pushing emissions and subject to the emission limit in 40 CFR 63.7290(a), the permittee shall demonstrate continuous compliance by meeting the requirements in paragraphs (a)(1) and (2) of 40 CFR 63.7333: [40 CFR 63.7333(a)]
  - (a) Maintaining emissions of particulate matter at or below the applicable limits in paragraphs 40 CFR 63.7290(a)(4); and [40 CFR 63.7333(a)(1)]
  - (b) Conducting subsequent performance tests to demonstrate continuous compliance no less frequently than twice during each term of the permittee's Title V operating permit (at mid-term and renewal). [40 CFR 63.7333(a)(2)]
- (3) Also, see 3. Testing Requirements, items d, e, and f.

#### 3. <u>Testing Requirements</u>:

- a. As required in 40 CFR 63.7(a)(2), the permittee shall conduct a performance test to demonstrate compliance with each limit in 40 CFR 63.7290(a) for emissions of particulate matter from a control device applied to pushing emissions that applies to the facility within 180 calendar days after the compliance date (initial start-up) that is specified in 40 CFR 63.7283. [40 CFR 63.7320(a)]
- b. The permittee shall conduct performance tests to demonstrate compliance with the TDS limit, if applicable, for quench water in 40 CFR 63.7295(a)(1) by the compliance date (initial start-up) that is specified in 40 CFR 63.7283. [40 CFR 63.7320(b)]
- c. For each work practice standard and operation and maintenance requirement that applies to the facility, the permittee shall demonstrate initial compliance within 30 calendar days after the compliance date (initial start-up) that is specified in 40 CFR 63.7283. [40 CFR 63.7320(c)]
- d. For each control device subject to an emission limit for particulate matter in 40 CFR 63.7290(a), the permittee shall conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of the facility title V operating permit. [40 CFR 63.7321]
- e. The permittee shall conduct each performance test that applies to the affected source according to the requirements in paragraph (b) of 40 CFR 63.7322. [40 CFR 63.7322(a)]
- f. To determine compliance with a process-weighted mass rate of particulate matter (lb/ton of coke) from a control device applied to pushing emissions where a cokeside

shed is not used, follow the test methods and procedures in paragraphs (b)(1) through (4) of 40 CFR 63.7322. [40 CFR 63.7322(b)]

- (1) Determine the concentration of particulate matter according to the following test methods in appendix A to 40 CFR part 60. [40 CFR 63.7322(b)(1)]
  - (i) Method 1 to select sampling port locations and the number of traverse points. Sampling sites shall be located at the outlet of the control device and prior to any releases to the atmosphere. [40 CFR 63.7322(b)(1)(i)]
  - (ii) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas. [40 CFR 63.7322(b)(1)(ii)]
  - (iii)Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas. [40 CFR 63.7322(b)(1)(iii)]
  - (iv)Method 4 to determine the moisture content of the stack gas. [40 CFR 63.7322(b)(1)(iv)]
  - (v) Method 5 or 5D, as applicable, to determine the concentration of front half particulate matter in the stack gas. [40 CFR 63.7322(b)(1)(v)]
- (2) During each particulate matter test run, sample only during periods of actual pushing when the capture system fan and control device are engaged. Collect a minimum sample volume of 30 dry standard cubic feet of gas during each test run. Three valid test runs are needed to comprise a performance test. Each run shall start at the beginning of a push and finish at the end of a push (*i.e.*, sample for an integral number of pushes). [40 CFR 63.7322(b)(2)]
- (3) Determine the total combined weight in tons of coke pushed during the duration of each test run according to the procedures in the source test plan for calculating coke yield from the quantity of coal charged to an individual oven. [40 CFR 63.7322(b)(3)]
- (4) Compute the process-weighted mass emissions (E<sub>p</sub>) for each test run using Equation 1 of 40 CFR 63.7322 as follows: [40 CFR 63.7322(b)(4)]

$$E_{p} = \frac{C \times Q \times T}{P \times K}$$
 (Eq. 1)

Where:

- E<sub>p</sub>= Process weighted mass emissions of particulate matter, lb/ton;
- $\vec{C}$  = Concentration of particulate matter, gr/dscf;
- Q = Volumetric flow rate of stack gas, dscf/hr;
- T = Total time during a run that a sample is withdrawn from the stack during pushing, hr;
- P = Total amount of coke pushed during the test run, tons; and
- K= Conversion factor, 7,000 gr/lb.
- (5) In accordance with 40 CFR 63.7290(b)(3), during initial compliance testing for pushing emissions, for each capture system, the permittee shall establish an operating limit for volumetric flow rate; fan motor amperage for capture systems that use electric motor driven fans, or static pressure for capture systems that do not use electric motor driven fans. Additionally, see 1. Operating Limitations, item j for additional requirements.
- (6) In accordance with 40 CFR 63.7290(b)(4), during initial compliance testing for pushing emissions, the permittee shall establish the average pressure drop for each

multicyclone used as a control. Additionally, see 1. <u>Operating Limitations</u>, items k(1)-(2), for additional requirements.

- g. If the permittee elects the TDS limit for quench water in 40 CFR 63.7295(a)(1)(i), the permittee shall conduct each performance test that applies to the affected source according to the conditions in paragraphs (a)(1) and (2) of 40 CFR 63.7325. [40 CFR 63.7325(a)]
  - (1) Take the quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions. [40 CFR 63.7325(a)(1)]
  - (2) Determine the TDS concentration of the sample using Method 160.1 in 40 CFR part 136.3 (see "residue—filterable"), except that the total filterable residue shall dry at 103 to 105 °C (degrees Centigrade) instead of 180 °C. [40 CFR 63.7325(a)(2)]

Or

If at any time the permittee elects to meet the alternative requirements for quench water in 40 CFR 63.7295(a)(1)(ii), the permittee must establish the site-specific constituent limit according to the procedures in paragraphs (b)(1) through (4) of 40 CFR 63.7325. [40 CFR 63.7325(b)]

- (1) Take a minimum of nine quench water samples from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header and feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions. [40 CFR 63.7325(b)(1)]
- (2) For each sample, determine the TDS concentration according to the requirements in paragraph (a)(2) of 40 CFR 63.7325 and the concentration of benzene, benzo(a)pyrene, and naphthalene using the applicable methods in 40 CFR part 136 or an approved alternative method. [40 CFR 63.7325(b)(2)]
- (3) Determine and record the highest sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in any sample that has a TDS concentration less than or equal to the TDS limit of 1,100 mg/L. This concentration is the site specific constituent limit. [40 CFR 63.7325(b)(3)]
- (4) Submit the site-specific limit, sampling results, and all supporting data and calculations to the permitting authority for review and approval. [40 CFR 63.7325(b)(4)]

If the permittee elects the constituent limit for quench water in 40 CFR 63.7295(a)(1)(ii), the permittee must conduct each performance test that applies to the affected source according to the conditions in paragraphs (c)(1) and (2) of 40 CFR 63.7325. [40 CFR 63.7325(c)]

(1) Take a quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions. [40 CFR 63.7325(c)(1)]

(2) Determine the sum of the concentration of benzene, benzo(a)pyrene, and naphthalene in the sample using the applicable methods in 40 CFR part 136 or an approved alternative method. [40 CFR 63.7325(c)(2)]

#### 4. Specific Monitoring Requirements:

- a. For each capture system applied to pushing emissions, the permittee shall at all times monitor the fan motor amperes according to the requirements in 40 CFR 63.7331(h). [40 CFR 63.7330 (d)]
- b. For each multicyclone applied to pushing emissions, the permittee shall monitor at all times the pressure drop using a CPMS according to the requirements in 40 CFR 63.7331(k). [40 CFR 63.7330(f)]
- c. For each CPMS required in 40 CFR 63.7330(f), the permittee shall develop and make available for inspection upon request by the permitting authority a site-specific monitoring plan that addresses the requirements in paragraphs (b)(1) through (6) of 40 CFR 63.7331. [40 CFR 63.7331(b)]
  - (1) Installation of the CPMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device); [40 CFR 63.7331(b)(1)]
  - (2) Performance and equipment specifications for the sample interface, the parametric signal analyzer [if utilized], and the data collection and reduction system; [40 CFR 63.7331(b)(2)]
  - (3) Performance evaluation procedures and acceptance criteria (e.g., calibrations); [40 CFR 63.7331(b)(3)]
  - (4) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (3), (4)(ii), (7), and (8); [40 CFR 63.7331(b)(4)]
  - (5) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); and [40 CFR 63.7331(b)(5)]
  - (6) Ongoing recordkeeping and reporting procedures in accordance the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i). [40 CFR 63.7331(b)(6)]
- d. The permittee shall conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan. [40 CFR 63.7331(c)]
- e. If the permittee elects the operating limit in 40 CFR 63.7290(b)(3)(i) for a capture system applied to pushing emissions, the permittee shall install, operate, and maintain a device to measure the fan motor amperes. [40 CFR 63.7331(h)]
- f. The permittee shall continuously record the ambient temperature on days that the baffles were not washed. [40 CFR 63.7295(b)(2)(ii)]

- g. The permittee shall inspect each quench tower monthly for damaged or missing baffles and blockage. [40 CFR 63.7295(b)(3)]
- h. Operation and Maintenance Requirements
  - (1) As required by 40 CFR 63.6(e)(1)(i), the permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63, Subpart CCCCC. [40 CFR 63.7300(a)]
  - (2) The facility shall prepare and operate at all times according to a written operation and maintenance plan for each capture system and control device applied to pushing emissions from a new coke oven battery. Each plan shall address at a minimum the elements in paragraphs (c)(1) through (3) of 40 CFR 63.7300. [40 CFR 63.7300(c)]
    - (i) Monthly inspections of the equipment that are important to the performance of the total capture system (e.g., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). In the event a defect or deficiency is found in the capture system (during a monthly inspection or between inspections), the facility shall complete repairs within 30 days after the date that the defect or deficiency is discovered. If the permittee determines that the repairs cannot be completed within 30 days, the permittee shall submit a written request for an extension of time to complete the repairs that shall be received by the permitting authority not more than 20 days after the date that the defect or deficiency is discovered. The request shall contain a description of the defect or deficiency, the steps needed and taken to correct the problem, the interim steps being taken to mitigate the emissions impact of the defect or deficiency, and a proposed schedule for completing the repairs. The request shall be deemed approved unless and until such time as the permitting authority notifies the permittee that it objects to the request. The permitting authority may consider all relevant factors in deciding whether to approve or deny the request (including feasibility and safety). Each approved schedule shall provide for completion of repairs as expeditiously as practicable, and the permitting authority may request modifications to the proposed schedule as part of the approval process. [40 CFR 63.7300(c)(1)]
    - (ii) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance. [40 CFR 63.7300(c)(2)]
- i. For each multicyclone applied to pushing emissions, the permittee shall install, operate, and maintain CPMS to measure and record the pressure drop across each multicyclone during each push according to the requirements in paragraphs (b) through (d) of 40 CFR 63.7331. [40 CFR 63.7331(k)]

- j. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the permittee shall monitor continuously (or collect data at all required intervals) at all times the affected source is operating. [40 CFR 63.7332(a)]
- k. The permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels, or in fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitor to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 63.7332(b)]

#### 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall record the results of the monthly capture and control device inspections performed pursuant to 40 CFR 63.7300(c)(1).
- b. Pursuant to 40 CFR 63.7323(c), and (d)(2), the permittee shall record pertinent operating parameters of capture system and control devices applied to pushing emissions during particulate matter testing. See also 3. <u>Testing Requirements</u>, items f(5) and f(6), above.
- c. Pursuant to 40 CFR 63.7333(d)(1)(ii), the permittee shall record the volumetric flow rate for the capture system applied to pushing emissions at least every 8 hours [during production]; or
- d. Pursuant to 40 CFR 63.7333(d)(2)(ii), the permittee shall record the fan motor amperage for the capture system applied to pushing emissions at least every 8 hours [during production] for a system that uses an electric fan; or
- e. Pursuant to 40 CFR 63.7333(d)(3)(iii), the permittee shall record the static pressure at the inlet to the control device for a capture system applied to pushing emissions at least every 8 hours for a system that does not use an electric fan [during production].
- f. Pursuant to 40 CFR 63.7333(f)(2), the results of the weekly TDS content of quench water shall be recorded; or pursuant to 40 CFR 63.7333(g)(2), the monthly sum of the constituent concentrations of the quench water shall be recorded if using the procedure in 40 CFR 63.7325(c).
- g. Pursuant to 40 CFR 63.7334(e)(2), the permittee shall record quench tower baffle washing, inspection and repair and the ambient temperature on days the baffles are not washed. Additionally, the permittee shall maintain records of makeup water sources pursuant to 40 CFR 63.7334(e)(3)

- h. The permittee shall maintain a current copy of the operation and maintenance plans required in 40 CFR 63.7300 (c) onsite and available for inspection upon request. The permittee shall keep the plans for the life of the affected source or until the affected source is no longer subject to the requirements of 40 CFR 63, Subpart CCCCC. [40 CFR 63.7335(d)]
- i. The permittee shall keep the records specified in paragraphs (a)(1) through (3) of 40 CFR 63.7342. [40 CFR 63.7342(a)]
  - (1) A copy of each notification and report that the permittee submitted to comply with 40 CFR 63, Subpart CCCCC, including all documentation supporting any initial notification or notification of compliance status that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7342(a)(1)]
  - (2) The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction. [40 CFR 63.7342(a)(2)]
  - (3) Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii). [40 CFR 63.7342(a)(3)]
- j. [If required] The permittee shall keep the records in 40 CFR 63.6(h)(6) for visual observations. [40 CFR 63.7342(c)]
- k. The permittee shall keep the records required in 40 CFR 63.7333 through 40 CFR 63.7335 to show continuous compliance with each emission limitation, work practice standard, and operation and maintenance requirement that applies to the facility. [40 CFR 63.7342(d)]
- 1. The permittee shall keep records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). [40 CFR 63.7343(a)]
- m. The permittee shall keep daily, monthly and rolling-12 month records of all coal throughput and coke output for the Group II equipment. This shall also include records of the coal charged to each oven during start-up.
- n. Pursuant to 40 CFR 63.7334(c), the permittee shall maintain records of visual inspections of ovens prior to pushing

#### 6. <u>Specific Reporting Requirements</u>:

a. The permittee shall report each instance in which the facility did not meet each emission limitation in 40 CFR 63, Subpart CCCCC that applies. This includes periods of startup, shutdown, and malfunction. The permittee shall also report each instance in which the permittee did not meet each work practice standard or operation and maintenance requirement in 40 CFR 63, Subpart CCCCC that applies. These instances are deviations from the emission limitations (including operating limits), work practice standards, and operation and maintenance requirements in 40 CFR 63,
# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Subpart CCCCC. These deviations shall be reported according to the requirements in 40 CFR 63.7341. [40 CFR 63.7336(a)]

- b. Consistent with 40 CFR 63.6(e) and 40 CFR 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the permittee demonstrates to the Administrator's satisfaction that the permittee was operating in accordance with 40 CFR 63.6(e)(1). [40 CFR 63.7336(b)(1)]
  - The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR 63.6(e). [40 CFR 63.7336(b)(2)]
  - (2) In addition, notification of the startup, shutdown or malfunction shall be made in accordance with 40 CFR 63.310(d).
- c. The permittee shall submit all of the notifications in 40 CFR 63.6(h)(4) and (5), 40 CFR 63.7(b) and (c), 40 CFR 63.8(e) and (f)(4), and 40 CFR 63.9(b) through (h) that apply to the facility by the specified dates. [40 CFR 63.7340(a)]
- d. As specified in 40 CFR 63.9(b)(3), the permittee shall submit an initial notification no later than 120 calendar days after the facility becomes subject to 40 CFR 63, Subpart CCCCCC. [40 CFR 63.7340(c)]
- e. If the permittee is required to conduct a performance test, opacity observation, or other initial compliance demonstration, the permittee shall submit a notification of compliance status according to 40 CFR 63.9(h)(2)(ii). [40 CFR 63.7340(e)]
  - (1) For each initial compliance demonstration that does not include a performance test, the permittee shall submit the notification of compliance status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration. [40 CFR 63.7340(e)(1)]
  - (2) For each initial compliance demonstration that does include a performance test, the permittee shall submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following completion of the performance test according to 40 CFR 63.10(d)(2). [40 CFR 63.7340(e)(2)]
- f. If the permittee has had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the startup, shutdown, and malfunction plan, the permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii). [40 CFR 63.7341(d)]
- g. If the permittee has obtained a title V operating permit for an affected source pursuant to 40 CFR part 70 or 40 CFR part 71, the permittee shall report all deviations as defined in 40 CFR 63, Subpart CCCCC in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If the permittee submits a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 71.6(a)(3)(iii)(A) or 40 CFR 70.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

from any emission limitation or work practice standard in 40 CFR 63, Subpart CCCCC, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the permittee may have to report deviations from permit requirements to the permitting authority. [40 CFR 63.7341(e)]

### 7. <u>Specific Control Equipment Operating Conditions</u>:

See the Operation and Maintenance Plan for specific information regarding control and capture equipment measures for related Group II equipment. See 1. <u>Operating</u> <u>Limitations</u>, item **h**, above, for additional information regarding this plan.

- 5. Pursuant to 401 KAR 51:017, *Prevention of significant deterioration of air quality*, for all GHG BACT: Prepare and maintain a GHG work practices plan that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing GHG emissions. This shall include, but is not limited to
  - a. For the Main Stack/Coking
    - (1) A list of combustion optimization practices and a means of verifying the practices have occurred.
    - (2) A list of Work Practices to be used to lower energy consumption and a means of verifying the practices have occurred.
    - (3) A list of the design choices determined to be BACT and verification that designs were implemented in the final construction (e.g. The permittee constructed heat recovery ovens, HRSGs with large evaporators and natural circulation, and sliding pressure steam turbines)
  - b. For Pushing
    - A list of Good Operating Practices, including visual checking as outlined in 40 CFR 63.7293(a) [See 1. <u>Operating Limitations</u>, item b, in 4. Applicable Federal MACT Standards and Requirements, B. Pursuant to 40 CFR 63, Subpart CCCCC, above] that will ensure the coke is completely carbonized before pushing.
  - c. For Charging:
    - (1) A list of design choices determined to be BACT and verification that designs were implemented in the final construction (e.g. Negative pressure design of the ovens to minimize releases during charging).
  - d. Natural Gas Lances/Spargers
    - (1) A list of good combustion practices and a means of verifying the practices have occurred/been used.
  - e. Internal Combustion Engines
    - (1) A list of design choices made to ensure efficiency and verification that the designs were implemented in the final choice and installation of all six engines (Emission Unit 24 through Emission Unit 29)
    - (2) A list of good operating practices determined to be BACT and a means of verifying the practices have occurred.

## SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

6. In accordance with 40 CFR Part 64, Compliance Assurance Monitoring, the permittee has submitted a CAM Plan as part of application process. This CAM Plan addresses the CDS/BH FGD System used to control SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub> and PM/PM<sub>10</sub> from Coking. The elements of the monitoring approach, including indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1. [40 CFR 64.4]

See Table I, next page

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator	SO <sub>2</sub> Concentration	Pressure drop	Flow Rate
Measurement Approach	<ul> <li>The SO<sub>2</sub> concentration is measured with a CEMS meeting:</li> <li>1. 40 CFR 60 Appendix B, Performance Specification (PS):</li> <li>PS2-Specification for SO<sub>2</sub> CEMS in Stationary Sources</li> <li>PS6-Specification for Continuous Emission Rate Monitoring Systems in Stationary Sources</li> <li>2. 40 CFR 60, Appendix F: Quality Assurance Procedures</li> </ul>	Pressure drop across the baghouse is measured continuously using a magnahelic gage or pressure transducer.	Device to continually measure flow rate.
II. Indicator Range	An excursion is defined as a 24-hr average greater than 134 lb/hr. Excursions trigger an inspection, corrective action, and reporting requirement. SO <sub>2</sub> range (0-170 ppm)	An excursion is defined as a pressure drop greater than 15 or less than 3 in $H_2O$ . Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as a flow rate measurement of 10% below the flow rate established during the performance test for compliance. Excursions trigger an inspection, corrective action, and reporting requirement.
<ul> <li>III. Performance Criteria</li> <li>A. Data Representativeness</li> <li>B. Verification of Operational Status</li> </ul>	Probes will be located as described in Performance Specification 2. Representativeness validated by RATA testing. Daily calibration and observation.	Pressure taps will be located in the baghouse inlet and outlet plenums to measure overall pressure drop. The gauge will have a minimum accuracy of $0.5$ in H <sub>2</sub> O. Recorded every shift	Accuracy of flow meter +/- 2% from 10-100% of calibrated range. Daily

 Table I: Monitoring Approach for Circulating Dry Scrubber (or equivalent) with Baghouse and Flue Gas Desulfurization System

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

C. QA/QC Practices and Criteria	<ol> <li>Daily Calibration Drift (CD) evaluation (with instrument being adjusted whenever the daily CD exceeds 5% of range)</li> <li>Quarterly Cylinder Gas Audit (CGA)</li> <li>Annual Relative Accuracy Test Audit (RATA)</li> <li>Maintenance according to manufacturer's specifications</li> </ol>	Calibrate the pressure gauge quarterly. Maintenance according to manufacturer's specifications.	Maintenance according to manufacturer's specifications
D. Monitoring Frequency	Continuous	Continuous	Continuous
E. Data Collection Procedures	$SO_2$ concentration and mass emission rate recorded automatically in a data acquisition system (DAS).	Record pressure drop every shift.	Flow rate of the scrubbing liquid recorded automatically in a DAS.
F. Averaging Period	Hourly, 24-hour, and annual	None	Hourly, 24-hour, and annual

### Table I: Continued

	Indicator No. 4				
I. Indicator	Baghouse Leak Detection				
Measurement Approach	Probe to measure triboelectric signal (or alternate in-situ device) we be installed in the stack or baghouse exhaust duct to monitor for be failure.				
II. Indicator Range	To be established during setup. Sensitivity and response time will be established that will enable the system to differentiate between spikes after bag cleaning and higher emissions associated with broken bags or similar events. An excursion will be defined as a percent of scale value that persists for a period of time. Excursions trigger an inspection, corrective action, and reporting.				
III. Performance Criteria	An in-situ probe will be used. A device will be selected that produces an electronic signal proportional to particulate concentration (as long				
A. Data Representativeness	as factors such as velocity, humidity, and particle size remain relatively constant).				
<b>B.</b> Verification of Operational Status	NA				
C. QA/QC Practices and Criteria	Probe will be inspected periodically for dust buildup. Monitor will be operated and calibrated according to manufacturer's instructions.				
D. Monitoring Frequency	Continuous (target >95% availability)				
E. Data Collection Procedures	Data will be recorded by CEM data logger or DAHS in control room.				
F. Averaging Period	NONE				

## **SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS**

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

# SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

- 1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
  - a. Date, place as defined in this permit, and time of sampling or measurements;
  - b. Analyses performance dates;
  - c. Company or entity that performed analyses;
  - d. Analytical techniques or methods used;
  - e. Analyses results; and
  - f. Operating conditions during time of sampling or measurement.
- 2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five (5) years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b-IV-2 and 1a-8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- 3. In accordance with the requirements of 401 KAR 52:020, Section 3(1)h, the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
  - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
  - b. To access and copy any records required by the permit:
  - c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

- 4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
- 5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Sections 1b-V-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

# SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

- 6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020, Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.
- 7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
  - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
  - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
- 8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7 above) to the Regional Office listed on the front of this permit within 30 days. Deviations from permit requirements, including those previously reported under F.7 above, shall be included in the semiannual report required by F.6 [Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- 9. Pursuant to 401 KAR 52:020, Title V permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
  - a. Identification of the term or condition;
  - b. Compliance status of each term or condition of the permit;
  - c. Whether compliance was continuous or intermittent;
  - d. The method used for determining the compliance status for the source, currently and over the reporting period.
  - e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

# SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be submitted by January 30th of each year. Annual compliance certifications shall be sent to the following addresses:

Division for Air Quality Ashland Regional Office 1550 Wolohan Drive, Suite 1 Ashland, KY 41102 U.S. EPA Region 4 Air Enforcement Branch Atlanta Federal Center 61 Forsyth St. SW Atlanta, GA 30303-8960

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within 30 days of the date the Kentucky Emissions Inventory System (KYEIS) emissions survey is mailed to the permittee.

# SECTION G - GENERAL PROVISIONS

- 1. <u>General Compliance Requirements</u>
  - a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020, Section 3(1)(b), and a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act). Noncompliance with this permit is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
  - b. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
  - c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
    - (1) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
    - (2) The Cabinet or the United States Environmental Protection Agency (U. S. EPA) determines that the permit shall be revised or revoked to assure compliance with the applicable requirements;
    - (3) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
    - (4) New requirements become applicable to a source subject to the Acid Rain Program.

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

- d. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Sections 1a- 7 and 8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- e. Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the Division [401 KAR 52:020, Section 3(1)(c)].

- f. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].
- g. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- h. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- i. All emission limitations and standards contained in this permit shall be enforceable as a practical matter. All emission limitations and standards contained in this permit are enforceable by the U.S. EPA and citizens except for those specifically identified in this permit as state-origin requirements. [Section 1a-15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- j. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a-10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- k. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3) 2].
- 1. This permit does not convey property rights or exclusive privileges [Section 1a-9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- m. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.
- n. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3) 4.].
- o. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3) 1.].

- p. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.
- q. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with:
  - (1) Applicable requirements that are included and specifically identified in this permit; and
  - (2) Non-applicable requirements expressly identified in this permit.
- 2. <u>Permit Expiration and Reapplication Requirements</u>
  - a. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six (6) months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].
  - b. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020, Section 8(2)].

### 3. Permit Revisions

- a. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the State Implementation Plan (SIP) or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
- b. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

4. Construction, Start-Up, and Initial Compliance Demonstration Requirements

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein in accordance with the terms and conditions of this permit.

- a. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.
- b. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the Division's Frankfort Central Office, notification of the following:
  - (1) The date when construction commenced.
  - (2) The date of start-up of the affected facilities listed in this permit.
  - (3) The date when the maximum production rate specified in the permit application was achieved.
- c. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.
- d. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the Cabinet.
- e. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. Testing shall also be conducted in accordance with General Provisions G.5 of this permit.
- f. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

- 5. <u>Testing Requirements</u>
  - a. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least thirty (30) days prior to the test.
  - b. Pursuant to 401 KAR 50:045, Section 5, in order to demonstrate that a source is capable of complying with a standard at all times, any required performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirements on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.
  - c. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.
- 6. Acid Rain Program Requirements
  - a. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 76510 (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.
  - b. The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.
- 7. Emergency Provisions
  - a. Pursuant to 401 KAR 52:020, Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:

(1) An emergency occurred and the permittee can identify the cause of the emergency;

- (2) The permitted facility was at the time being properly operated;
- (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
- (4) Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
- (5) This requirement does not relieve the source of other local, state or federal notification requirements.
- b. Emergency conditions listed in General Condition G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].
- c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

### 8. Ozone Depleting Substances

- a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
  - (1) Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
  - (2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
  - (3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
  - (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
  - (5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
  - (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
- b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

- 9. <u>Risk Management Provisions</u>
  - a. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

RMP Reporting Center P.O. Box 10162 Fairfax, VA 22038

b. If requested, submit additional relevant information to the Division or the U.S. EPA.

# SECTION H - ALTERNATE OPERATING SCENARIOS

None

EXHIBIT J PROPOSED SOUTH SHORE 138 KV RADIAL TIE LINE FEASIBIITY STUDY

# PROPOSED SOUTH SHORE 138 KV TRANSMISSION LINE

# DRAFT FEASIBILITY STUDY

Prepared for:

SunCoke Energy, Inc. 1011 Warrenville Road Suite 600 Lisle, IL 60532

# SunCoke Energy

Prepared by:



36 East Seventh Street, Suite 2300 Cincinnati, Ohio 45202

Project #: 25368674

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### TABLE OF CONTENTS

1.0 INTRODUCTION	2
2.0 PURPOSE AND OBJECTIVES	3
3.0 METHODOLOGY	
3.1 Study Area Delineation	4
3.2 Siting Criteria	5
3.3 Route Candidate Selection Process	5
4.0 PERMITTING OVERVIEW	6
4.1 U.S. Army Corps of Engineers Permit	6
4.2 State Required Permit Applications	8
5.0 RESULTS	9
5.1 Identified Routes and Evaluation	9
5.2 Route Ranking and Results	13
6.0 CONCLUSION	15

### TABLES

### Number

TABLE 1 SunCoke Transmission Line Route Comparison9
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### FIGURES

### Number

FIGURE 1 OVERVIEW MAP FIGURE 2 TRANSMISSION LINE CONSTRAINTS MAP



### 1.0 Introduction

This document presents a transmission line feasibility study, which includes a preliminary route identification and comparison and the identification of potentially required permits, conducted by URS Corporation ("URS") for SunCoke Energy ("SunCoke") for a proposed new 138 kilovolt (kV) electric transmission line located near South Shore, Kentucky and New Boston, Ohio.

SunCoke is proposing to construct a new 138 kV electric transmission line originating at the proposed South Shore Coke Facility ("Facility") located east of the City of South Shore, in Greenup County, Kentucky. The proposed transmission line will be approximately 1 to 3 miles long, depending on the route chosen, and will generally extend from the proposed South Shore Substation at the Facility north to the existing American Electric Power ("AEP") Millbrook Park Substation, located in the City of New Boston, in Scioto County, Ohio (Figure 1).

There are existing transmission and distribution lines near the proposed Facility. These lines are located near the south side of the proposed Facility and head east for approximately 1 mile, turn north and cross the Ohio River, and then head west to connect to the Millbrook Park Substation. The lines are Kentucky Power (AEP) 69 kV Tap to Millbrook Park and the East Kentucky Power (AEP) 138 kV Millbrook Park Tap. The proposed 138 kV transmission line will require the construction of new transmission structures between the proposed SunCoke Facility and Millbrook Substation. This project is referred to as the South Shore-Millbrook 138 kV Transmission Line Project ("Project").





Figure 1: Overview Map

### 2.0 Purpose and Objectives

The Feasibility Study ("Study") identifies major potential route alternatives and assesses technical and/or environmental challenges that are identified from readily available information. SunCoke retained URS to assist with the evaluation of environmental, land-use, cultural, and engineering / construction issues during the Study.

The Study is designed to identify and compare suitable routes that minimize the overall effects on ecology, sensitive land uses, and cultural features to the greatest extent possible, while maintaining economic and technical feasibility. The results of this process are the identification and assessment of potential permitting challenges to various route alternatives.



### 3.0 Methodology

At this feasibility level, the purpose is to present several options and to comment upon the permits necessary for project completion. This process, which uses detailed existing land use and ecological data, is of sufficient detail to allow route selection with minimal additional data gathering. The result of this process is a detailed picture of the study area, which allows an informed decision by SunCoke on the route concepts available and their potential impacts. This data collected for the Study also allows future concepts and alternatives to be rapidly assessed and will support permitting requirements for the Ohio Power Siting Board ("OPSB"), Kentucky Public Service Commission ("KYPSC"), Kentucky State Board on Electric Generation and Transmission Siting, and the United States Army Corps of Engineers ("USACE").

URS collected and tabulated land use, ecological, cultural, and technical data, and used that data to define and compare the routes. Based on the number of routes, it was considered most appropriate to use relevant raw data counts in conjunction with qualitative assessments of each route to assess the final ranking.

### 3.1 Study Area Delineation

An initial task in the Study is the definition of the study area. The study area was selected, based on professional judgment and the geographic characteristics of the region. The selected area should be within reasonable distance of the end points of the transmission line and provide the appropriate opportunity to identify multiple potentially feasible transmission line routes for further evaluation. The delineation of the study area is driven by the identification of end points for the proposed electric transmission line. The northern end of the proposed electric transmission line is fixed at the existing Millbrook Park Substation. The southern terminus of the proposed electric transmission line is located at the proposed Facility.

The boundaries of the study area were developed based on a review of United States Geological Survey (USGS) maps and aerial photographs. Constraints, such as major water bodies, urban/developed areas, transportation routes, existing utility corridors, and the locations of the end points, played key roles in determining the boundaries of the study area and of the route candidate selections. Given that both the starting and ending points for the proposed electric transmission line are fixed points, the study area is limited to an area within a reasonable distance of the Millbrook Park Substation and the proposed Facility, which provides the appropriate opportunity to identify multiple potentially feasible transmission line routes for



further evaluation. Major features in and around the study area include: the Ohio River running east/west, an existing transmission line corridor, and the cities of New Boston, Ohio and South Shore, Kentucky. Residential Areas in New Boston, Ohio, on the north and west side of the Millbrook Park Substation define the northern and northwestern boundaries of the study area. The existing overhead transmission line corridor helps define the southern, eastern, and northeastern boundary of the Study Area. The gas processing facility (directly to the west of the proposed Facility) defines the western boundary of the study area.

### 3.2 Siting Criteria

The goal of the Study was to identify viable routes based on the physical locations where structures could be located, while avoiding or limiting impacts to sensitive land uses, ecological, and cultural features in the project vicinity. The possible constraints and attributes both assist in placing route candidates and allow the routes to be compared to one another. These constraints and attributes were classified as environmental, land use, cultural, and engineering, which require evaluation in the OPSB, KYPSC, and USACE permit applications. The constraints and attributes were prepared by acquiring data from various government agencies, Environmental Systems Research Institute, Inc. ("ESRI"), or derived from aerial photographs and USGS topographic quadrangle maps.

A constraint map of the study area was developed using ArcMap GIS software. Georeferenced data layers for the identified constraints, obtained from published State and Federal databases, were superimposed on available parcel boundaries obtained from the Greenup County auditor and 2010 Aerial Photography provided by ESRI (Figure 2).

### 3.3 Route Candidate Selection Process

After the screening constraints and attributes were established, route segments were defined within the study area. Preferred routing options for the electric transmission lines included the following:

- Routes that avoided, to the extent possible, the identified constraints or minimized potential impact where it could not be avoided
- Routes utilizing or closely paralleling established linear rights-of-way such as other electric utility lines, pipelines, railroads, or roads
- Routes that avoided developed areas and associated potential aesthetic impacts to the greatest extent practicable



• Routes with minimal impact on woodland, wetland areas, and riparian corridors.

Based on the constraint map, potentially suitable route alternatives were identified within the study area. Once initial route alternatives were selected, they were each quantitatively and qualitatively assessed based on their impacts and effects on the suite of evaluation criteria listed in Table 1.

### 4.0 Permitting Overview

### 4.1 U.S. Army Corps of Engineers Permit

Section 10 of the *Rivers and Harbors Act* prohibits the construction of any structure in or over any navigable water of the United States, unless you meet the permitting requirements. Based on discussions with the U.S. Army Corps of Engineers (Corps), the proposed transmission line's river crossing would need to be included under one Section 10/404 permit application that includes both the Project and the proposed South Shore Coke Facility impacts. The Individual Section 10/404 permit requires information pertaining to discharges to waters of the U.S., construction of any structure within a navigable waterway, historic preservation, and threatened & endangered species impacts. With the inclusion of the transmission line in the Individual Section 10/404 permit application, the selected route alternative will subsequently require a wetland and stream delineation, potentially require threatened and endangered species surveys, and potentially require cultural resource surveys to determine potential impacts due to construction.

Impacts to wetlands, streams, threatened and endangered species habitat, and archaeological sites can often be avoided or minimized by the location of the transmission line structures during the detailed design process.

An additional requirement for consideration in the design of the transmission line will be the minimum height of the transmission line above the Ohio River. The USACE will require the Project to be a certain height above the Ohio River in order to prevent or minimize any navigation restrictions. As a point of comparison, it should be noted that this minimum height will not be significantly affected by the selected route. The existing East Kentucky Power (AEP) 138 kV Millbrook Park Tap Transmission Line minimum sag elevation is 606.5' ft. above sea level according to the USACE Huntington District Ohio River Navigation Charts (June 2009).



U.S. Army Corps of Engineers "Section 10" permitting requirements address minimum required clearance for transmission lines above navigable waterways. In accordance with 33 CFR 322.5.i.2, the minimum clearance "for aerial electric power transmission lines crossing navigable waters of the United States" that have a nominal system voltage of 138 kV is 22 feet above the minimum clearance required for bridges. The minimum clearance required for bridges is generally controlled by the lower of the two scenarios as summarized below:

- 1. The minimum clearance over the navigable channel required by the U.S. Coast Guard for new fixed bridges in the vicinity of the proposed power line crossing, and
- 2. The minimum clearance over the navigable channel currently provided by existing fixed bridges in the vicinity of the proposed power line crossing.

Under Consideration No. 1, the U.S. Coast Guard requires compliance with the following two clearance criteria for the Ohio River:

- Maintain a minimum clearance of 69 feet above the average June flow (normal pool elevation)
- Maintain a minimum clearance of 55 feet above the "2 percent flow line."

In this scenario, the actual clearance required by ACOE for 138 kV transmission lines will be 22 feet higher (91 feet above average June flow and 77 feet above the "2 percent flow line"). URS is in the process of obtaining the elevations for the "average June flow and "2 percent flow line" at the proposed site location. However, available data from the vicinity of the site indicates a normal pool elevation of approximately 485. Assuming this to be accurate for the site and the controlling water level of the two criteria, an approximate **minimum clearance elevation of 576 feet** would be required to be maintained for the proposed transmission line.

Under Consideration No. 2, the minimum clearance would be likely controlled by the existing C & O Northern R.R. Bridge, located just upstream of the SunCoke site. Using the existing bridge clearance of 96.5 feet from the low steel elevation to the normal pool elevation would mean that the transmission clearance would need to be a minimum of 118.5 feet from the normal pool elevation. Again, assuming an approximate normal pool elevation of 485, an approximate **minimum clearance elevation of 603.5 feet** would be required.



Based on the analysis above, it appears that the first consideration will control (i.e., lower of the two scenarios) and the lowest point of the transmission line should be maintained at **an elevation of at least 576 feet**. Based on currently available information, this would be the lowest anticipated elevation for the line. URS recommends confirming this understanding and the actual "average June flow" and "2 percent flow line" elevations at the proposed crossing locations with ACOE prior to transmission line design and subsequent submission of the Section 10 permit application.

### 4.2 State Required Permit Applications

The overall length of the Project in Ohio and Kentucky plays a role in determining the state's utility permit requirements. Depending on the final location of the power island for the proposed Facility, if the route retains less than 1 mile of length within the state of Kentucky, a KYPSC Certificate of Public Convenience and Necessity would not be required. However, a certificate to construct a non-regulated transmission line would be required through the Kentucky State Board on Electric Generation and Transmission Siting as outlined in KRS 278.714. An application through the Kentucky State Board on Electric Generation and Transmission Siting appears to be less rigorous and would not require as much detailed information as a KYPSC Certificate of Public Convenience and Necessity. The Certificate of Construction review process conducted by the Kentucky State Board on Electric Generation and Transmission Siting appears would be significantly less time for a decision on the application (within 90 days of receipt and 120 days of receipt with a public hearing). In comparison, the KYPSC Certificate of Public Convenience and Necessity review process would likely take approximately 150 days at a minimum, with no filed appeals.

In Ohio, the construction of less than two miles of new build 138 kV transmission would qualify for a Letter of Notification (LON) filing, outlined in the Ohio Administrative Code 4906-11-01. In order to construct more than two miles of new build 138 kV transmission line in Ohio, an OPSB Certificate of Environmental Compatibility and Public Need would be required. The LON requires significantly less information than a full OPSB Application and does not require public hearings.

Preparation and review times of the applications in both Ohio and Kentucky are expected to be similar and highly dependent upon application type, public opposition, and project complexity.



#### 5.0 Results

### 5.1 Identified Routes and Evaluation

Four candidate routes were identified and are shown collectively on Figure 2 with the quantitative criteria listed in Table 1. These routes were assigned an identification number. These numbers did not have any significance with respect to initial preference.

**Route 1:** Route 1 is the shortest, western-most candidate route. This route is 1.2 miles and runs nearly due north across the Ohio River. A majority of Route 1, approximately 0.9 mile, is located in Kentucky. During this 0.9 mile stretch, Route 1 mainly crosses over agricultural land, with a quarter mile crossing of the Ohio River. The remaining 0.3 mile portion of Route 1 is located in Ohio and crosses over scrub shrub land and a corridor of railroad tracks.

Route 1 has the least potential for ecological impacts, as it has the fewest impacts to woodlots, wetlands (NWI), and streams.

Route 1 has the fewest residences within 1,000 ft. In terms of aesthetic impacts, the degree of compatibility of a new transmission line will vary with the view and the setting. Selecting rural routes, such as Route 1, with a low number of residences restricts widespread aesthetic impacts. Also, utilizing poles, where feasible, rather than steel lattice towers to support the transmission line, provides a structure that may blend better with the existing landscape. Views also represent a good indicator for local opposition to the Project.

Route 1 has the greatest number of previously recorded archaeological sites within 100 and 1,000 feet (4 and 14 respectively). Impacts to archaeological sites can often be avoided or minimized by the location of the transmission line structures during the detailed design process.

Finally, overall length of the Project in Ohio and Kentucky plays a role in determining permit requirements. Route 1 would require less than 1 mile of new build transmission within the state of Kentucky, and therefore a Certificate of Construction (rather than the more rigorous Certificate of Public Convenience and Necessity) from the Kentucky State Board on Electric Generation and Transmission Siting would be required. In Ohio, in order to construct the 0.3 mile of new build transmission, a Letter of Notification (LON) to the OPSB would be required.



All of the other route alternatives are significantly over the 1 mile minimum (KRS 278.020(8)) and would require a KYPSC transmission line Certificate of Public Convenience and Necessity application.

*Route 2:* Route 2 is a 2.9 mile route, which parallels the existing AEP transmission line corridor for approximately half of its entire length. This route heads south, west, and then north, totaling approximately 1.2 miles, while it parallels the existing AEP transmission line corridor. During this time, the route crosses over industrial land. The route then heads generally northeast for 0.5 mile, crossing over mainly agricultural land before heading generally north for approximately 0.2 mile to cross over the Ohio River. The route continues to head north for 0.1 mile, crossing over a corridor of railroad tracks, before turning and heading generally west for the remaining 0.9 mile. During this 0.9 mile stretch, Route 2 crosses over industrial land before paralleling the north side of US Highway 52 and crossing over it twice. After crossing over US Highway 52 for the second time, Route 2 parallels the AEP transmission line corridor as it crosses over commercial land.

Route 2 impacts 1,233 feet of woodlots, 69 feet of NWI wetlands, and would require crossing 4 streams.

There are 61 residences located within 1,000 feet of Route 2. Route 2 crosses the most properties in Kentucky (tied with Route 3), and would therefore require more consultation with land owners to acquire right-of-way. In terms of aesthetic impacts, the degree of compatibility of a new transmission line will vary with the view and the setting. New electric transmission facilities are more likely to 'blend-in' with surroundings where existing transmission facilities exist. In areas where Route 2 parallels the existing AEP corridor, the aesthetic impacts will be reduced as it would create only an incremental visual change in the existing landscape. Also, utilizing poles, where feasible, rather than steel lattice towers to support the transmission line, provides a structure that may blend better with the existing landscape.

Route 2 has two previously identified archaeology sites located within 100 feet and 15 previously identified sites within 1,000 feet. Impacts to archaeological sites can often be avoided or minimized by the location of the transmission line structures during the detailed design process.

Route 2 would require over 1 mile of new construction in Kentucky. This length would require a Certificate of Public Convenience and Necessity from the KYPSC. However, in Ohio, the length of new construction is less than 2 miles; therefore, only a Letter of Notification to the OPSB would be required.



A potential engineering constraint that could potentially cause a fatal flaw issue for Route 2 is proximity to a commercial building. Route 2 is in close proximity to a commercial building prior to entering the Millbrook Park Substation. An engineering survey should be completed to determine the constructability and potential fatal flaw of this candidate route.

*Route 3*: Route 3 is approximately 3 miles long and parallels the existing AEP transmission line corridor for approximately 60% of its entire length. Route 3 begins similar to Route 2 by heading south, west, and then north totaling approximately 1.2 miles, while it parallels the existing AEP transmission line corridor. During this time, the route crosses over industrial land. The route then heads generally northeast for 0.5 mile, crossing mainly over agricultural land before heading generally north for approximately 0.2 mile to cross over the Ohio River. The route continues to head north for 0.1 mile, crossing over a corridor of railroad tracks. Route 3 diverges from Route 2 after crossing over the Ohio River. Route 3 turns north-northwest for approximately 0.4 mile. During this stretch, Route 3 crosses over industrial land and US Highway 52. After crossing US Highway 52, Route 3 crosses over woodlots and steep terrain. Next, the route heads generally southwest and again begins to parallels the existing AEP transmission line corridor to the Millbrook Park Substation, approximately 0.6 mile. During this final stretch, the route crosses woodlots and steep terrain, crosses back over US Highway 52, and then heads over mainly commercial land.

Route 3 impacts 4,370 feet of woodlots, 69 feet of NWI wetlands, and would require crossing 4 streams.

There are 61 residences located within 1,000 feet of Route 3. Route 3 crosses the most properties in Kentucky (tied with Route 2), and would therefore require more consultation with land owners to acquire right-of-way. In terms of aesthetic impacts, the degree of compatibility of a new transmission line will vary with the view and the setting. New electric transmission facilities are more likely to 'blend-in' with surroundings where existing transmission facilities exist. In areas where Route 3 parallels the existing AEP corridor, the aesthetic impacts will be reduced as it would create only an incremental visual change in the existing visual setting. Also, utilizing poles, where feasible, rather than steel lattice towers to support the transmission line provides a structure that may blend better with the existing landscape. Route 3 has 2 previously identified archaeology sites located within 100 feet and 15 previously identified sites within 1,000 feet. Impacts to archaeological sites can often be avoided or minimized by the location of the transmission line structures during the detailed design process.



Route 3 would require over 1 mile of new construction in Kentucky. This length would require a Certificate of Public Convenience and Necessity from the KYPSC. However, in Ohio, the length of new construction is less than 2 miles; therefore, only a Letter of Notification to the OPSB would be required.

Potential engineering constraints that could potentially cause fatal flaw issues for Route 3 include slope constructability and proximity to a commercial building. Route 3 traverses over steep terrain and is in close proximity to a commercial building prior to entering the Millbrook Park Substation. An engineering survey should be completed to determine the constructability and potential fatal flaw of this candidate route.

*Route 4:* Route 4 is the eastern most route alternative and also the longest, at approximately 3.8 miles. Route 4 parallels the existing AEP transmission line corridor for over 90% of its entire length. Route 4 heads south, west, and then north, totaling approximately 1.2 miles, while it parallels the existing AEP transmission line corridor and routes 2 and 3. During this time the route crosses over industrial land. Next the route turns slightly, but heads generally northeast for 0.6 mile crossing over agricultural land. The route continues to head northeast for 0.3 mile to cross over the Ohio River. Route 4 then crosses over a corridor of railroad tracks and US Highway 52. After crossing US Highway 52, the route heads northwest for 0.2 mile and crosses woodlots and steep terrain. Next, the route heads west-southwest for approximately 1.2 miles, continuing to cross woodlots and steep terrain. The route crosses back over US Highway 52 and commercial land before entering into the Millbrook Park Substation.

Route 4 appears to have the most potential for ecological impacts. This route requires crossing 7,828 feet of woodlots, 69 feet of NWI wetlands, and 7 streams.

Route 4 has the most residences within 1,000 feet, at 63 residences. However, since Route 4 parallels existing infrastructure for almost its entire length, aesthetic impacts will be minimal as it would create only an incremental visual change in the existing visual setting. Also, utilizing poles, where feasible, rather than steel lattice towers to support the transmission line provides a structure that may blend better with the existing landscape.

Route 4 has two previously identified archaeology sites located within 100 feet and 15 previously identified sites within 1,000 feet. Impacts to archaeological sites can often be avoided or minimized by the location of the transmission line structures during the detailed design process.



Route 4 would require over 1 mile of new construction in Kentucky. This length would require a Certificate of Public Convenience and Necessity from the KYPSC. However, in Ohio, the length of new construction is less than 2 miles, therefore, only a Letter of Notification to the OPSB would be required.

Potential engineering constraints that could potentially cause fatal flaw issues for Route 4 include slope constructability and proximity to a commercial building. Route 4 traverses over steeps terrain and is in close proximity to commercial building prior to entering the Millbrook Park Substation. An engineering survey should be completed to determine the constructability and potential fatal flaw of this candidate route.

### 5.2 Route Ranking and Results

The quantitative comparison for the overall route alternatives, provided in Table 2, suggests that ecological, land use, and cultural constraints are limited in the study area and that most properties offer sufficient space to avoid or minimize impacts. Ecological and technical quantitative attributes appear to provide the most significant differentiation among the candidate routes.

The ecology category had three constraints, which consisted of streams crossed, length of NWI crossed, and length of woodlots crossed. Route 1 was the only route that did not have impacts to NWI. Routes 2, 3, and 4 crossed 69 feet of NWI. All of the proposed routes cross over woodlots and streams; however, Route 4 has the greatest potential for ecological impacts, crossing over 7,828 feet of woodlots and 7 streams.

The engineering category also possessed constraints differentiating the candidate routes. Route 1 was by far the shortest route, at approximately 1.2 miles. Also, Route 1 requires less than 1 mile of new construction in Kentucky, which would likely involve a less rigorous permitting effort, based on application guidelines from the Kentucky State Board on Electric Generation and Transmission Siting. All of the proposed routes require less than 2 miles of new construction in Ohio; therefore, all of the routes would only require a LON to the OPSB.



	Route Alternatives			
Evaluated Criteria	1	2	3	4
Ecological				
Length of Woodlots crossed by Route (feet)	885	1,233	4,370	7,828
Length of Wetlands crossed by Route (feet)	0	69	69	69
Number of Streams crossed by Route (Excluding Ohio River)	2	4	4	7
Threatened and Endangered Species Listings within 1,000 feet of Route	0	0	0	0
Cultural				
National Register of Historic Places within 1,000 feet of Route (KY)	0	0	0	0
National Register of Historic Places and Districts within 1,000 feet of Route (OH)	0	0	0	0
Known Archaeological Sites within 100 feet Route (KY)	4	2	2	2
Known Archaeological Sites between 100 and 1,000 feet of Route (KY)	14	13	13	13
Known Archaeological Sites within 1,000 feet of Route (OH)	0	0	0	0
Ohio Historical Structures within 1,000 feet of Route	0	0	0	0
Land Use		·		
Residences within 100 feet of Route	0	0	0	0
Residences within 1,000 feet of Route	52	61	61	63
Properties Crossed by Route (KY)	1	7	7	6
Properties Crossed by Route (OH)	No data	No data	No data	No data
Cemeteries within 1,000 feet of Route (OH)	0	0	0	0
Cemeteries within 1,000 feet of Route (KY)	0	0	0	0
Institutional Land Uses within 1,000 feet of Route	0	0	0	0
Other Sensitive Land Uses within 1,000 feet of Route	0	0	0	0
Engineering				
Length of Route (feet)	6,468	15,476	15,911	19,855
Length of Route in KY, including river span (feet)	4,927	10,013	10,013	11,028
Length of Route in OH (feet)	1,119	4,645	5,081	7,568
Length of River Span (feet)	2,667	2,386	2,386	2,646
Length Paralleling Existing Transmission (feet)	0	6,634	8,447	18,447
Number of Proposed Structures	5	18	17	20
Maximum Turn Angle (degrees)	30	88	88	88
Number of Turns in Route	1	9	11	10

### Table 2: SunCoke Transmission Line Route Comparison

Notes: When Scioto Co., Ohio parcel data is received these "No data" cells will be updated



### 6.0 Conclusion

Based on the quantitative evaluations, Routes 1 and 4 appear to be viable candidates for the development of a transmission line. Route 1 has the least amount of ecological impacts (i.e. no NWI wetlands, least amount of stream crossings and woodlots), the most suitable engineering constraints, and similar surrounding land use. Route 1 also consists of less than one mile of new construction within Kentucky, which would reduce permitting requirements and the review period of the application. While cultural resource issues may create potential delays and additional costs, they do not appear to represent fatal flaws, based on the data gathered to date.

Route 4 parallels the existing AEP transmission line corridor for over 90% of its entire length. Although Route 4 has the most potential for ecological impacts, would be constructed in the vicinity of the most residents, and has the most potential engineering constructability issues, this route parallels existing right-of-way and, therefore, also has the least aesthetic impact. Potential engineering constraints that could cause fatal flaw issues for Route 4 include slope stability and proximity to a commercial building.

Based on the scope of this evaluation, Route 1 appears to be the most favorable candidate route and Route 4 appears to be a suitable alternative location for the proposed Project, pending engineering analysis to confirm constructability.



EXHIBIT K HEAT RECOVERY COKE PLANT DESCRIPTION


### **EXHIBIT K - HEAT RECOVERY COKE PLANT DESCRIPTION**

The heat recovery coke plant facility would consist of coal handling and preparation equipment, heat recovery coke ovens, coal charging, coke pushing and handling equipment, a quench tower, coke storage facilities, various administrative and support buildings, and associated air pollution control equipment. In addition, waste heat recovery steam generators (HRSGs) would be constructed to recover heat from the process gases to produce high quality steam.

The coking process involves heating coal in ovens to drive off volatile chemicals until only the carbon and ash remain. Unlike byproduct coking facilities which recover the volatiles and later refine them, the SunCoke facility would have heat recovery ovens. This type of oven would oxidize(burn) the volatiles to produce heat for creating steam by the heat recovery steam generators.

Blended coal is received via barges on the river. At the unloading station, the coal is removed from the barge and loaded into a coal hopper which discharges the coal onto a partially covered conveyor that transports the coal to the storage area on the plant site. At the storage area, coal is placed in one of four piles by a radial stacker arm that adjusts to minimize the drop height of the coal and therefore minimize emissions. A crane or a front end loader moves coal from the piles to a conveyor that transports the coal to the coal crushing building. This equipment is also designed and used to minimize the drop height of the coal. Coal received from the storage piles enters the coal crushing building where the coal is reduced to the appropriate size for use in the ovens and transferred to the East and West storage bins before coking. A mobile charging/pushing machine is loaded with the crushed coal which then charges the coal into an oven in one of the two batteries of ovens. There are 120 coke ovens arranged in two separate banks, East and West, with a combined capability of carbonizing up to 1,226,400 tons per year (tpy) of coal and producing up to 831,100 tpy of metallurgical coke. The pushing/charging machine is equipped with a traveling hood/baghouse system to control charging emissions that escape from the negatively pressured ovens. The ovens are kept at negative pressure to minimize escape of emissions and allow the intake of additional air to aid in the carbonization process.

Once the crushed coal is loaded into an oven, the coal is heated (temperatures of 1,600°F to 2,400°F) to liberate combustible volatile gases. The gases are pulled through sole flues, and the common tunnel, where combustion of the gas is completed to release heat and destroy some pollutants. Natural gas lances may also be used through ports to boost heat in the ovens and/or

SunCoke Energy South Shore LLC Application to the	October 23, 2014
KY State Board on Electric Generation and Transmission Siting	Page 1
Case No. 2014-00162	-



afterburner tunnel to keep them hot during maintenance activities and during extremely cold weather. The heat released from combusting the gases in the flues and tunnel is routed to Heat Recovery Steam Generators (HRSGs) which uses the heat to create steam. It is possible that the natural gas lances may be needed to augment the heat going to the HRSGs in a non-routine situation. The HRSGs serve to cool the waste gas to condition for treating at the emission control devices placed before the main exhaust stack. Three HRSGs will be in use on this site to allow for maintenance/repair without direct flue gas release to atmosphere.

At the ovens, the coal to coke cycle takes 48 hours for each bed of 48 to 50 tons or 24 hours for each bed of 28 tons. Once the volatiles have been completely released from the coal, the material bed has become coke and is ready for pushing and quenching.

A mobile machine pushes the hot, coke loaf onto a mobile flat push hot car. The coke then travels to the end of the battery where the bed is transferred to a quench car. Each of the two flat push hot cars is equipped with a multicyclone to capture pushing emissions. The flat push hot car travels to a stationary quench tower at the end of the oven batteries where the intact coke loaf is drenched with water. Emissions are controlled through the use of water containing a low amount of total dissolved solids and through a special baffle design used in the tower.

After quenching, coke may be transferred to the coke crushing and screening building where the coke is sized for different applications. Screening separates the different sizes of coke and the enclosure and baghouse filters help control emissions at this point. Coke that does not go immediately to crushing and screening is transferred to the coke storage pile where a radial stacker minimizes coke drop height and thereby minimizes emissions. A front end loader moves coke, as needed, from the pile to a conveyor that supplies the crushing and screening building. Undersized coke (breeze) is stored in bunkers. Coke product maybe loaded into railcars or trucks for delivery to purchasers and unsold breeze may be recycled by blending it into coal charge. The site will also have roadways, storage silos, storage tanks, and support buildings. Diesel engines will power cranes, emergency generators, and fire pumps.

The steam produced will be transferred to the merchant generating facility's steam turbine generator to be converted into electricity.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

October 23, 2014 Page 2

# Simplified Process Diagram





EXHIBIT L CUMMULATIVE ENVIRONMENTAL ASSESSMENT

# SUNCOKE ENERGY SOUTH SHORE FACILITY

# CUMULATIVE ENVIRONMENTAL ASSESSMENT MERCHANT ELECTRIC GENERATING FACILITY AND NON-REGULATED ELECTRIC TRANSMISSION LINE

Prepared for: SunCoke Energy South Shore LLC 1011 Warrenville Road, Suite 600 Lisle, Illinois 60532

# SunCoke Energy

Prepared by:



525 Vine Street, Suite 1800 Cincinnati, Ohio 45202

Case #: 2014-00162

October 2014



#### CONTENTS

SECT	ION		PAGE
1.0	INTROE 1.1 1.2 1.3 1.4	DUCTION Project Introduction Statement of Objective Facility Description and Equipment Summary Summary of Assessment and Permitting History	1 1 2
2.0	2.1 2.2	LLUTANT EVALUATION Air Pollutants Control Methods Air Permitting	6 7
3.0	3.1	Pollutant Evaluation Non-Process Water Stream Stormwater and Other Facility Wastewaters Water Discharge Permitting	
4.0	WASTE	EVALUATION	19
5.0	5.1 5.2	USE EVALUATION Surface Water Stormwater Water Use Permitting	20 21
6.0	CONCL	USION	22

### LIST OF FIGURES

### Figures

1 Site Location Map

### LIST OF EXHIBITS

i

### Appendices

A KPDES Permit Application



### 1.0 INTRODUCTION

### 1.1 **Project Introduction**

SunCoke Energy South Shore LLC (SESS) owned by Sun Coal and Coke LLC, which is owned by SunCoke Energy, Inc., (SunCoke) is proposing to construct and operate a heat recovery coke plant located on approximately 250 acres of land in an industrial area near South Shore, Kentucky in Greenup County. **Figure 1 – Site Location Map** shows the site location and approximate site boundaries. Heat recovery steam generators (HRSGs) will recover waste heat from the ovens to produce steam and electricity. To date, extensive assessment and permitting activities have been completed for the proposed facility. Currently, the primary permit applications have been prepared and submitted and are undergoing review by the respective agencies. A number of permits associated with the proposed facility have been approved.

Construction may begin as early as Second Quarter 2015. Due to the complexity of the project, construction is expected to last approximately two (2) years. This Cumulative Environmental Assessment (CEA) includes a summary of environmental assessments and permitting activities performed for the site and describes provisions to control the emission of pollutants from the facility to air, water and land.

### 1.2 Statement of Objective

Kentucky Revised Statute (KRS) 224.10-280(1) requires that no person shall commence to construct a facility to be used for the generation of electricity unless the person submits a CEA to the Commonwealth of Kentucky Energy and Environment Cabinet (Cabinet) with the permit application. The regulation also describes required CEA elements. In accordance with KRS 224.10-280(3), this CEA addresses the following considerations:

- For air pollutants:
  - Types and quantities of air pollutants that will be emitted from the facility; and
  - A description of the methods to be used to control those emissions;
- For water pollutants:
  - Types and quantities of water pollutants that will be discharged from the facility into the waters of the Commonwealth; and
  - A description of the methods to be used to control those discharges;

1



- For wastes:
  - Types and quantities of wastes that will be generated by the facility; and
  - A description of the methods to be used to manage and dispose of such wastes; and
- For water withdrawal:
  - Identification of the source and volume of anticipated water withdrawal needed to support facility construction and operations; and
  - A description of the methods to be used for managing water usage and withdrawal.

### **1.3** Facility Description and Equipment Summary

The proposed facility will consist of 120 heat recovery coke ovens. The general areas include buildings (administration, warehouse, maintenance, steam turbine generator, etc.), a blended coal barge unloading and transfer facility, a coal handling and processing area, the coke plant, the coke handling area, heat recovery, air quality control systems, and the power island. Coal will be shipped to the facility via barge, and the finished coke product will be conveyed to end users via rail.

HRSGs will recover waste heat from the ovens to produce steam and electricity. At design capacity, the facility will carbonize 1,226,400 tons/year of coal and produce up to 831,100 tons/year of coke product. A nominal 40–80 megawatts (MW) of electricity will be produced from the waste heat.

The general facility design includes the following major equipment and structures:

- One hundred twenty (120) heat recovery coke ovens;
- Three (3) waste HRSGs;
- Coal handling and preparation equipment that include, but are not limited to, a barge unloading facility, a coal hopper, conveyor system, radial stackers, coal crushers, storage bins, and mobile charging/pushing machines;
- Coke pushing and handling equipment that include, but are not limited to, a mobile flat push hot car, coke crushers and screeners, radial stackers, and rail and truck loading systems;

2

• One (1) quench tower;

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



- One main exhaust stack;
- Ancillary equipment and systems (i.e., mechanical systems, potable and service water systems, fire protection system, compressed air system, cranes, front end loaders, steam and condensate systems, heating and cooling systems, start-up natural gas burner system, ash handling systems, storage tanks, drainage and sewer systems, electrical systems, emergency fire pump and generators);
- Various administrative, support, and operations buildings; and
- 138 kilovolt (kV) electrical transmission line from the facility to the Millbrook Park Substation in New Boston, Ohio.

### 1.4 Summary of Assessment and Permitting History

Since the SESS project was conceived, its developers have focused on the details and aspects needed to ensure a successful and sustainable project, and one that minimizes impact to the environment. Significant studies, permitting and design work have been completed for various aspects of the facility's development and regulatory review. References will be made throughout this section to the various reports, investigations, and permit applications that have been conducted and/or prepared. The primary environmentally-related studies and permitting efforts with brief summaries are listed below:

- Section 10/404 Permit Application In order for SESS to construct and operate the proposed facility, SESS will need to undertake certain activities, including the construction of structures in and around the Ohio River, a navigable water of the United States (US). In addition, development of the facility requires discharge of fill materials to delineated wetlands. Accordingly, SESS applied for a United States Army Corps of Engineers (USACE) Section 10/404 Permit in January 2013 to undertake the aforementioned activities. The following extensive studies were included with the permit application:
  - A Wetland Delineation, Stream Assessment, and Threatened and Endangered Species Habitat Survey report was prepared in October 2008 with addendums in 2009, 2011 and 2012 prepared in response to additional project areas. These ecological surveys identified a total of 15 wetlands and six non-jurisdictional drainage swales within the project survey boundary.
  - A Wetland Mitigation Plan was developed and submitted with the Section 10/404 permit application. The Wetland Mitigation Plan addresses approximately 6.4 acres of wetland associated with the project site for which impact was unavoidable. The conceptual wetland mitigation plan utilizes the Kentucky inlieu-fee wetland mitigation program.

3

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



- A mussel survey was conducted in response to the United States Fish and Wildlife Services' (USFWS) question regarding any potential for the proposed project-associated barge loading and fleeting facility to adversely affect federally listed mussels. Results from the September 2008 mussel survey determined that the proposed project would not likely adversely affect federally listed mussels.
- Cultural, Historic and Archaeological Studies have been submitted to the State Historic Preservation Office, including:
  - June 2011 Phase I Survey of Two Land Parcels (45.2-acres) in Greenup County, Kentucky
  - June 2011 Phase II NRHP Eligibility Testing of Sites 15GP183 and 15GP219 in Greenup County, Kentucky
  - June 2012 Phase I Survey of a 25-acre Addition to the Proposed SunCoke Energy South Shore Facility in Greenup County, Kentucky
  - June 2012 Data Recovery Plan For Sites 15GP183 and 15GP219 with the SunCoke Energy, Inc. South Shore Project, Greenup County, Kentucky
- Section 401 Water Quality Certification Permit Application The Section 401 Water Quality Certification Program implemented by the Kentucky Division of Water (KDOW) is the Commonwealth's review and authorization of selected federal license and permits. SESS submitted an application for water quality certification (WQC) in October 2013 to the KDOW. The KDOW approved and issued the WQC in January 2014.
- Kentucky Stream Construction Permit Application The project involves construction of minor structures which will be located within, and adjacent to, the Ohio River. In addition, there are several areas of fill which will be located within the 100-year floodplain and floodway of the Ohio River. Therefore, a Stream Construction Permit (SCP) application was submitted in October 2013 to the KDOW. In order to analyze the effects of the proposed construction on existing flood conditions, URS modeled existing and proposed conditions using the USACE's Hydrologic Engineering Centers River Analysis System (HEC-RAS 4.1.0). Based on this analysis, it was demonstrated that the proposed floodplain construction would not result in a significant, measurable change, and the project is appropriate for a "No Impact" Certification. The KDOW approved and issued the SCP to SESS in November 2013.
- Air Permit Application The air permit application was submitted to the Kentucky Division for Air Quality (KDAQ) on December 10, 2012. Additional information was submitted that addressed requests from KDAQ at various times throughout 2013. A draft construction and operating permit (V-13-007) for SESS was issued for public review on December 26, 2013. The draft permit establishes operating limitations, compliance demonstration methods, testing requirements, specific monitoring requirements, specific recordkeeping requirements, specific reporting requirements, and (where appropriate)

Л

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



specific control equipment operating conditions for each of the Emission Units at the SESS Plant. The public comment period ended and KDAQ responded to the comments. KDAQ issued the "proposed" permit on May 6, 2014 that allowed construction activities while United States Environmental Protection Agency (EPA) reviewed the Title V (operating) portion of the permit. The final permit was awarded on August 8<sup>th</sup>, 2014. The complete KDAQ public record is maintained by the agency under Agency Interest No. 105793. The air permit addresses all applicable federal and state air quality regulations that must be satisfied to construct and operate SESS. In addition, dispersion modeling of SESS emissions demonstrated acceptable environmental impacts for all regulated air pollutants.

The above efforts have resulted in extensive study of the proposed project site and surrounding areas. These investigation efforts have been important in defining features such that the development and design teams could minimize the effect of the proposed facility on the surrounding environment.

5

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



### 2.0 AIR POLLUTANT EVALUATION

As required by KRS 224.10-280(3), this section presents an evaluation of air pollutants emitted by the facility and the associated control measures.

### 2.1 Air Pollutants

SESS is expected to be a source of stack emissions of the criteria pollutants Particulate Matter (PM), Particulate Matter 10 microns diameter and smaller (PM<sub>10</sub>), Particulate Matter 2.5 microns diameter and smaller (PM<sub>2.5</sub>), Sulfur Dioxide (SO<sub>2</sub>), Nitrogen Oxides (NOx), Carbon Monoxide (CO), Volatile Organic Contaminants (VOCs), sulfuric acid (H<sub>2</sub>SO<sub>4</sub>), and Lead (Pb) as well as Hazardous Air Pollutants (HAPs) including Hydrochloric Acid (HCl) and Mercury (Hg) and other HAPs in small amounts. Greenhouse gases (GHGs) will also be emitted and will be comprised of mostly Carbon Dioxide (CO<sub>2</sub>). SESS will also be a source of fugitive PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions.

The potential emissions of regulated air pollutants have been estimated and are presented in Table 1. These values represent the maximum potential emissions from the entire facility. More information about emissions from individual operations and equipment is available in the permit application and in KDAQ's public record (Agency Interest No. 105793).

Pollutant		Estimated Potential Emissions (tons per year)
PM (filterable)		174.8
PM <sub>10</sub> (filterable condensable)	and	208.3
PM <sub>2.5</sub> (filterable condensable)	and	160.0
CO		218.3
VOC		44.7
SO <sub>2</sub>		634.0
NOx		692.9
Pb		0.22
H <sub>2</sub> SO <sub>4</sub>		33.4
GHGs (CO <sub>2</sub> e)		1,374,000
Hg		0.20
HCI		117.5

6

Table 1

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

### 2.2 Control Methods

The SESS coke plant will be the best-controlled of its type in the United States, if not the world, due to the coke plant design, the air pollution controls, and planned equipment redundancy.

The SESS coke oven design will be a heat recovery type of oven. This differs from the traditional coke oven design in that the volatile fraction of the coal is oxidized within the ovens releasing heat. Heat is recovered in HRSGs as steam. The steam is used to make electricity. With the traditional byproduct coke making process coal volatiles and combustion products are collected downstream of the oven chamber and refined in a chemical plant to produce coke oven gas and other products such as tar, ammonia, and light oils. There is no chemical plant with the heat recovery coke making process.

The heat recovery coke making process is also much more environmentally stringent than the byproduct process because of a fundamental design difference. Byproduct ovens are kept at a positive pressure to avoid oxidizing recoverable products and overheating the ovens. Heat recovery ovens are kept at a negative pressure, adding air from the outside to oxidize volatile matter and release the heat of combustion within the oven system. The opposite operating pressure condition and combustion within the oven system are important design differences between heat recovery ovens and byproduct ovens. Small openings or cracks in byproduct ovens allow raw coke oven gas and HAPs to leak into the atmosphere. The openings or cracks in the heat recovery ovens simply allow additional air to be drawn into the oven as part of the carbonization process.

The following paragraphs summarize the air pollution controls for the primary emission units at SESS.

### Coke Ovens

The coke ovens are the largest potential source of emissions. Controls for the various pollutants are discussed in the following paragraphs.

CO and VOCs are produced as products of incomplete combustion. In the heat recovery process, volatile matter is released from the coal bed and combusted within the coke oven. Heat that is generated drives the coking process. The heat recovery coke ovens use three discrete regions for combustion of the coal volatiles. The regions are the crown, the sole flues, and the common tunnel. The gases remain in the sole flues and common tunnel for approximately 7

7

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

seconds where they are exposed to oxidizing conditions and temperatures from 1,600 to 2,400 degrees Fahrenheit (°F). This approach naturally produces low emissions of CO and VOCs. Because of the inherently excellent combustion the primary gas produced is CO<sub>2</sub> which results in minimal GHG emissions of compounds such as methane that have a high global warming potential.

NOx emissions will be inherently controlled by staged combustion. Staged combustion controls NOx by limiting the oxygen present at temperatures where NOx formation is likely and/or suppressing peak temperatures that increase NOx formation during gas combustion. Air enters the coke oven in the crown which operates in a reducing atmosphere where minimal oxygen is present for NOx formation. The sole flues receive secondary air and operate in a reducing or oxidizing atmosphere as dictated by the oven gas rates. NOx formation is minimized in the sole flues by controlling the temperatures. The final stage is the common tunnel afterburner, which is always operated in an oxidizing mode. NOx formation is limited in this region by adding enough tertiary air to cool the gases below temperatures where thermal NOx is formed (<2,400°F).

PM and SO<sub>2</sub> will be controlled by downstream pollution control devices. The HRSGs that recover heat to make steam and produce electricity also cool the flue gases so that a circulating dry scrubber (CDS) system or equivalent performing technology can be used. This system will include a baghouse for particulate removal.  $H_2SO_4$ , HCI, and particulate metals will also be controlled by the CDS system. Redundant HRSG and CDS systems will be utilized. Three HRSGs, each sized to handle 50% of the hot flue gas, will typically be online. In the event maintenance is required, two HRSGs will be operated at a higher load while the third is offline being maintained. A 100% redundant SO<sub>2</sub>/PM control that provides equivalent performance will be installed in parallel so that one system can be taken offline for maintenance while the flue gases are routed through the other system.

# Coal handling

Blended coal will be delivered to the facility by barge. Coal will be stored in open pile(s) that will have a berm or wind screen. Water will be added to the coal, as needed, after the coal leaves the barge area and at the coal pile to control PM emissions. Emissions from material transfer will be controlled by enclosures except in a few areas where enclosures are physically prohibited due to moving equipment.

8

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

### **Coal charging**

Coal will be charged into the coke ovens by mobile pushing/charging machines that charge coal into one side of the ovens. The negative pressure inherent to the heat recovery design captures most of the emissions. PM is controlled by a traveling hood/baghouse system contained on the pusher/charger machine.

### Coke pushing

At the end of the cycle, after the coal has been converted to coke, the coke is pushed into a mobile flat push hot car. The coke loaf is pushed essentially intact. SESS will employ the work practice of physically looking into each oven prior to pushing. If the coke bed has stopped gassing and no smoke is observed, the oven can be pushed. This substantially reduces potential pushing emissions. The negative pressure inherent to the heat recovery design captures most of any remaining emissions. PM is controlled by a traveling hood/multicyclone system contained on the flat push hot car.

### Coke quenching

The flat push hot car travels to the end of the batteries where the coke bed is transferred to a quench car, then into a stationary quench tower. Quenching will be performed by deluging the hot coke with water in a specially designed quench tower with baffles. PM emissions from quenching will be controlled by using water with controlled levels of total dissolved solids that represents Maximum Achievable Control Technology (MACT) and by SESS's baffle design.

### Coke handling

PM emissions from material handling will be controlled by enclosures except where interference with dispersion of steam from quenched coke may pose a safety hazard. A dust collection system with a baghouse will be used to control PM emissions from coke screening and crushing.

### **Vehicles**

Personal vehicles, maintenance trucks, and trucks hauling coke, breeze, and other materials will travel roads around the facility. These roads will be paved and appropriate control measures applied (e.g., flushing) when needed. Sections of roads in the lower tier of the property are

9

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

susceptible to flooding and will not be paved. The unpaved roads will be treated with chemical suppressant and watered as needed for dust control.

### BACT

As part of the permitting process, the KDAQ evaluated the air pollution controls for each emission unit to determine whether they demonstrate Best Available Control Technology (BACT). The BACT requirement is an emission limitation or work practice based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act, on a case-by-case basis, taking into account technical feasibility and energy, environmental, and economic impacts and other costs. The results of KDAQ's BACT determinations are summarized in Table 2.

Pollutant	Emission Unit	BACT Determination
	Coking-main stack (EU07)	CDS/BH or equivalent
	Coal Charging (EU05, EU06)	Onboard, travelling hood with baghouse
	Coke Pushing (EU08)	Onboard, travelling hood with Multicyclone, flat pushing
	Coke Crushing/Screening (EU15)	Enclosure and baghouse
PM/PM10/PM25	Emergency Stacks/Lids(EU10)	Time limit for testing, required draft fan operation
	Natural Gas Lances/Spargers (EU11)	Natural gas use limit
	Group II Start-Up	Coal throughput limit, expedite start-up
	Storage Silos (EU20, EU21, EU22)	Bin vent filters with 99% efficiency design
	Crane Diesel Engines (EU29, EU29)	Maximum use of 16 hours per day
Fugitive PM/PM <sub>10</sub> /PM <sub>2.5</sub>	Coal and Coke Handling/Transfer Units (EU01-EU04, EU13, EU14, EU16)	Full and partial enclosures, wetting of materials, good engineering practice drop heights, berms, wind screens, all as applicable to the individual emission point
	Quench Tower (EU09)	Wet quench, improved baffles, limited TDS
	Paved Roads (EU17)	Flushing paved surfaces
	Unpaved Roads (EU18)	Chemical suppressants, wetting of materials
	Cooling Tower (EU19)	Maximum 0.0005% drift (and water recirculation rate)
10		

### Table 2

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



Pollutant	Emission Unit	BACT Determination
	Coking (EU07)	Combustion Optimization
CO and VOC	Coal Charging (EU05, EU06)	Negative pressure oven design
	Coke Pushing (EU08)	Work practices
	Group II Start-Up	Limit coal charge each oven during start-up, 40 day time limit to operation of CDS/BH
	Coking (EU07)	CDS, Designed to meet 0.96 lb SO <sub>2</sub> per ton Coal at maximum production. Coal sulfur limit 1.3 %
SO <sub>2</sub>	Coal Charging (EU05, EU06)	Coal sulfur limit of 1.3 %
	Coke Pushing (EU08)	Coal sulfur 1.3%
	Group II Start-Up	Coal sulfur 1.1%, limit coal charge each oven during start-up, 40 day time limit to operation of CDS/BH
	Coking (EU07)	CDS/BH, Design efficiency 98%, Coal sulfur limit 1.3%
H <sub>2</sub> SO <sub>4</sub>	Coal Charging (EU05, EU06)	Coal sulfur 1.3%
112004	Coke Pushing (EU08)	Coal sulfur 1.3%
	Group II Start-up	Limit coal charge each oven during start-up, 40 day time limit to operation of CDS/BH
	Coking (EU07)	Staged Combustion
	Coal Charging (EU05, EU06)	Work practices
NOx	Coke Pushing (EU08)	Work practices, coal throughput
	Group II Start-up	Limit of coal charged to each oven
	Coking (EU07)	Facility design elements, combustion optimization, work Practices
GHGs [CO2(e)]	Coal Charging (EU05, EU06)	Negative pressure oven design
	Coke Pushing (EU08)	Ensure complete carbonization (Work practices)
	Emergency Stacks/Lids (EU10)	Time limit for testing, required draft fan operation
	Natural Gas Lances/Spargers (EU11)	Natural gas use limit
	Group II Start-up	Limit coal charge each oven during start-up
	Emergency Engines (EU24- EU27)	Good combustion practices, implement GHG work practices plan
	Crane Diesel Engines (EU29, EU29)	Good combustion practices, limit daily hours operation, implement GHG work practices plan

11

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

# 2.3 Air Permitting

SESS submitted an application to KDAQ for a metallurgical coke production facility to be located in Greenup County, Kentucky, on December 10, 2012. Additional information was submitted that addressed requests from KDAQ at various times throughout 2013. A draft construction and operating permit (V-13-007) for SESS was issued for public review on December 26, 2013. The draft permit establishes operating limitations, compliance demonstration methods, testing requirements, specific monitoring requirements, specific recordkeeping requirements, specific reporting requirements, and (where appropriate) specific control equipment operating conditions for each of the Emission Units at the SESS plant. The public comment period ended and KDAQ responded to the comments. KDAQ issued the "proposed" permit on May 6, 2014 that allowed construction activities while EPA reviewed the Title V (operating) portion of the permit. The final permit was awarded on August 8, 2014. The complete KDAQ public record is maintained by the agency under Agency Interest No. 105793.

The air permit addresses applicable air quality regulations that must be satisfied to construct and operate SESS. In addition to general requirements, seven federal regulations will specifically apply to SESS. These are summarized below:

**40 CFR 60, Subpart Y**, Standards of Performance for Coal Preparation Plants. This regulation applies to coal transfer, storage and processing equipment. It establishes opacity limits and requires that a fugitive coal dust emissions control plan to be submitted and implemented.

**40 CFR 60, Subpart IIII**, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This regulation applies to emergency and non-emergency diesel engines of various sizes on the site, including an emergency fire pump, emergency generators, and cranes. It establishes emissions limits, testing, and fuel standards.

**40 CFR 63, Subpart L**, National Emission Standards for Coke Oven Batteries. This regulation applies to the coke ovens and oven charging. It establishes operating, emissions and opacity limits and requires the installation of control equipment to minimize emissions from charging and requires a work practice plan as well as a startup, shutdown and malfunction plan.

**40 CFR 63, Subpart ZZZZ**, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. This regulation also applies to emergency and non-emergency engines of various sizes on the site. It establishes emission and

12

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



operating limitations as a means to limit HAPs emitted by reciprocating internal combustion engines (RICE).

**40 CFR 63, Subpart CCCCC**, National Emission Standards for HAPs for Coke Ovens: Pushing, Quenching, and Battery Stacks. This regulation applies to heat recovery coke pushing and quenching and sets various operating and emission limits as well as testing, parametric, inspection, monitoring and recordkeeping requirements for the equipment.

**40 CFR 64**, Compliance Assurance Monitoring (CAM). This regulation requires that sources monitor and maintain their control devices to ensure continuing compliance with pollutant specific emissions limitations. At SESS, CAM applies to the CDS system used to control SO<sub>2</sub> and PM emissions from coking that are emitted from the main stack.

**40 CFR 98**, Mandatory Greenhouse Gas Reporting (GHGs). This regulation requires that sources report the amounts of GHGs emitted annually.

In addition to federal requirements, the air permit addresses six state regulations that will specifically apply to SESS.

**401 KAR 52:020**, Title V permits. This Kentucky Administrative Regulation (KAR), establishes requirements for air contaminant sources located in Kentucky that are required to obtain a Title V operating permit because SESS will be a major source of regulated air pollutants (PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NOx, CO, and HCI). The draft Title V permit has been issued.

**401 KAR 59:010**, New Process Operations. This KAR provides for the control of particulate emissions from new process operations not subject to another particulate standard.

**401 KAR 63:010**, Fugitives. This KAR provides for the control of fugitive emissions. Fugitive emissions are those released into open air rather than from a stack.

**401 KAR 63:020**, Toxic Substances. This KAR provides for control of emissions of potentially hazardous matter and toxic substances. Toxic substances are those which may be harmful to the health and welfare of humans, animals, and plants and this regulation forbids any source from emitting these substances in a quantity or for a duration that could be detrimental.

**401 KAR 59:105**, New process gas streams. This regulation provides for control of emissions from new process gas streams. It applies specifically to  $SO_2$  emissions from coking.

13

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

**401 KAR 51:017**, Prevention of significant deterioration of air quality. The purpose of this regulation is prevention of significant deterioration (PSD) of ambient air quality. This complicated regulation has many components that apply to SESS. The public comment period ended and KDAQ responded to the comments. KDAQ issued the "proposed" permit on May 6, 2014 that allowed construction activities while EPA reviewed the Title V (operating) portion of the permit. The final permit was awarded on August 8<sup>th</sup>, 2014.

The PSD regulation requires that a BACT analysis be performed and controls or work practice standards (if feasible) be applied for the PSD pollutant(s). For this project, BACT is required for units that emit PM,  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ , NOx, CO, VOCs, GHGs, and  $H_2SO_4$ . Table 2 summarizes the controls identified as BACT that are required for each emission unit.

The PSD regulation also requires an analysis of ambient air quality impacts. For SESS, this applies to CO,  $NO_2$ ,  $SO_2$ ,  $PM_{10}$ , and  $PM_{2.5}$ . SESS submitted an ambient air quality analysis for each of these pollutants. Dispersion modeling was performed for CO,  $NO_2$ ,  $SO_2$ ,  $PM_{10}$ , and  $PM_{2.5}$  to determine the impacts on PSD increments (ambient impacts due to SESS and other new sources) and on the National Ambient Air Quality Standards (NAAQS) [ambient impacts due to SESS and all other sources plus background]. The modeling demonstrated that emissions of regulated pollutants from the proposed project will not adversely affect air quality levels surrounding the facility.

The PSD regulation also requires an Air Quality Impact Analyses (AQIA) that assesses impacts on soils, vegetation, visibility, and Class I areas caused by the increase in emissions from the new source. Class 1 lands include areas such as national parks, national wilderness areas, and national monuments that are granted special air quality protections under the Clean Air Act.

As part of the application, SESS demonstrated that:

- No adverse impact to soil or vegetation is expected,
- Visibility impacts are not expected in the closest scenic vista (Shawnee State Park)
- Impact on air quality due to regional growth attributed to SESS will be negligible,
- Adverse impact on ambient ozone concentrations due to the proposed project is not expected, and
- The Federal Land Manager does not anticipate adverse impacts of any air quality related values at Forest Service Class I Areas.

14

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



Therefore, the SESS permit conditions address compliance with all applicable federal and state air quality regulations. In addition, dispersion modeling of SESS emissions demonstrated acceptable environmental impacts for all regulated air pollutants.

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

15



### 3.0 WATER POLLUTANT EVALUATION

Operation of the SESS facility will result in the discharge of a non-process water stream (e.g., HRSG blowdown and cooling tower blowdown) and may also result in the discharge of stormwater on an intermittent and infrequent basis. These wastewater streams are further described below.

### 3.1 Non-Process Water Stream

The non-process water stream is associated with the operation of the HRSG and cooling tower systems (HRSG blowdown and cooling tower blowdown). The cooling water will be supplied directly from the Ohio River (under a water withdrawal permit) and may also be supplemented from the local potable water system. This non-process water stream will be used for cooling waters, concentrated as part of the evaporative process, and discharged directly to the Ohio River. The anticipated average discharge of the non-process water stream to the Ohio River is 120 gallons per minute based on the facility design water balance (see Figure SC-1 in **Exhibit A Kentucky Pollutant Discharge Elimination System (KPDES) permit application**). The anticipated additives and their compositions of the cooling water are summarized in Table 3. The non-process water stream is further described in KPDES Form SC provided in with the KPDES application

Additive	Composition	Concentration
ChemTreat CT775	Phosphoric Acid	4.0 mg/L
ChemTreat CL3857	2-Phosphono-1,2,4-butane tricarboxylic acid	1.0 mg/L
Sulfuric Acid	H <sub>2</sub> SO <sub>4</sub>	15.0 mg/L (estimate)
Sodium Hypochlorite (Bleach)	NaClO	50.0 mg/L

### Table 3

### 3.2 Stormwater and Other Facility Wastewaters

Under normal operating conditions, stormwater from the facility will be used for quenching and other operations-related needs. The facility design includes a stormwater retention basin which is used to supply water to the quenching system. The quench system is a closed-loop system

16

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

and no wastewater is discharged from this process. There are also coal ponds utilized to capture rain water which are controlled by evaporative losses only. On an emergency basis and during extreme storm events, stormwater collected in the retention basin(s) may overflow from the basin (due to basin capacity limitations) and be discharged to the Ohio River via an unnamed tributary of Newberry Branch. The stormwater discharge is described in KPDES Form F provided in the KPDES application. Due to the nature of the facility, this discharge would be considered "stormwater associated with industrial activity."

Other facility wastewaters that will not be directly discharged include sanitary wastes and wastewater from the quench and other process-related systems. The sanitary wastes will be discharged directly to the City of South Shore Wastewater Treatment Plant. The quench system is a closed-loop system and wastewaters generated as part of these operations are either continually reused in the system or lost to evaporation.

# 3.3 Water Discharge Permitting

# **KPDES Individual Permit**

As described above, the proposed SESS facility will be discharging a non-process water stream and "stormwater associated with industrial activity" to waters of the Commonwealth. Discharges will comply with Kentucky Surface Water Standards. Therefore, coverage under the KPDES Individual Permit will be required to be maintained by the facility. SESS submitted this application March 22, 2013 to the KDOW. The final Socioeconomic Demonstration and Alternatives Analysis was amended per KDOW and resubmitted September 17, 2014.

The Code of Federal Regulations (40 CFR 420 Subpart A) provides effluent limitations and other standards for the Iron and Steel Manufacturing Point Source Category, Coke making subcategory. Specifically, New Source Performance Standards for Cokemaking are provided in 40 CFR 420.14. The proposed facility falls under the requirements for "Coke making – nonrecovery" (40 CFR 420.14(b)) which prohibits the discharge of process wastewaters to waters of the United States (US). The facility is designed such that there will be no discharge of process wastewaters to a Publically Owned Treatment Works (POTW) or waters of the US.

As discussed above, the facility design includes a stormwater retention basin which is used to supply water to the quenching system. On an emergency basis and during extreme storm events, stormwater collected in the retention basin may overflow from the basin and be discharged to the Ohio River via an unnamed tributary of Newberry Branch. The

17

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

Antidegradation Implementation Procedure found in 401 KAR 10:030, Section 1(3)(b)3 requires KPDES permit applicants for new or expanded discharges to waters categorized as "Exceptional or High Quality Waters" to conduct a socioeconomic demonstration and alternatives analysis to justify the necessity of lowering local water quality to accommodate important economic or social development in the area in which the water is located. Newberry Branch is considered a "High Quality Water," thus necessitating the preparation and submittal of a SDAA to the KDOW. The SDAA has been submitted and is currently undergoing agency review. URS anticipates the KDOW to issue the draft KPDES permit fourth quarter 2014.

# KPDES Construction Storm Water Discharge General Permit

Construction activities that disturb one acre or more require coverage under the KDOW KPDES Construction Stormwater Permit. The permit requires development of a Stormwater Pollution Prevention Plan that details conditions at the site, project activities, and measures that will be taken to control sediment, erosion, and other pollutants that can migrate from the site during rain storms or snowmelt. The one-acre rule includes all bare ground, including areas of excavation, fill, clearing, and off-site borrows or soil disposal areas. The General Permit (KYR10) can be used if the project does not discharge into sediment-impaired water with an approved TMDL, cold water aquatic habitat, or outstanding national or state resource water, none of which apply to the receiving waters (Ohio River & Newberry Branch).

A Notice of Intent (NOI) will be filed prior to the commencement of construction as application of coverage under the General Permit for Stormwater Discharges Associated with Construction Activities (KYR10). A Notice of Termination will be submitted once construction is completed.

18

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



### 4.0 WASTE EVALUATION

An advantage of SunCoke's heat recovery coke making technology is the minor amount of solid waste produced. The primary waste product is flue gas desulfurization ash, consisting mostly of calcium sulfate (CaSO<sub>4</sub>) with some calcium sulfite (CaSO<sub>3</sub>) and unreacted calcium hydroxide Ca(OH)<sub>2</sub>. This waste is not hazardous and is generally landfilled as a solid (non-hazardous) waste facility. SESS may expect to generate 20,000 to 50,000 tons of flue gas desulfurization ash each year. Landfills in Walton and Ashland, Kentucky are known to accept similar quantities of non-hazardous ash from industrial facilities and may be contracted to dispose of SESS ash waste.

SESS will generate minor amounts of hazardous waste typical of industrial facilities, such as aerosol cans of paint, penetrating oils, and other flammable materials, as well as sulfuric and hydrochloric acid wastes. SESS will generate less than 220 pounds of hazardous waste per month, and as such, will be considered a conditionally exempt small quantity generator (CESQG) of hazardous waste. CESQGs are generally not subject to hazardous waste labeling and other requirements, but are required to identify hazardous wastes and ensure that they are sent to an authorized facility for management.

SESS will be a small-quantity handler of universal waste containing lead, mercury, and polychlorinated biphenyls (PCBs), such as batteries, fluorescent lamps, transformers, and ballasts. Small-quantity handlers of universal waste are required to adhere to specific regulations regarding labeling, storage containers, accumulation, and shipping of universal waste.

All plant trash and other solid wastes generated at the facility are planned to be disposed of offsite at an appropriately permitted facility. Prior to the commencement of operations, arrangements will be finalized.

19

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



### 5.0 WATER USE EVALUATION

The proposed facility will primarily utilize surface water from the Ohio River and stormwater for its process and non-process operations (including cooling, cleaning, coal wetting, quenching, and environmental controls (reactant conditioning, flue gas saturation)). If necessary, process and non-process water will be supplemented from City Water Supply on a temporary basis during drought conditions.

### 5.1 Surface Water

Surface water will be utilized as a source for cooling and quenching water. The cooling water intake structure (CWIS) will be designed to withdraw cooling water at approximately 2.0 million gallons per day (MGD) from the Ohio River. The water intake will be downstream of the Greenup County Dam, and located at Ohio River Mile Marker 351.25.

Water balance projections estimate that the river water intake (make up water) mean case flow will range between 1,025 – 1,400 gallons per minute (GPM) with maximum case flow ranging between 1,375 – 1,750 GPM. It is anticipated that water withdrawal and daily production will occur 24 hours per day. The facility expects to withdraw approximately 2,016,000 gallons per average operational day. The maximum daily pumping rate is anticipated to be 2,520,000 gallons per day (GPD).

Section 316(b) of the Clean Water Act requires that design, construction and location of CWISs utilize the best available technology (BAT) to minimize adverse environmental impact. These provisions have been considered as part of the on-going design activities, and the proposed facility design is believe to comply with these requirements.

In accordance with 40 CFR 125.84(c)(2), the total design intake flow must be no greater than five percent of the source water body flow when the CWIS is located in a freshwater river. In order to quantify this flow, URS used the available resources of the United States Geological Society (USGS). USGS annual mean flow data was obtained at the nearest upstream and downstream Ohio River locations. The nearest upstream location is Greenup Dam, Kentucky (#03216600) located at Ohio River Mile Marker 341. The nearest downstream location is Maysville, Kentucky (#03238000) located at Ohio River Mile Marker 480.5. The proposed CWIS is located at mile marker 351.25. The mean annual flow data for the Greenup Dam, Kentucky station (upstream) is available from the USGS for the period from 1969 to 2008. The mean annual flow for this period is 59,972 MGD. It is reasonable to assume that the mean annual

20

SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162

flow at the proposed CWIS is greater than this because it is located downstream. The proposed CWIS intake flow rate for this facility is approximately 2.0 MGD. This is less than one-hundredth of a percent (0.01%) of the Ohio River mean annual flow at the proposed location (approximately 60,000 MGD). The intake flow is therefore significantly less than the regulatory requirement of 5-percent.

# 5.2 Stormwater

As described in Section 3.2, under normal operating conditions, stormwater from the facility will be used for quenching and other operations-related needs. A retention pond at the facility has been designed to contain stormwater from the facility. There are also coal ponds utilized to capture rain water. Water which is not lost in evaporation is used the process. In this manner, stormwater recycled for the use in facility operations provide benefits to the environment through both minimization of water use and reduction of surface water discharge flows from the facility. This retention pond is used to supply water to the coal storage pile water sprays, the stationary ram cooling water feed, the washdown service water feed, the PCM cooling water feed and the quench settling basin, as needed. Under normal operating conditions, stormwater collecting in this pond will be utilized within the process.

In the event of drought or other water shortage, cooling water will be supplemented from the City of South Shore Water Works Company on a temporary basis. SESS would enter into a water purchase agreement with the City of South Shore Water Works Company once facility design is finalized.

# 5.3 Water Use Permitting

The KDOW Water Withdrawal Program governs all withdrawals of water greater than 10,000 GPD from any surface water feature. The Application for a Permit to Withdraw Water has been prepared and submitted to the KDOW.

21 SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



### 6.0 CONCLUSION

This CEA was prepared to fulfill the requirements of KRS 224.10-280(1) which states that no person shall commence to construct a facility to be used for the generation of electricity unless the person submits a CEA to the cabinet with the permit application.

This CEA contains a description of anticipated:

- Air pollutants:
  - Types and quantities of air pollutants that will be emitted from the facility; and
  - A description of the methods to be used to control those emissions;
- Water pollutants:
  - Types and quantities of water pollutants that will be discharged from the facility into the waters of the Commonwealth; and
  - o A description of the methods to be used to control those discharges;
- Wastes:
  - Types and quantities of wastes that will be generated by the facility; and
  - A description of the methods to be used to manage and dispose of such wastes; and
- Water withdrawal:
  - Identification of the source and volume of anticipated water withdrawal needed to support facility construction and operations; and
  - A description of the methods to be used for managing water usage and withdrawal.

This CEA contains or references the substantial amount of planning, permitting and assessments which have been completed for the facility and which are ongoing as the design proceeds. The project development team will continue permitting as required to comply with applicable regulations.

<sup>22</sup> SunCoke Energy South Shore LLC Application to the KY State Board on Electric Generation and Transmission Siting Case No. 2014-00162



EXHIBIT A KPDES PERMIT APPLICATION



March 22, 2013

Mr. Jory Becker, Manager Kentucky Department for Environmental Protection Division of Water – Surface Water Permits Branch 200 Fair Oaks Lane, 4<sup>th</sup> Floor Frankfort, KY 40601

Re: Kentucky Pollutant Discharge Elimination System (KPDES) Permit Application Proposed SunCoke Energy South Shore LLC Facility Greenup County, Kentucky

Dear Mr. Becker,

On behalf of SunCoke Energy South Shore LLC (SESS), this letter transmits the attached KPDES permit application and the associated application fee for the proposed SESS Facility to be located in South Shore, Greenup County, Kentucky. SESS is owned by Sun Coal and Coke LLC, which is owned by SunCoke Energy, Inc. (SunCoke). The proposed facility will be situated on an approximately 250-acre parcel located on the Ohio River.

#### **Facility Description**

The proposed SESS facility will consist of 120 heat-recovery coke ovens. Operations at the facility will include coal handling, which begins at the barge unloading facility along the Ohio River, coal storage, charging, heat recovery coking, pushing, quenching, coke handling and coke storage. Heat recovery steam generators (HRSGs) will recover waste heat from the ovens to produce steam and electricity. At full capacity, the facility could carbonize 1,226,400 tons/year of coal and produce up to 831,100 tons/year of coke product. A nominal 40-75 megawatts (MW) of electricity will be produced from the waste heat.

#### Proposed Discharges

Operation of the SESS facility will result in the discharge of a non-process water stream (e.g., HRSG blowdown and cooling tower blowdown) and may also result in the discharge of stormwater on an intermittent and infrequent basis. These wastewater streams are further described below:

- The non-process water stream is associated with the operation of the HRSG and cooling tower systems. The cooling water will be supplied directly from the Ohio River (under a water withdrawal permit) and may also be supplemented from the local potable water system. This non-process water stream will be discharged directly to the Ohio River at proposed Outfall 001. The non-process water stream is further described in KPDES Form SC (provided in Attachment 1).
- Under normal operating conditions, stormwater from the facility will be used for quenching and other operations-related needs. The facility design includes a stormwater retention basin which is used to supply water to the quenching system. The quench system is a closed-loop system and no wastewater is discharged from this process. On an emergency basis and during extreme storm events, stormwater collected in the retention basin may overflow from the basin and be discharged directly to the Ohio River at proposed Outfall 002. The stormwater discharge is described in KPDES Form F provided in Attachment 1. Due to the nature of the facility, this discharge would be considered "stormwater associated with industrial activity."

URS Corporation 525 Vine Street, Suite 1800 Cincinnati, Ohio 45202 Tel: 513.651.3440 Fax: 877.660.7727



Mr. Jory Becker, Manager Kentucky Department for Environmental Protection Division of Water – Surface Water Permits Branch March 22, 2013 Page 2

The facility design activities are ongoing, and the construction of the facility is not anticipated to commence until early 2014. For this reason, there is no existing analytical data related to the non-process water stream or stormwater discharges at the facility.

SESS is requesting that the Kentucky Division of Water (KDOW) evaluate a mixing zone for these two proposed discharges to the Ohio River. URS has considered the Kentucky Water Quality Standards identified in the Kentucky Administrative Regulations (KAR), Title 401, Section 10:031 as part of this permit application package.

Other facility wastewaters that *will not* be directly discharged include sanitary wastes and wastewater from the quench and other process-related systems. The sanitary wastes will be discharged directly to the local Publicly Owned Treatment Works (POTW). The quench system is a closed-loop system and wastewaters generated as part of these operations are either continually reused in the system or lost to evaporation.

#### Other KPDES-related Regulatory Considerations

There are a number of related regulatory items that have been considered with respect to this permit application package. These items are discussed in the following paragraphs.

#### Clean Water Act Section 316(b) Considerations

As mentioned previously, the proposed facility will primarily utilize surface water for its cooling water needs. As such, the facility will include a cooling water intake structure (CWIS) to supply Ohio River water to the HRSG and cooling tower systems. Section 316(b) of the Clean Water Act requires that design, construction and location of CWISs utilize the best available technology (BAT) to minimize adverse environmental impact. These provisions have been considered as part of the on-going design activities, and the proposed facility design is believe to comply with these requirements. A report entitled "Suncoke Cooling Water Intake Structure Design for 316(b)" (Attachment 2) describes the proposed cooling water intake system and its compliance with the Phase I, Track 1 requirements of the Clean Water Act Section 316(b).

#### Categorical Standards – New Source Performance Standards Considerations

The Code of Federal Regulations (40 CFR 420 Subpart A) provide effluent limitations and other standards for the Iron and Steel Manufacturing Point Source Category, Coke making subcategory. Specifically, New Source Performance Standards for Cokemaking are provided in 40 CFR 420.14. The proposed facility falls under the requirements for "Cokemaking – non-recovery" (40 CFR 420.14(b)) which prohibits the discharge of process wastewaters to waters of the United States (US). The facility is designed such that there will be no discharge of process wastewaters to the POTW or waters of the US.

#### Kentucky Surface Water Standard Considerations

The primary wastewater discharge from the facility will consist of cooling tower blowdown. The Kentucky Surface Water Standards (401 KAR 10:031 Section 6) establish water quality criteria for total dissolved solids (TDS). These TDS standards are based on human health criteria based on Domestic Water Supply use. It should be noted that the proposed facility is located at Ohio River mile 351.6. The closest downstream domestic water supply intake is located in Maysville, Kentucky at Ohio River mile 407.8, approximately 56 miles downstream of the proposed facility.



Mr. Jory Becker, Manager Kentucky Department for Environmental Protection Division of Water – Surface Water Permits Branch March 22, 2013 Page 3

We appreciate your timely review of this information, and we are available to answer any further questions you may have regarding the proposed facility. If you have any questions or require additional information, please feel free to contact the undersigned or Dave Schwake at (630)824-1948.

Sincerely,

URS

The

Rob Boeing, P.E. Project Engineer

6

John D. Priebe, P.E. Principal

25368724

Attachment 1 – KPDES Form 1, SC, and F Attachment 2 – Cooling Water Intake Structure Design for 316(b)



ATTACHMENT 1 KPDES FORMS 1, SC, AND F

# **KPDES FORM 1**

	KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM		
A AND	PERMIT APPLICATION		
This is an application to: (check one)	A complete application consists of this form and one of the		
X Apply for a new permit.	following:		
Apply for reissuance of expiring permit.	Form A, Form B, Form C, Form F, or Form SC		
Apply for a construction permit.			
Modify an existing permit.	For additional information contact:		
Give reason for modification under Item II.A.	Surface Water Permits Branch (502) 564-3410		
	AGENCY		
I. FACILITY LOCATION AND CONTACT INFORMAT	TION USE		
A. Name of Business, Municipality, Company, Etc. Requestin			
SunCoke Energy South Shore, LLC, a subsidiary of SunC			
B. Facility Name and Location	C. Primary Mailing Address (all facility correspondence will be sent to		
	this address). <b>Include owner's mailing address (if different) in D.</b>		
Facility Location Name:	Facility Contact Name and Title: Mr. 🛛 Ms. 🗌		
	David Schwake – Director, Business Development North		
SunCoke Energy South Shore Facility	Americas		
Facility Location Address (i.e. street, road, etc., not P.O. Box):	Mailing Address:		
1/3 mile west of intersection of US Route 23 and Johnson's	s Ln. 1011 Warrenville Road, Suite 600		
Facility Location City, State, Zip Code:	Mailing City, State, Zip Code:		
South Shore, Kentucky 41175	Lisle, IL, 60532		
D. Owner's name (if not the same as in part A and C):	Facility Contact Telephone Number:		
	(630) 824-1948		
	Owner's Telephone Number (if different):		

#### **II. FACILITY DESCRIPTION**

A. Provide a brief description of activities, products, etc:

The SunCoke Energy South Shore Facility (Figure 1) will be a heat-recovery coke plant that will consist of 120 coke ovens. Operations at the facility will include coal handling, coal storage, charging, heat recovery coking, pushing, quenching, coke handling, and coke storage. Heat recovery steam generators (HRSGs) will recover waste heat from the ovens to produce steam and electricity. The Project will also include the following ancillary equipment/units: coal handling and processing area, coke handling area, material storage piles, pollution control equipment, condensers, barge unloading facility, conveyors, rail spurs, administration buildings, roadways, and a parking area.

A retention pond at the facility has been designed to contain stormwater from the facility. This retention pond is used to supply water to the coal storage pile water sprays, the stationary ram cooling water feed, the washdown service water feed, the PCM cooling water feed and the quench settling basin, as needed. Under normal operating conditions, stormwater collecting in this pond will be utilized within the process.

The proposed facility will involve the intermittent discharge of a non-process water stream (eg., HRSG blowdown and cooling tower blowdown) to the Ohio River. In addition, the facility may also discharge stormwater associated with industrial activities through an emergency stormwater overflow from the facility stormwater retention ponds. The facility design also includes a water intake structure which will be designed to comply with the Clean Water Act, 33 U.S.C. 1251 Title III Section 316(b). A water withdrawal permit will also be submitted for this intake structure.

B. Standard Industrial Classification (SIC) Code and Description			
Principal SIC Code &			
Description:	5052 Coke Merchant Wholesalers		
Other SIC Codes:			

III. FACILITY LOCATION	
A. Attach a U.S. Geological Survey 7 1/2 minute quadrangle map for	or the site. (See instructions)
B. County where facility is located:	City where facility is located (if applicable):
Greenup	Unincorporated, near South Shore
C. Body of water receiving discharge:	
Ohio River	
D. Facility Site Latitude (degrees, minutes, seconds):	Facility Site Longitude (degrees, minutes, seconds):
38 Degrees, 44 Minutes, and 11 Seconds	-82 Degrees, 55 Minutes, and 25 Seconds
E. Method used to obtain latitude & longitude (see instructions):	Topographic Map Coordinates

IV. OWNER/OPERATOR INFORMATION	
A. Type of Ownership:	
Publicly Owned Privately Owned State Owned	Both Public and Private Owned 🔲 Federally owned
B. Operator Contact Information (See instructions)	
Name of Treatment Plant Operator:	Telephone Number:
N/A	N/A
Operator Mailing Address (Street):	
N/A	
Operator Mailing Address (City, State, Zip Code):	
N/A	
Is the operator also the owner?	Is the operator certified? If yes, list certification class and number below.
Yes No	Yes No
Certification Class:	Certification Number:
N/A	N/A

V. EXISTING ENVIRONMENTAL PERMITS			
Current NPDES Number:	Issue Date of Current Permit:	Expiration Date of Current Permit:	
New Facility, N/A			
Other DOW Operational Permit #:	Kentucky DMR Permit Number(s):	Sludge Disposal Permit Number:	
Other Existing Environmental Permit #:	Other Existing Environmental Permit #:	Other Existing Environmental Permit #:	

Which of the following additional environmental permit/registration categories will also apply to this facility?

CATEGORY	EXISTING PERMIT WITH NO.	PERMIT NEEDED WITH PLANNED APPLICATION DATE
Air Emission Source	Currently Under Review	Application Submitted on December 7th, 2012
Solid or Special Waste	N/A	
Hazardous Waste - Registration or Permit	N/A	Registration to be Submitted prior to Facility Operation
#### VI. DISCHARGE MONITORING REPORTS (DMRs)

KPDES permit holders are required to submit DMRs to the Division of Water on a regular schedule (as defined by the KPDES permit). Information in this section serves to specifically identify the name and telephone number of the DMR official and the DMR mailing address (if different from the primary mailing address in Section I.C).

A. DMR Official (i.e., the department, office or individual designated as responsible for submitting DMR forms to the	
Division of Water):	To be identified, proposed facility
DMR Official Telephone Number:	To be identified

- B. DMR Mailing Address:
  - Address the Division of Water will use to mail DMR forms (if different from mailing address in Section I.C), or

<ul> <li>Contact address if another individual, company, laboratory, etc. completes DMRs for you; e.g., contract laboratory address.</li> </ul>	
DMR Mailing Name:	_
DMR Mailing Address:	
DMR Mailing City, State, Zip Code:	

#### **VII. APPLICATION FILING FEE**

KPDES regulations require that a permit applicant pay an application filing fee equal to twenty percent of the permit base fee. Please examine the base and filing fees listed in "Form 1 Instructions" and enclose a check payable to "Kentucky State Treasurer" for the appropriate amount. For permit renewals, please include the KPDES permit number on the check to ensure proper crediting. Please see the separate document "General Instructions" for an expanded description of the base fee amounts.

Facility Fee Category: Non-Process Industry	Filing Fee Enclosed: \$2,200	
Construction Fee Category: Large Facility	<del>-\$1,800</del> .	
	-Total: \$4,000	

#### VIII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (type or print):	PHONE NUMBER: (630) 824-1914
Mr. 🛛 Ms. 🔲 Nelson Garcez VP of Business Development	EMAIL: ngarcez@suncoke.com
SIGNATURE	DATE: 3/21/2013

Return completed application form and attachments to: Surface Water Permits Branch, Division of Water, 200 Fair Oaks Lane, Frankfort, KY 40601. Direct questions to: Surface Water Permits Branch at (502) 564-3410.



## **KPDES FORM SC**



A complete application consists of this form and Form 1. For additional information, contact: Surface Water Permits Branch, (502) 564-3410.

NAME OF FACILITY: SunCoke Energy South Shore Facility							
AGENCY							
USE							
I. FACILITY DISCHARGE FREQUENCY     USE       A. Do discharge(s) occur all year?     Yes X     No       (Complete Item IX for intermittent discharges.)     Image: Complete Item IX for intermittent discharges.)							
B. How many days per week? Up to 7 days per week							
II. A. Give the basis of design for sizing of the wastewater facility (see instructions): N/A							
KPDES Form SC is being completed for the direct discharge of the non-process water stream (eg., HRSG blowdown and cooling tower blowdown) to the Ohio River. The source of the cooling water is the Ohio River, city water or a combination thereof. The non-process water stream will be discharged on an intermittent basis at Outfall 001. A facility water balance is provided on Figure SC-1.							
	USE e instructions): 1 ne non-process v oling water is th ntermittent bas	USE e instructions): N/A ne non-process water st oling water is the Ohio ntermittent basis at Ou	USE e instructions): N/A ne non-process water stream oling water is the Ohio River, ntermittent basis at Outfall 0	USE e instructions): N/A ne non-process water stream (eg., Hi oling water is the Ohio River, city w ntermittent basis at Outfall 001. A	USE e instructions): N/A ne non-process water stream (eg., HRSG bl oling water is the Ohio River, city water or ntermittent basis at Outfall 001. A facility	USE e instructions): N/A ne non-process water stream (eg., HRSG blowdow oling water is the Ohio River, city water or a com ntermittent basis at Outfall 001. A facility water	USE e instructions): N/A ne non-process water stream (eg., HRSG blowdown and oling water is the Ohio River, city water or a combinatio

Sanitary wastes from the facility will be discharged directly to the local Publicly Owned Treatment Works (POTW), and therefore, are not subject to or addressed as part of this permit application.

B. If new discharger, indicate anticipated discharge date:	March 1, 2016
C. Indicate the design capacity of the treatment system:	N/A MGD

#### **III.** Outfall Location (see instructions)

Outfall		LATITUDE		]	LONGITUDE	3	
(list)	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	RECEIVING WATER (name)
001	38	44	45	-82	55	37	Ohio River
	•	1	1			1	
Method used to ob	tain latitude/lo	ngitude					
(i.e. GPS unit, USC			nates, etc.)	Topographi	ic Map, KY8.	3-NF Coordi	nate System

OUTFALL NO.	OPERATION(S) CONTRIBUT	ING FLOW	TREATMEN	T
(list)	Operation (list)	Avg/Design Flow (include units)	List treatment components	List Codes from Table SC-1
001	Non-Process Water Stream (eg., HRSG blowdown and cooling tower blowdown)	120 GPM	Direct Discharge to Surface Water	4-A
				-
_	<b>pe(s) of wastewater discharged.</b>	Oil field w	vaste	
X Non-	Process Water Stream	Other (list	):	
VI. Does all wat	ter used at facility (except for human co	nsumption) flow to	a treatment plant? 🗌 Yes 🛛 X	No
VII. Discharge t	o other than surface waters. Check app	ropriate location:	Sanitary Waste to be Discharged	l to Local POTW
D Publ	icly-owned lake or impoundment	Name of lake:		
X Publ	icly-owned treatment works (POTW).	Name of POTW: So	uth Shore Wastewater Treatment I	Plant
Land	l application of Effluent			
Surf	ace injection (Check term and identify on	map) 🗌 lateral field	d; 🗌 sinkhole; 🗌 sinking stream;	deep well
Clos	ed Circuit (Check appropriate term)	Holding tank; 🗌 Me	echanical evaporation; 🗌 Waste i	mpoundment
VIII. Check the	metals present in the discharge if applic	able and indicate tl	he quantity discharged per year.	(Indicate units).
N/A – Ne	w facility. Analytical data has not yet b	oeen collected.		
Ars	timony   senic   ryllium	Copper Lead Mercury	Silver Thalliu Zinc	m

IX. INTERMITTENT DISCHARGES (Complete this section for intermittent discharges.)         (If bypass points are indicated, information below must be completed				
A. Number of bypass points:	N/A, no byp	oass points	for each bypass.)	, <b>1</b>
Check when bypass occurs:			Wet Weather	Dry Weather
Give the number of bypass incid	dents		per year	per year

Nickel

Selenium

Cadmium

Chromium

Give average duration of bypass	hours	hours
Give average volume per incident	gallons	gallons
Give reason why bypass occurs:		

B. Number of Overflow Points: 0 (If discharge is from an overflow point, the information below must be completed.)				
Check when overflow occurs:	Wet Weather	Dry Weather		
Give the number of overflow incidents:	Unknown, New Facility	per year		
Give average duration of overflow:	Unknown, New Facility	hours		
Give average volume per incident:	Unknown, New Facility	gallons		

C. Number of seasonal discharge points	N/A
Give the number of times discharge occurs per year	
Give the average volume per discharge occurrence	(1,000 gallons)
Give the average duration of each discharge	(days)
List month(s) when the discharge occurs	

X. AREA SERVED (see instructions)		
NAME	ACTUAL POPULATION SERVED	
N/A		
TOTAL POPULATION SERVED		

XI. COOLING WATER ADDITIVES AND THEIR COMPOSITIONS			
Additive	Composition	Concentration (mg/l)	
ChemTreat CT775 (MSDS attached)	Phosphoric acid	4.0 mg/l	
ChemTreat CL3857 (MSDS attached)	2-Phosphono-1,2,4-butane tricarboxylic acid	1.0 mg/l	
Sulfuric Acid	H2SO4	15.0 mg/l (Estimate)	
Sodium Hypochlorite (Bleach)	NaClO	50.0 mg/l (Estimate)	

XII. EFFLUENT CHARACTERISTICS			
A. Indicate results of analysis for p			
POLLUTANT/PARAMETER	MAX DAILY VALUE	AVG DAILY VALUE	NUMBER OF SAMPLES
BOD₅			
TOTAL SUSPENDED SOLIDS			
FECAL COLIFORM  Or E.COLI		Υ.	
TOTAL RESIDUAL CHLORINE			
OIL AND GREASE			
CHEMICAL OXYGEN DEMAND			
TOTAL ORGANIC CARBON			
AMMONIA			
DISCHARGE FLOW			
рН			
TEMPERATURE (WINTER)			
TEMPERATURE (SUMMER)		w diama d	
D. English and doubter of floor	A		line town blowdown) will be

B. Frequency and duration of flow: A non-process water stream (eg., HRSG blowdown and cooling tower blowdown) will be discharged to the Ohio River. The anticipated average discharge of the non-process water stream to the Ohio River is 120 gallons per minute based on the facility design water balance (see Figure SC-1). For the purposes of this permit application, the frequency of discharge can be assumed continuous.

#### XIII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (type or print):	TELEPHONE NUMBER (area code and number):
Mr. 🛛 Ms. 🗌 Nelson Garcez – VP of Business Development	(630) 824-1914
SIGNATURE	DATE 3/21/2013



		2	1			
1			REVISIONS			
REM	ECN	DESCR	IPTION	DATE	DRAWN	APPR
A		INTERNAL REVIEW		4-17-12	RFS	
В	PRLIMINARY		4-20-12	RJS		
С	C CLIENT REVIEW		05/11/12			
D	D FEL 3A DELIVERABLE		6-6-12	RFS	CK	
Ε	E FOR NDPES PERMIT SUBMITTAL		L/23/13	RES		

### ATTACHMENT SC-1 COOLING WATER ADDITIVE INFORMATION





## MATERIAL SAFETY DATA SHEET

## Section 1. Chemical Product and Company Identification

Product Name: Product Use:

Supplier's Name: Emergency Telephone Number:

Address (Corporate Headquarters):

**Telephone Number for Information: Date of MSDS:** 

ChemTreat CT775 Cooling Water Treatment Corrosion Inhibitor ChemTreat, Inc. (800) 424–9300 (Toll Free) (703) 527–3887 4461 Cox Road Glen Allen, VA 23060 (800) 648–4579 February 15, 2011

### Section 2. Hazard(s) Identification

Signal Word:	DANGER!
Hazard Statement(s):	Causes severe skin burns and eye damage. Causes serious eye damage. Harmful in contact with skin. Harmful if inhaled. Harmful if swallowed.
Precautionary Statement(s):	Wear protective gloves/clothing and eye/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area.

## Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
Phosphoric acid	7664-38-2	60 - 100





## Section 4. First Aid Measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
Skin:	Immediately remove/take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re–use. Immediately call a poison center or doctor/physician.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Notes to Physician:	N/A
Additional First Aid Remarks:	N/A

## Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	Use water spray to keep containers cool.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

## Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
<b>Environmental Precautions:</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1–800–424–8802.





## Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only.

## Section 8. Exposure Controls/Personal Protection

### **Exposure Limits**

Component	Source	Exposure Limits
Phosphoric acid	ACGIH TLV	3 mg/m <sup>3</sup> STEL
	OSHA PEL	1 mg/m <sup>3</sup> TWA

### **Carcinogenicity Category**

Component		Source	Code	Brief Description	
Phosphoric acid				N/E	
			with adequate ventilation. The use of local ventilation is ended to control emission near the source.		
<b>Personal Protection</b>					
Eyes:	Wear cl shield.	Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.			
Skin:	Maintain quick–drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.		gloves. Wash them after each use and ons warrant, wear protective clothing		
<b>Respiratory:</b>	cartridg	ng occurs, us ge respirator 910.134.	se NIOSH a with a dust/	pproved organic vapor/acid gas dual mist prefilter in accordance with 29	





## Section 9. Physical and Chemical Properties

Physical State and Appearance: Specific Gravity: pH: Freezing Point: Flash Point: Odor: Melting Point: Boiling Point: Solubility in Water: Evaporation Rate: Vapor Density: Molecular Weight: Viscosity: Flammable Limits: Autoignition Temperature: Density: Vance Brogenergy	Liquid, Colorless, Clear 1.579 @ 20°C N/A 0°F N/D Mild N/A N/D Miscible <1 N/D N/D N/D N/D N/A N/A N/A N/A N/A N/A N/A N/A
Vapor Pressure: % VOC	N/D N/D

## Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Bases, Fluorine, Reducing agents, Sulfur trioxide, Phosphorus pentoxide
Hazardous Decomposition Products:	Oxides of phosphorus
Possibility of Hazardous Reactions:	None known.

## Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
Phosphoric acid	Dermal	LD50	2740 mg/kg	Rabbit
	Oral	LD50	1530 mg/kg	Rat

**Comments:** 

None.





## Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	1649 mg/l
Fathead Minnow	96h	LC50	3536 mg/l
Mysid Shrimp	48h	LC50	884 mg/l
Inland Silverside	96h	LC50	3491 mg/l

**Comments:** 

None.

## Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations. EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

## Section 14. Transport Information

#### **DOT Classification**

DOT Name: Technical Name: Hazard Class: UN/NA#: Packing Group: PHOSPHORIC ACID SOLUTION N/A Corrosive UN1805 PGIII

## Section 15. Regulatory Information

**Inventory Status** 

United States (TSCA): Canada (DSL/NDSL): All ingredients listed. All ingredients listed.

**Federal Regulations** 

#### **SARA Title III Rules**

Sections 311/312 Hazard Classes

Fire Hazard:	No
<b>Reactive Hazard:</b>	No
<b>Release of Pressure:</b>	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No





#### **Other Sections**

		Section 302 EHS TPQ	CERCLA RQ
Phosphoric acid	No	N/A	5000

### **State Regulations**

California Proposition 65: None known.

### **Special Regulations**

Component	States
Phosphoric acid	MA, MN, NY, WA

### **International Regulations**

### Canada

WHMIS Classification:	D2B (Toxic Material) E (Corrosive Material)
<b>Controlled Product Regulations</b> (CPR):	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## Section 16. Other Information

### **HMIS Hazard Rating**

	Health: Flammability: Physical Hazard: PPE:	3 0 0 X
	Notes:	The PPE rating depends on circumstances of use. See Section 8 for recommended PPE. The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha–numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end–user must determine if the code is appropriate for their use.
NSF:		Certified to NSF/ANSI Standard 60 Maximum use rate for potable water – 13 mg/L This product ships as NSF from: Ashland, VA





	Eldridge, IA Nederland, TX Vernon, CA
FDA:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
FIFRA:	N/A
Other:	None

#### Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

### **Prepared by: Regulatory Affairs Department**

## Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.





# MATERIAL SAFETY DATA SHEET

## Section 1. Chemical Product and Company Identification

Product Name: Product Use: Supplier's Name: Emergency Telephone Nu Address (Corporate Head Telephone Number for In Date of MSDS:	Cooling           ChemTr           (800) 42           (703) 52           quarters):         4461 Co           Glen All	4–9300 (Toll Free) 7–3887 x Road en, VA 23060 8–4579
Section 2. Hazard(s) I	lentification	
Signal Word:	WARNING!	
Hazard Statement(s):	Causes serious eye irritation. Harmful in contact with skin. Harmful if inhaled. Harmful if swallowed.	
Precautionary Statement(s):	Wear protective gloves/clothing and eye/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Use only outdoors or in a well–ventilated area.	

## Section 3. Composition/Hazardous Ingredients

Component	CAS Registry #	Wt.%
2–Phosphono–1,2,4–butane tricarboxylic acid	37971-36-1	10 - 30

## Section 4. First Aid Measures

Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Eyes:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Skin:	Wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell.





Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth. Call a POISON CENTER or doctor/physician.
Notes to Physician:	N/A
Additional First Aid Remarks:	N/A

## Section 5. Fire Fighting Measures

Flammability of the Product:	Not flammable.
Suitable Extinguishing Media:	Use extinguishing media suitable to surrounding fire.
Specific Hazards Arising from the Chemical:	None known.
Protective Equipment:	If product is involved in a fire, wear full protective clothing including a positive-pressure, NIOSH approved, self-contained breathing apparatus.

## Section 6. Accidental Release Measures

Personal Precautions:	Use appropriate Personal Protective Equipment (PPE).
<b>Environmental Precautions:</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
Methods for Cleaning up:	Contain and recover liquid when possible. Flush spill area with water spray.
Other Statements:	None.

## Section 7. Handling and Storage

Handling:	Wear appropriate Personal Protective Equipment (PPE) when handling this product. Do not get in eyes, or on skin and clothing. Wash thoroughly after handling. Do not ingest. Avoid breathing vapors, mist or dust.
Storage:	Store away from incompatible materials (see Section 10). Store at ambient temperatures. Keep container securely closed when not in use. Label precautions also apply to empty container. Recondition or dispose of empty containers in accordance with government regulations. For Industrial use only. Do not store or handle in aluminum, zinc, copper, or their alloys.





## Section 8. Exposure Controls/Personal Protection

#### **Exposure Limits**

Component	Source	Exposure Limits
2–Phosphono–1,2,4–butane tricarboxylic acid		N/E

#### **Carcinogenicity Category**

Component		urce	Code	Brief Description
2-Phosphono-1,2,4-butane tricarboxylic acid				N/E
Engineering Controls:	Use only with adequate ventilation. The use of local ventilation is recommended to control emission near the source.			
<b>Personal Protection</b>				
Eyes:	Wear chemical splash goggles or safety glasses with full-face shield. Maintain eyewash fountain in work area.			
Skin:	Maintain quick–drench facilities in work area. Wear butyl rubber or neoprene gloves. Wash them after each use and replace as necessary. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact.			
<b>Respiratory:</b>	If misting occurs, use NIOSH approved organic vapor/acid gas dual cartridge respirator with a dust/mist prefilter in accordance with 29 CFR 1910.134.			

## Section 9. Physical and Chemical Properties

Physical State and Appearance: Specific Gravity: pH: Freezing Point: Flash Point: Odor: Melting Point: Boiling Point: Solubility in Water: Evaporation Rate: Vapor Density: Molecular Weight: Viscosity: Flammable Limits: Autoignition Temperature: Density:	Liquid, Dark Straw, Clear 1.180 @ 20°C 1.9 @ 20°C, 100.0% 32°F N/D Mild N/A 212°F Complete Similar to water Similar to water N/D N/A N/A N/A 9.84 lb/ga
<b>L</b>	
	Similar to water
Vapor Pressure:	_
% VOC	0





## Section 10. Stability and Reactivity

Chemical Stability:	Stable at normal temperatures and pressures.
Incompatibility with Various Substances:	Strong oxidizers, Strong bases
Hazardous Decomposition Products:	Oxides of nitrogen, Oxides of phosphorus, Oxides of carbon
Possibility of Hazardous Reactions:	None known.

## Section 11. Toxicological Information

Chemical Name	Exposure	Type of Effect	Concentration	Species
2–Phosphono–1,2,4–butane tricarboxylic acid	Oral	LD50	>6500 mg/kg	Rat

**Comments:** 

None.

## Section 12. Ecological Information

Species	Duration	Type of Effect	Test Results
Ceriodaphnia dubia	48h	LC50	>1000 mg/l
	7d	IC25	340 mg/l
	7d	NOEC	625 mg/l
	7d	LOEC	1250 mg/l
Fathead Minnow	96h	LC50	>1000 mg/l
	7d	IC25	1125 mg/l
	7d	NOEC	2500 mg/l
	7d	LOEC	5000 mg/l

**Comments:** 

NOEC effect = Survival





## Section 13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations. EPA corrosivity characteristic hazardous waste D002 when disposed of in the original product form.

### Section 14. Transport Information

#### **DOT Classification**

DOT Name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
<b>Technical Name:</b>	(2-PHOSPHONO-1,2,4-BUTANETRICARBOXYLIC
	ACID)
Hazard Class:	Corrosive
UN/NA#:	UN3265
Packing Group:	PGIII

## Section 15. Regulatory Information

#### **Inventory Status**

United States (TSCA):	All ingredients listed.
Canada (DSL/NDSL):	All ingredients listed.

#### **Federal Regulations**

**SARA Title III Rules** 

Sections 311/312 Hazard Classes

Fire Hazard:	No
<b>Reactive Hazard:</b>	No
<b>Release of Pressure:</b>	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

#### **Other Sections**

Component	Section 313 Toxic Chemical	Section 302 EHS TPQ	CERCLA RQ
2-Phosphono-1,2,4-butane tricarboxylic acid	N/A	N/A	N/A

Comments: None.





### **State Regulations**

California Proposition 65:

None known.

**Special Regulations** 

Component	States
2–Phosphono–1,2,4–butane tricarboxylic acid	None

### **International Regulations**

### Canada

WHMIS Classification:	D2B (Toxic Material) E (Corrosive Material)
<b>Controlled Product Regulations</b> (CPR):	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## Section 16. Other Information

#### **HMIS Hazard Rating**

mino nazaru Kating	
Health: Flammability: Physical Hazard: PPE:	2 0 0 X
Notes:	The PPE rating depends on circumstances of use. See Section 8 for recommended PPE. The Hazardous Material Information System (HMIS) is a voluntary, subjective alpha–numeric symbolic system for recommending hazard risk and personal protection equipment information. It is a subjective rating system based on the evaluator's understanding of the chemical associated risks. The end–user must determine if the code is appropriate for their use.
NSF:	Certified to NSF/ANSI Standard 60 Maximum use rate for potable water – 10 mg/L This product ships as NSF from: Ashland, VA Eldridge, IA Nederland, TX Vernon, CA
FDA:	N/A
KOSHER:	This product has not been evaluated for Kosher approval.
	ChemTreat CL3857





#### FIFRA:

#### **Other:**

N/A None

#### Abbreviations

Abbreviation	Definition
<	Less Than
>	Greater Than
ACGIH	American Conference of Governmental Industrial Hygienists
EHS	Environmental Health and Safety Dept
N/A	Not Applicable
N/D	Not Determined
N/E	Not Established
OSHA	Occupational Health and Safety Dept
PEL	Personal Exposure Limit
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weight Average
UNK	Unknown

### **Prepared by: Regulatory Affairs Department**

## Disclaimer

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, ChemTreat, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ChemTreat, Inc. be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature are made hereunder with respect to information or the product to which information refers.

## **KPDES FORM F**



### KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

### PERMIT APPLICATION

A complete application consists of this form and Form 1.

For additional information, Contact Surface Water Permits Branch, (502) 564-3410.

I. OUTFALL LOCATION	AGENCY USE						
For each outfall list the latitude and longitude of its location to the	nearest 15 seconds au	nd nam	e the re	eceivin	g water	•	

A. Outfall Number		B. Latitude		C. Longitude			D. Receiving Water (name)
002	38	44	27	-82	55 30		Ohio River

#### **II. IMPROVEMENTS**

A. Are you now required by any federal, state, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions,	2. Affected Outfalls		2. Affected Outfalls 3. Brief Description		
Agreements, Etc.	No.	Source of Discharge	of Project	a. req.	b. proj.
N/A					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

#### III. SITE DRAINAGE MAP

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage of disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

IV. NARRA	TIVE DESCRIPTION OF POLLUT	ANT SOURCES			
A. For ea	ach outfall, provide an estimate	of the area (include units	s) of impervic	ous surfaces (including paved an	eas and building roofs)
drained to	the outfall, and an estimate of the	he total surface area drain	ned by the out	fall.	2012 20
Outfall	Area of Impervious	Total Area Drained	Outfall	Area of Impervious	Total Area Drained
Number	Surface (provide units)	(provide units)	Number	Surface (provide units)	(provide units)
002	108 Ac	120 Ac			
	1				
	1				

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

This is a new facility, with material access, loading, and storage areas that will be exposed to stormwater. These materials consist of coal and coke, which will be accessed and loaded at several points throughout the site, and will be stored in piles (see Site Drainage Map: Figure F-1 and Figure F-2 for locations). Stormwater will flow to the stormwater retention pond from where it will be typically be utilized in the process with "no discharge" to surface waters. The only anticipated stormwater discharge will be infrequent discharge via the stormwater retention pond emergency overflow.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table F-1
002	Sedimentation (Settling)	1-U

V. NON-STORM WATER DISCHARGES					
A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-					
	storm water discharges, and that all non-storm water discharges from these outfall(s) are identified in either an accompanying Form C				
or Form SC application for the outfall.	or Form SC application for the outfall.				
Name and Official Title (type or print)	Signature		Date Signed		
Nelson Garcez – VP of Business Development		MY	3/21/21		

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

The discharge through Outfall 002 will be limited to that from the stormwater retention pond emergency overflow. The facility has been designed such that only stormwater will be collected within the retention pond. During extreme storm conditions, stormwater may be discharged from retention pond. Sanitary wastewaters will be discharged directly to the POTW. Process-related wastewaters are contained within the quenching system and will not be discharged to surface waters.

#### VI. SIGNIFICANT LEAKS OR SPILLS

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

N/A, New Facility

	pefore proceeding. Complete one re included on separate pages 4 a	0.11 0.1		
provided. Parts A, B, C, & D a E: Potential discharges not co currently use or manufacture as	re included on separate pages 4 a		tfall Annote	to the outfall number in the space
E: Potential discharges not co currently use or manufacture as			tian. Annota	the the outian number in the space
currently use or manufacture as	vered by analysis - are any to:		Table F-2 F	-3. or F-4 substances which you
			14010 1 2, 1	o, or i i buoblances which you
		No (go to Section IX)		
VIII. BIOLOGICAL TOXICITY T		agiaal tast for aguta or a	hronia toviai	ty has been made on any of your
	ter in relation to your discharge			ty has been made on any or your
discharges of on a receiving wa				
Yes (list all such results be	elow) 🖾 – Ne	ew Facility No (go to Section	on IX)	
			10.000	
IX. CONTRACT ANALYSIS INFO	RMATION		1.1	
Were any of the analyses report	ed in item VII performed by a co	ontract laboratory or cons	sulting firm?	
			1650 100	
Yes (list the name, address a	nd telephone number of, and pollutants a	nalyzed by each such laborato	ry or firm below	; use additional sheets if necessary).
New Facility Fature Analyti	al to be Convoluted by Licensed Laborat	toni No (on to Continu V)		
- New Facility, Future Analyti	cal to be Completed by Licensed Laborat	.ory ino (go to section X)		
A. Name	B. Address	C. Area Code & P	hone No.	D. Pollutants Analyzed
/				23
X. CERTIFICATION			e <b>1</b>	
I certify under penalty of law the				ion or supervision in accordance
I certify under penalty of law the with a system designed to assur	e that qualified personnel proper	ly gather and evaluate the	e information	n submitted. Based on my inquiry
I certify under penalty of law the with a system designed to assure of the person or persons who n	e that qualified personnel proper hanage the system or those perso	ly gather and evaluate the ons directly responsible f	e informatior or gathering	submitted. Based on my inquiry the information, the information
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VII. I	DISCHARGE INFORMATION
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#### OUTFALL NO: 002 (Proposed Emergency Outfall – No Available Data)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

	Maximum Values (include units)		Average Values (include units)			
Pollutant and CAS Number (if available)	Grab Sample Taken During 1 <sup>st</sup> 30 Minutes	Flow-weighted Composite	Grab Sample Taken During 1 <sup>st</sup> 30 Minutes	Flow-weighted Composite	Number of Storm Events Sampled	Sources of Pollutants
Oil and Grease	Unknown, New Facility, No Analytical Data Available	N/A				
Biological Oxygen Demand BOD5		IV/A				
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Kjeldahl Nitrogen						
Nitrate plus Nitrite Nitrogen Total						
Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		
Part B - List each po wastewater (if the fa requirements.	acility is operating unde	r an existing KPDES	permit). Complete one	table for each outfall.	d in the facility's k See the instruction	KPDES permit for its proce as for additional details a
Pollutant and	Maximum Values (include units) Grab Sample		Average Values (include units) Grab Sample		Number of	Sources of
CAS Number (if available)	Taken During 1 <sup>st</sup> 30 Minutes	Flow-weighted Composite	Taken During 1st     30 Minutes	Flow-weighted Composite	Storm Events Sampled	Pollutants

Part C - List each pollutant shown in Tables F-2, F-3, and F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.						
requirements. complet	Maximu	m Values	Average Values			
Pollutant and	(includ) Grab Sample	e units)	(include Grab Sample	units)	Number of	
CAS Number	Taken During 1 <sup>st</sup>	Flow-weighted	Taken During 1 <sup>st</sup>	Flow-weighted	Storm Events	Sources of
(if available)	30 Minutes	Composite	30 Minutes	Composite	Sampled	Pollutants
			num values for the flow-w		ple.	
1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gal/min or specify units)	ev	6. al flow from rain rent (gallons or specify units)
Unknown, New Facility, No Analytical Data Available						
	on of the method of flow			ows		
The design of the	racinty retention i	Jasin will allow onl	ly emergency overfl	UWS.		







### ATTACHMENT 2 COOLING WATER INTAKE STRUCTURE DESIGN FOR 316(b)

#### SUNCOKE COOLING WATER INTAKE STRUCTURE DESIGN FOR 316(b)

#### SOUTH SHORE, KENTUCKY

March 2013

#### **PREPARED FOR:**

SunCoke Energy South Shore LLC 1011 Warrenville Road, Suite 600 Lisle, IL 60532

#### **PRESENTED BY:**

URS Corporation 525 Vine Street, Suite 1800 Cincinnati, OH 45202 Phone: 513-651-3440 / Fax: 513-651-3452

#### **PREPARED BY:**

Stephen A. Renzi, E.I.T. Graduate Engineer

And

John D. Priebe, P.E. Principal Engineer

**URS CORPORATION** 

#### **CONTENTS**

SECTI	ION P	AGE
1.0	INTRODUCTION	1
2.0	BACKGROUND	1
3.0	OBJECTIVE	2
4.0	CONSIDERATIONS	3
4.1	Intake and Water Body Flow	3
4.2	Best Available Technology	3
4.	2.1 Intake Classes	3
4.	2.2 Selected Technology	4
5.0	CONCEPTUAL DESIGN	4
5.1	Site Conditions	4
5.2	Screen Selection	4
5.3	Placement	5
5.4	Other Considerations	5
6.0	NPDES PERMIT APPLICATION INFORMATION	6
6.1	Source Water Physical Data - 40 CFR 122.21(r)(2)(i)	
6.2	Hydraulic Zone of Influence - 40 CFR 122.21(r)(2)(ii)	6
6.3	CWIS Information - 40 CFR 122.21(r)(3)	7
6.4	Biological Characterization Data - 40 CFR 122.21(r)(4)	7
7.0	SUMMARY	7
8.0	REFERENCES	8

### LIST OF FIGURES

Figure 1	Site Vicinity Map
Figure 2	Overall Water Balance
Figure 3	Intake Conceptual Location

Figure 3Intake Conceptual LocationFigure 4Water Intake System & Pump House Conceptual Design Details

### **1.0 INTRODUCTION**

SunCoke Energy South Shore LLC (SESS), owned by Sun Coal and Coke LLC, which is owned by SunCoke Energy, Inc. (SunCoke) has proposed the construction of a new heat recovery coke plant (facility) along the Ohio River in South Shore, Greenup County, Kentucky. The site is located approximately 2.5 miles east of South Shore on U.S Route 23. The plant will require make up water for cooling and quenching operations. Surface water will be utilized for this cooling and quenching water source. The intake will be designed to withdraw cooling water at approximately 2.0 million gallons per day (MGD) from the Ohio River. The water intake will be downstream of the Greenup County Dam, and located at Ohio River Mile Marker 351.25. This document presents a conceptual cooling water intake structure (CWIS) design under considerations related to the operation of the plant's CWIS on the Ohio River under the Clean Water Act (CWA) 33 U.S.C. § 1251 Title III Section 316(b) (CWA Section 316(b)).

The CWA Section 316(b) regulations require that the design, construction, and location of a CWIS utilize the best available technology (BAT) to minimize adverse environmental impact under the site and operating conditions. The proposed SunCoke facility is subject to CWA Section 316(b) regulations under the requirements of 40 CFR 125.81(a)(1-3), namely: 1) it is a point source that proposes to use a cooling water intake structure, 2) it will have at least one cooling water intake structure that uses at least 25 percent of the water it withdraws for cooling purposes, and 3) it will have a design intake flow greater than two million gallons per day. URS has developed the conceptual CWIS design to conform to the Phase I, Track I National Pollutant Discharge Elimination System (NPDES) regulatory criteria. This criteria is applicable to new facilities that withdraw between 2 million and 10 million gallons per day (MGD) (40 CFR 125.84(c)(1) through (4)). The Kentucky Department of Environmental Protection is the statutory authority for NPDES implementation in the Commonwealth of Kentucky. After wastewater components are identified, SunCoke will apply for a Kentucky Pollutant Discharge Elimination System (KPDES) Individual Permit for discharge of certain facility wastewaters. Kentucky Administrative Regulation (KAR) 401 KAR 5:055 delineating the scope and applicability of the KPDES program include the provisions of 40 CFR 122.21 by reference for intake-related requirements. URS has endeavored to incorporate the permit application requirements contained in 40 CFR 122.21(r) and 125.86(b) into the conceptual design. The focus of this conceptual design is primarily the selection of an appropriate intake structure and the preliminary layout of associated system components for the purposes of permitting. The final design of the CWIS will include detailed design of the piping, pumps, controls, and other systems required for complete operation of the system.

### 2.0 BACKGROUND

SunCoke is proposing the construction of a heat recovery coke plant (facility) on the Ohio River. The proposed facility will operate 120 heat-recovery coke ovens. Operations at the facility will include coal

handling, coal storage, charging, heat recovery coking, pushing, quenching, coke handling, and coke storage. Heat recovery steam generators (HRSGs) will recover waste heat from the ovens to produce steam and electricity. At design capacity, the facility will carbonize 1,226,400 tons/year of coal and produce up to 831,100 tons/year of coke product. A nominal 40-75 megawatts (MW) of electricity will be produced from the waste heat.

### **3.0 OBJECTIVE**

The objective of this document is to provide a conceptual design for the proposed 2.0 MGD CWIS at the proposed South Shore facility to be located on the Ohio River. This conceptual design is intended to conform to CWA Section 316(b) and NPDES regulatory criteria while also considering physical setting (Ohio River) operability, cost, and other features specific to the facility. A KPDES permit will be required for the facility, and as such the Phase I CWA Section 316(b) requirements will be applicable to this facility because 1) it is a new facility, 2) it will use at least 25 percent of the water it withdraws for cooling purposes, and 3) it has a design intake flow greater than 2 MGD.

The NPDES regulatory criteria further define two tracks for compliance under CWA Section 316(b). Compliance under Track I is achieved through designing the intake to a series of pre-established performance requirements that are designed to meet the CWA goal of aquatic life protection. Track II is an alternate compliance route whereby a facility may demonstrate equal protection to Track I. The proposed intake is designed to comply with the Phase I, Track I criteria.

Phase I, Track I requirements for new facilities located on a freshwater river that withdraw more than 2 MGD and less than 10 MGD are as follows (40 CFR 125.84(c)):

- 1) Intake flow must be reduced, at a minimum, to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system;
- 2) Maximum through-screen design intake velocity of 0.5 ft/s;
- 3) Design and construct the cooling water intake structure such that the total design intake flow is no greater than five percent of the source water annual mean flow;
- 4) Select and implement design and construction technologies or operational measures for minimizing impingement mortality of fish and shellfish; and
- 5) Select and implement design and construction technologies or operational measures for minimizing entrainment of entrainable life stages of fish and shellfish.

The following sections will provide a description of the conceptual design and how these permitting considerations have been met.

### 4.0 CONSIDERATIONS

This section describes the overall approach to meeting the Phase I, Track I regulatory requirements described in Section 3. In general, the maximum through screen velocity and impingement/entrainment requirements can be addressed with engineering controls with resulting operational and cost considerations. The maximum intake flow requirement is a function of the proposed water body. These considerations are discussed below.

### 4.1 Intake and Water Body Flow

In accordance with 40 CFR 125.84(c)(2), the total design intake flow must be no greater than five percent of the source water body flow when the CWIS is located in a freshwater river. In order to quantify this flow, URS used the available resources of the United States Geological Society (USGS).

USGS annual mean flow data was obtained at the nearest upstream and downstream Ohio River locations. The nearest upstream location is Greenup Dam, KY (#03216600) located at Ohio River Mile Marker 341. The nearest downstream location is Maysville, KY (#03238000) located at Ohio River Mile Marker 480.5. The proposed CWIS is located at mile marker 351.25.

The mean annual flow data for the Greenup Dam, KY station (upstream) is available from the USGS for the period from 1969-2008. The mean annual flow for this period is 59,972 MGD. It is reasonable to assume that the mean annual flow at the proposed CWIS is greater than this because it is located downstream.

The proposed CWIS intake flow rate for this facility is 2.0 MGD. This is less than one-hundredth of a percent (0.01%) of the Ohio River mean annual flow at the proposed location (approximately 60,000 MGD). The intake flow is therefore significantly less than the regulatory requirement of 5-percent.

### 4.2 Best Available Technology

Available EPA guidance provides several alternatives for meeting the "best available technology" (BAT) requirement. Therefore, the selection of a BAT appropriate for a given facility requires additional consideration of the various operational needs, as well as cost. This section discusses the development of the conceptual design relative to both the regulatory requirements and the facility specific conditions.

### 4.2.1 Intake Classes

There are two primary classes of intake structures: active and passive. Active systems function on diversion or deterrence concepts and include traveling screens, electrical screens, air bubble curtains, magnetic field generators, and other technologies. Passive technologies function on the exclusion concept and include radial wells, cylindrical wedgewire screens, barrier nets, and more. While active and passive technologies are considered more appropriate for this facility due

to the physical setting of the site (Ohio River), system flow rate, more simplistic operation and maintenance, and lower overall operating costs.

### 4.2.2 Selected Technology

The proposed CWIS will be located in the Ohio River, which is a relatively dynamic water body with a significant flow rate. Available EPA guidance on intake structures (EPA-821-R-01-036) suggests that of the passive technologies, cylindrical wedgewire screens may provide the greatest minimization of impingement and entrainment in rivers and best meet the requirements of 40 CFR 125.84(c)(3) and (4). In addition, the screen can be designed to meet the velocity requirement of 40 CFR 125.84(c)(1). Therefore, the cylindrical wedgewire screen technology was selected for this application.

### 5.0 CONCEPTUAL DESIGN

The conceptual design is intended to address the requirements of CWA Section 316(b) and 40 CFR 125.84(c), while also taking into consideration facility specific performance requirements, operation, maintenance and cost. The conceptual design for the proposed CWIS is discussed below.

### 5.1 Site Conditions

The following are the known site conditions for the proposed CWIS at Ohio River Mile Marker 351.25.

- 1) Proposed CWIS Intake Rate 2.0 MGD operating continuously, 365 days/year;
- 2) Mean River Annual Flow 60,000 MGD;
- 3) Normal Pool Elevation 485 feet MSL;
- 4) 100-Year Flood Elevation 537 feet MSL; and
- 5) Riverbed Elevation 466 feet MSL.

URS understands that the pump system will likely be installed within an approximately 15-foot by 15foot concrete structure including a wet-well and located upstream of the barge system. The information provided above is used in the following sections to develop the conceptual design.

### 5.2 Screen Selection

As discussed in Section 4, the cylindrical wedgewire screen was selected as the BAT for use at this site in order to meet the maximum through screen velocity requirements (40 CFR 125.84(c)(1)) and the impingement and entrainment considerations (40 CFR 125.84(c)(3) and (4)). This section describes the selected cylindrical wedgewire screen characteristics for this application. Figure 4 presents a conceptual cylindrical wedgewire screen design.

A tee-type design has been selected with a conical debris reflector. The intake structure will be installed parallel to river flow. The tee type design was chosen over other cylindrical wedgewire screen alternatives

(e.g., a drum type design with a vertical orientation) because it allows for a lower through screen velocity profile. The conical reflectors and position parallel to the river reduce the likelihood of impingement and entrainment.

Many slot sizes are available for the screen ranging from less than a tenth of an inch to well over three quarters of an inch. The slot size can be varied with the overall diameter to meet the through screen velocity requirements (i.e. expansion of diameter increases surface area and decreases slot velocity). A screen size of 0.125-inches (approximately 3-mm) was selected for velocity and entrainment considerations. Based on URS' discussions with Johnson Screens and the references listed in Section 7, this slot size is most commonly used for most applications (including the Ohio River) to reduce entrainment. The overall intake conceptual design will also provide a through screen velocity less than 0.5 ft/s.

### 5.3 Placement

The physical placement of the CWIS within the water body influences the likelihood of impingement and entrainment. Certain zones (e.g. near shorelines, low-velocity regions such as divots, etc.) are more ecologically active. It is best practice to place intakes out of such areas. In addition, the manufacturer's recommendations suggest a minimum water depth of 4 to 6-feet above the wedgewire screen. Based on available bathymetric data for this site and these considerations, it is recommended that the tee intake be placed on the riverbed approximately 450 feet from the center of the wet-well (300 feet from the edge of the riverbank).

### 5.4 Other Considerations

While it not a regulatory requirement, EPA, the American Society of Civil Engineers (ASCE), and most manufacturers recommend that a tee type wedgewire screen be equipped with an air backwash system (or similar methodology) for ease of maintenance. This system flushes the screen with compressed air at appropriate intervals in order to reduce bio-fouling and remove debris, and reduces or eliminates manual screen cleaning. This serves to prolong the life and improve the performance of the screen.

SunCoke may also select to employ a screen of zinc-alloy material rather than the standard stainless steel in order to reduce bio-fouling. The zinc-alloy material is particularly useful in areas with zebra mussels, such as the Ohio River. The final screen material will be selected as part of the detailed intake design process.

Additional components of the complete cooling water intake system will be provided during the detailed design phase. These components include the pump system (likely vertical turbine or submersible), conveyance system (likely insulated steel pipe of 18 to 30-inch diameter), a controls system, a chemical feed system (as needed), and electrical/controls. The pumps will be installed within the concrete pump system structure and wet-well with the necessary components (such as a pump house or valve vault) being

located aboveground in the same approximate area. These items are generally depicted on Figures 3 and 4, but are subject to change during the detailed design phase.

### 6.0 NPDES PERMIT APPLICATION INFORMATION

As described in Section 1, URS understands that the proposed facility will require a KPDES Permit for discharge of facility wastewaters. In the process of preparing this conceptual design URS has generated or obtained several of the items required for the permit application as described in 40 CFR 122.21(r)(2),(3) and (4). This section provides the information available and discusses the additional items that will be assembled during the KPDES application preparation process.

### 6.1 Source Water Physical Data - 40 CFR 122.21(r)(2)(i)

This section of the permit application requests generally available source water body physical data. Several organizations collect and maintain Ohio River data, including the USGS, ACOE, Ohio River Valley Water Sanitation Commission (ORSANCO) and other private parties. For the purposes of this document, the primary data that was gathered and evaluated included flow and depth information. In the event that a KPDES application is required, additional information (such as temperature) may need to be collected.

### 6.2 Hydraulic Zone of Influence - 40 CFR 122.21(r)(2)(ii)

This section of the permit application requires an evaluation of the proposed CWIS hydraulic zone of influence (HZI) within the water body source. In general, available 7-day minimum flows at a ten year recurrence interval (7Q10) and velocity information can be used to evaluate the HZI. The 7Q10 flow from the Greenup Dam (mile marker 341) to the Meldhal Dam (mile marker 436) was found to be approximately 7,000 MGD using available data. The proposed withdraw rate (2 MGD) is approximately one quarter of a tenth of a percent (0.025%) of this 7Q10 flow. The velocity for this area of the river was not readily available using the common data sources, so instead a study conducted in the Cincinnati, Ohio area (mile marker 437 - 470) was utilized. This study indicated that during the August 2005 study, the average velocity of the river throughout the depth of six cross sections ranged from 0.72 to 0.94 ft/sec with corresponding flows of 13,500 and 18,500 MGD, respectively. The design through screen velocity is less than 0.5 ft/sec, or 50-70% of the average velocity over the entire river cross section at this area.

The flow and velocity information suggests that the HZI for the proposed CWIS can be considered negligible and would be local to the screen itself. The maximum design intake flow is one half of a tenth of a percent (0.05%) of the source water body flow, and the maximum through-screen intake velocity is considerably less than the velocity of the source water body.

### 6.3 CWIS Information - 40 CFR 122.21(r)(3)

Most of the information required under this section is included within this document, including a description of the CWIS and its location and a description of the intake flows and operational period. This section also requires that the approximate coordinate location of the CWIS be provided (N 38°44'56", W-82°54'54"). The conceptual drawings attached to this document may also meet the requirements for engineering drawings under this section, although additional information from the detailed design phase may be required.

### 6.4 Biological Characterization Data - 40 CFR 122.21(r)(4)

This section requests that biological characterization data be presented in order to assist with the development of the Design and Construction Technology report required under 40 CFR 125.86(b)(4). The Design and Construction Technology Report is intended to provide a description of how the selected BAT will reduce impingement and entrainment of the species most likely to be affected by the proposed CWIS. This section allows readily available data to be utilized, and does not require a separate study to be conducted. Significant biological characterization data has been gathered for the Ohio River. Based on similar applications on the Ohio River, use of BAT, slot screen size and HZI are believed to provide suitable information to demonstrate that impingement and entrainment is not anticipated to be an issue at this CWIS.

### 7.0 SUMMARY

This document was prepared to provide a narrative description of a proposed CWIS to be located at Ohio River mile marker 351.25, near South Shore, Kentucky. The conceptual design is intended to comply with CWA Section 316(b) and NPDES regulations (40 CFR 125) for a Phase I, Track I facility. The Phase I, Track I requirements are reserved for new facilities with withdrawal rates less than 10 MGD that meet specific criteria regarding intake flow, through screen velocity and impingement/entrainment characteristics.

The CWIS described in this document would utilize a cylindrical wedgewire screen as the BAT for reduced impingement and entrainment. The proposed cylindrical wedgewire screen would be tee-type, placed parallel to the direction of river flow and consist of a 0.125-inch (3-mm) slot screen size. The CWIS would be placed approximately 300-feet into the river (450-feet from the center of the wet-well) and on the riverbed to further reduce the likelihood of impingement/entrainment that can occur in low flow areas (near the river bank) and where the depth of the water is minimal. This conceptual design meets the flow, in-take velocity and impingement/entrainment requirements of the Phase I, Track I regulations. In addition, an evaluation of the HZI given available flow and velocity data indicates that the HZI is local to the screen itself. The associated CWIS components, including the pump, conveyance, electrical and controls systems will be detailed during the final design stage. However, URS understands

that a concrete structure will be used to house the pumps (vertical turbine or submersible) and that the required steel pipe sizing will likely range from 18 to 30-inches.

### 8.0 **REFERENCES**

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