Commonwealth of Kentucky Energy and Environment Cabinet Department for Environmental Protection Division for Air Quality 300 Sower Boulevard, 2<sup>nd</sup> Floor Frankfort, Kentucky 40601 (502) 564-3999

# Draft

# AIR QUALITY PERMIT Issued under 401 KAR 52:020

| Permittee Name:         | Tokai Carbon GE LLC                      |
|-------------------------|--|
| Mailing Address:        | 2320 Myron Cory Drive, Hickman, KY 42050 |
| Source Name:            | Tokai Carbon GE LLC                      |
| Mailing Address:        | 2320 Myron Cory Drive, Hickman, KY 42050 |
| Source Location:        | 2320 Myron Cory Drive, Hickman, KY       |
| Permit ID:              | V-25-003                                 |
| Agency Interest #:      | 1440                                     |
| Activity ID:            | APE20240001                              |
| <b>Review Type:</b>     | Title V, Operating                       |
| Source ID:              | 21-075-00001                             |
| <b>Regional Office:</b> | Paducah Regional Office                  |
| 0                       | 130 Eagle Nest Drive                     |
|                         | Paducah, KY 42003                        |
|                         | (270) 898-8468                           |
| County:                 | Fulton                                   |
| Application             |  |
| Complete Date:          | January 15, 2025                         |
| Issuance Date:          | • /                                      |
| Expiration Date:        |  |

For Michael J. Kennedy, P.E. Director Division for Air Quality

Version 4/1/2022

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|----------|----------------|-------------|------------------|------------------|----------------------|
| V-25-003 | Renewal        | APE20240001 | 1/15/2025        |                  | Renewal Permit       |

# **SECTION A - PERMIT AUTHORIZATION**

Pursuant to a duly submitted application the Kentucky Energy and Environment Cabinet (Cabinet) hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit was 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 Cabinet or any other federal, state, or local agency.

Emission Unit 01 (EU 01)-Coke Unloading-Receiving EU 01-1: Coke Unloading-Receiving (fugitives) EU 01-2: Coke Unloading-Coke Storage EU 01-3: Coke Unloading-Coke Recycling

Process Units: Coke Storage Receiving and Recycling:

**EU 01:** Railcar /Truck Hopper

EU 01-1: Truck Hopper/Feeder

**EU 01-2:** Bucket Elevator

EU 01-3: Coke Recycling

# **Description:**

Raw carbon material is brought into the facility mainly by truck. This material is transported from the truck to a holding bin. The hopper is the initial conveying facility that operates in batch mode. The raw carbon is stored in silos until ready for use.

Installed: 1990; Maximum Rated Capacity: 25 tons/hour (hr) or 219,000 tons/year (yr) each.

#### **Control Equipment / Efficiency:**

EU 01: Baghouse DC-30-12; outlet grain loading 0.002 gr/dscf; flow rate 28,560 dscfm

EU 01-1: Process Enclosed / 70% (fugitives)

EU 01-2: Baghouse DC-30-11; outlet grain loading 0.002 gr/dscf; flow rate 4,760 dscfm

EU 01-3: Bin Vent Filter DC 30-13 outlet grain loading 0.002 gr/dscf; flow rate 477 dscfm

EU 05: Baking Conveyor System, Metallurgical Coke (Met Coke)

**EU 05-1:** Baking Conveying System (fugitives)

EU 05-2: Baking Conveyor System

EU 05-3: Baking Conveyor System – Met Coke Screening

Process Units: Met Coke System and Vacuum System:

**EU 05:** Truck Hopper to Mill Belt Conveyor, Conveyor to Silos Bucket Elevator, Vibrating Screens, Penn. Jaw Crusher, Rotex Screener, South Silo, North Silo, Fines Bin, Dump Hopper Hood, Two Bucket Elevators, or, Two Magnetic Separators

**EU 05-1:** Truck (Rail Dump) Hopper, Silos Screw Conveyor, Truck Hopper Feeder, Silo A Discharge Feeder, Silo B Discharge Feeder, Bucket Elevator Feeder, Fines Bin Feeder, Bucket Elevator Feeder

EU 05-2: Hartman Vacuum System

EU 05-3: Screening of Met Coke that has been removed from Electrode Baking Operation

**Description:** Raw coke is transported from storage bins (silos) to the transporter hoppers. Conveying and transport systems are used as needed.

Installed: EU 05, EU 05-1 and EU 05-2: 1982; EU 05-3: Proposed 2020

Maximum Rated Capacity: EU 05, EU 05-1, EU 05-2 and EU 05-3; 20 tons/hr or 175,200 tons/yr, each;

# **Control Equipment / Efficiency:**

**EU 05:** Met Coke System Baghouse K-92-48; outlet grain loading 0.004 gr/dscf; flow rate 16,200 dscfm

EU 05-1: Process Enclosed / 70% (fugitives)

EU 05-2: Baghouse K-90-1; outlet grain loading 0.004 gr/dscf; flow rate 21,000 dscfm

EU 05-3: Dust Collector K-90-2; outlet grain loading 0.002 gr/dscf; flow rate 2,783 dscfm

### **<u>APPLICABLE REGULATIONS</u>:**

401 KAR 59:010, New process operations.

401 KAR 63:010, Fugitive emissions. [EU 01-1 and EU 05-1]

#### 1. **Operating Limitations**:

- a. Each emission unit shall not exceed the maximum capacity listed in the table above. [401 KAR 52:020, Section 10]
- b. Each baghouse and vent filter shall have a maximum outlet grain loading listed in the table above. [401 KAR 52:020, Section 10]
- c. The permittee shall operate, maintain, and monitor the baghouses and vent filters at all times when the emission unit that is connected to the control device is in operation. [401 KAR 52:020, Section 10]

#### **Compliance Demonstration Method:**

Refer to 4. <u>Specific Monitoring Requirements</u>, 5. <u>Specific Recordkeeping</u> <u>Requirements</u> and 6. <u>Specific Reporting Requirements</u>.

- d. A person shall not 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. Reasonable precautions shall include, as applicable: [401 KAR 63:010, Section 3(1)]
  - (1) Use, if possible, of water or suitable 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)]
  - (2) Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces that can create airborne dusts; [401 KAR 63:010, Section 3(1)(b)]
  - (3) 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)]
  - (4) Covering, at all times while in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]
  - (5) The maintenance of paved roadways in a clean condition; or [401 KAR 63:010, Section 3(1)(e)]
  - (6) The prompt removal of earth or other material from a paved street to which earth or other material has been transported by trucking or earth moving equipment or erosion by water. [401 KAR 63:010, Section 3(1)(f)]
- e. If 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, based on the cause, type, or

amount of a fugitive emission, 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)]

- f. At all times while 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)]
- g. A person shall not cause, suffer, or 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(3)]

# 2. <u>Emission Limitations</u>:

- a. For emissions from a control device or stack, no person shall cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010 and summarized below: [401 KAR 59:010 Section 3(2)]
  - (1) E = 2.34 lbs/hr for process weight rate up to 1,000 lbs/hr;
  - (2)  $E = 3.59(P)^{0.62}$  lbs/hr for process weight rates up to 60,000 lbs/hr, and
  - (3)  $E = 17.31(P)^{0.16}$  lbs/hr for process weight rates in excess of 60,000 lbs/hr.

Where: E = rate of particulate emissions in lbs/hr, and P = process weight rate in tons/hr.

#### **Compliance Demonstration Method:**

The permittee is assumed to be in compliance with 2. <u>Emission Limitations a.</u> based on the outlet grain loading, exhaust flow rate and processing rate provided in the application submitted by the source and listed in table above. Refer to 4. <u>Specific</u> <u>Monitoring Requirements a.</u>

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 59:010, Section 3(1)(a)]

#### **Compliance Demonstration Method:**

For compliance with the opacity limitations, refer to 4. <u>Specific Monitoring</u> <u>Requirements c.</u>, 5. <u>Specific Recordkeeping Requirements a.(4)</u> and 6. <u>Specific Reporting Requirements</u>.

c. A person shall not cause, suffer, or allow visible fugitive dust emissions beyond the lot line of the property on which the emissions originate, as determined by Reference Method 22 of Appendix A in 40 C.F.R. Part 60, for: [401 KAR 63:010, Section 3(2)]

- (1) More than five (5) minutes of emission time during any sixty (60) minute observation period; or [401 KAR 63:010, Section 3(2)(a)]
- (2) More than twenty (20) minutes of emission time during any twenty-four (24) hour period: [401 KAR 63:010, Section 3(2)(b)]

# 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

# 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall keep a record of the pressure drop across each control device taken once daily when affected equipment is in operation. [401 KAR 52:020, Section 10]
- b. The permittee shall monitor the amount of material processed and the hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- c. The permittee shall perform a qualitative visual observation of the opacity of emissions at each stack no less than weekly while the affected unit is operating. If visible emissions from the stack are observed (not including condensed water in the plume), the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]
- d. **For EU 01-1 and EU 05-1**: The permittee shall monitor the reasonable precautions taken to prevent particulate matter from becoming airborne on a daily basis. [401 KAR 52:020, Section 10]
- e. <u>For EU 01-1 and EU 05-1</u>: If fugitive dust emissions beyond the lot line of the property are observed, the permittee shall conduct Reference Method 22 (visual determination of fugitive emissions) observations per Appendix A of 40 C.F.R. Part 60. In lieu of conducting U.S. EPA Reference Method 22, the permittee shall immediately perform a corrective action which results in no visible fugitive dust emissions beyond the lot line of the property. [401 KAR 52:020, Section 10]

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
  - (1) The tons of raw material throughput and hours of operation shall be maintained on a monthly basis from each emission unit.
  - (2) All routine and non-routine maintenance activities performed on the corresponding control device shall be recorded.
  - (3) A daily record of pressure drop across the control device shall be maintained as specified in **4**. <u>Specific Monitoring Requirements</u>.
  - (4) A weekly log of the qualitative visual observations required by **4**. <u>Specific</u> <u>Monitoring Requirements</u> including the date, time, initials of observer, whether

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# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions.

- b. For EU 01-1 and EU 05-1: The permittee shall maintain a log of the reasonable precautions taken to prevent particulate matter from becoming airborne, on a daily basis. Notation of the operating status, downtime, or relevant weather conditions are acceptable for entry to the log. [401 KAR 52:020, Section 10]
- c. <u>For EU 01-1 and EU 05-1</u>: The permittee shall maintain a log of the following: [401 KAR 52:020, Section 10]
  - (1) Qualitative fugitive emissions observations conducted including the date, time, initials of observer, whether any fugitive dust emissions were observed,
  - (2) Any Reference Method 22 performed and field records identified in Reference Method 22.
  - (3) Any corrective action taken and the results.

# 6. <u>Specific Reporting Requirements</u>:

Refer to Section F - Monitoring, Recordkeeping, and Reporting Requirements, 6.

#### **Process Unit:**

**EU 02-** Coke Particle Sizing: Roof Screw Conveyor, Rotex Screen (Presizing), Rotex Screen (Large Fraction), Rotex Screen (Small Fraction), Fine Particle Frac. Bins (6), Coarse Particle Frac. Bins (6), Small Fraction Particle Scale, Large Fraction Particle Scale, Screw Conveyor (Fines Above), Screw Conveyor (Fines to Silo), Screw Conveyor (Fines to Raw), Surge Hopper (Small Smooth Ro), Belt Feeder-Particle, Screw Conveyor (Under Smooth), Bucket Elevator (Under Smooth), Smooth Roll Crusher (Large), Smooth Roll Crusher (Small), Coke Receiving Hopper

**Description:** The raw coke is screened and filtered to various particle sizes. The smallest screen mesh size for smaller particle fractions results in high particulate matter (PM) emissions. The larger mesh screens have insignificant emissions.

Installed: June 21, 1995; Maximum Rated Capacity: 14 tons/hr or 122,640 tons/yr

#### **Control Equipment/Efficiency:**

Baghouses-Coke System DC-30-6; outlet grain loading 0.004 gr/dscf; flow rate 30,000 dscfm and Bin Vent Filter DC-30-8; outlet grain loading 0.002 gr/dscf; flowrate 477 dscfm

#### **EU 06:** Electrode Cleaning Machine

#### **Process Unit: Electrode Cleaning Machine**

**Description:** Baked electrodes come out of the Ring Bake furnace and must be cleaned, before shipping, using the cleaning machine. Carbon chips that are loosely associated with the electrodes, are scraped off and recycled back through the vacuum system.

Installed: June 2005; Maximum Rated Capacity: 15 tons/hr or 32,500 tons/yr

#### **Control Equipment/Efficiency:**

Baghouse K-90-30; outlet grain loading 0.004 gr/dscf; flow rate 30,000 dscfm

EU 15: Green Scrap and Stearic Acid System:

#### **Process Units:**

**EU 15-:** Grizzly Classifier (Separator), Bucket Elevator, Belt Conveyor, Green Scrap Bins(4), Green Scrap Feeders(2)

**EU 15-1:** SuperSAC Station (Stearic Acid), Green Scrap Pneumatic Conveyor, Stearic Acid Receiving Hopper, Green Scrap Receiving Hopper, Stearic Acid Scale, Green Scrap Scale **EU 15-2:** Green Scrap Crusher

**Description:** Off spec electrodes are broken up then crushed in the green scrap crusher. The material is then classified before being sent to bins. From the bins, the material is sent to the Mixing and Extrusion system. Stearic acid is unloaded into hoppers before being sent to the Mixing and Extrusion system. Conveying and transport systems are used as needed.

Installed: 1995, Modified: 2014; Maximum Rated Capacity: 12 tons/hr or 105,120 tons/yr **Control Equipment/Efficiency:** 

EUs 15, 15-1, 15-2: Baghouse DC-30-15; outlet grain loading 0.002 gr/dscf; flow rate; 22,000 dscfm,

Bin Vent Filter DC-30-7; outlet grain loading 0.002 gr/dscf; 253 dscfm,

Bin Vent Filter DC-30-9; outlet grain loading 0.002 gr/dscf; flow rate 253 dscfm, and Bin Vent Filter DC-30-10; 0.02 gr/dscf; flow rate 253 dscfm.

# SION UNITS, EMISSION POINTS, APPLICABLE

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# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

#### EU 16: End Milling Machine

**Process Units:** 

End Milling, Chip Conveyor

**Description:** Green electrodes from the mixing and extrusion process are processed through the End Milling Machine where both ends of the electrode are milled simultaneously to produce a smooth, flat end surface. Chips produced by the end milling are collected on a conveyor below the machine heads and smaller particles from the milling process are collected in a dust collector. Both collected materials are combined and routed on the chip conveyor to a bulk bagging station.

Installed: 2013; Maximum Rated Capacity: 0.75 tons/hr or 999 tons/yr

**Control Equipment/Efficiency:** Baghouse-DC-30-14; outlet grain loading 0.002 gr/dscf; flow rate 6,800 dscfm.

EU 17: Coke Flour Mill

Process Unit: Coke Flour Milling

**Description:** Over-sized coke particles from the Coke Particle Sizing System

Maximum Rated Capacity: 6 tons/hr; 52,560 tons/yr,

**Control Equipment:** Baghouse-Coke Flour Milling Baghouse-DC-30-5; 0.002 gr/dscf; flow rate 1,200 dscfm.

Installed: 1966, Modified: 1995

# **<u>APPLICABLE REGULATIONS</u>:**

401 KAR 59:010, New process operations.

# 1. **Operating Limitations:**

- a. Each emission unit shall not exceed the maximum capacity listed in the table above. [401 KAR 52:020, Section 10]
- b. Each baghouse and vent filter shall have a maximum outlet grain loading listed in the table above. [401 KAR 52:020, Section 10]
- c. The permittee shall operate, maintain, and monitor the baghouses and vent filters at all times when the emission unit that is connected to the control device is in operation. [401 KAR 52:020, Section 10]

#### **Compliance Demonstration Method:**

Refer to 5. Specific Recordkeeping Requirements, a.

# 2. <u>Emission Limitations</u>:

- a. For emissions from a control device or stack, no person shall cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010 and summarized below: [401 KAR 59:010 Section 3(2)]
  - (1) E = 2.34 lbs/hr for process weight rate up to 1,000 lbs/hr;
  - (2)  $E = 3.59(P)^{0.62}$  lbs/hr for process weight rates up to 60,000 lbs/hr; and
  - (3)  $E = 17.31(P)^{0.16}$  lbs/hr for process weight rates in excess of 60,000 lbs/hr.

#### **Compliance Demonstration Method:**

The permittee is assumed to be in compliance with 2. <u>Emission Limitations a.</u>, based on the outlet grain loading, exhaust flow rate and processing rate provided in the application submitted by the source and listed in table above. Refer to 4. <u>Specific</u> <u>Monitoring Requirements a.</u>

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 59:010, Section 3(1)(a)]

#### **Compliance Demonstration Method:**

For compliance with the opacity limitations, refer to 4. <u>Specific Monitoring</u> <u>Requirements c.</u>, 5. <u>Specific Recordkeeping Requirements a. (4)</u> and 6. <u>Specific Reporting Requirements</u>.

#### 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

# 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall keep a record of the pressure drop across each control device taken once daily and recorded when affected equipment is in operation. [401 KAR 52:020, Section 10]
- b. The permittee shall monitor the amount of material processed and the hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- c. The permittee shall perform a qualitative visual observation of the opacity of emissions at each stack no less than weekly while the affected unit is operating. If visible emissions from the stack are observed (not including condensed water in the plume), the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
  - (1) The tons of raw material throughput and hours of operation shall be maintained on a monthly basis from each emission unit.
  - (2) All routine and non-routine maintenance activities performed on the corresponding control device shall be recorded.
  - (3) A daily record of respective pressure drops shall be maintained for each control device listed in **4**. <u>Specific Monitoring Requirements</u>.

Where: E = rate of particulate emissions in lbs/hr, andP = process weight rate in tons/hr.

(4) A weekly log of the qualitative visual observations required by **4**. <u>Specific</u> <u>Monitoring Requirements</u> including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions.

#### 6. <u>Specific Reporting Requirements</u>:

Refer to Section F - Monitoring, Recordkeeping, and Reporting Requirements, 6.

EU 07-Ring Bake Furnace

**Process Unit:** Electrode Bake/Natural Gas

#### **Description:**

Molded graphite carbon anodes are lowered in to the Ring Bake Furnace for firing. Operates in batch mode. Carbon chips are dumped into the furnace units for electrode support. When natural gas is fired, the electrodes are heated anywhere from 17 to 24 days. There are 22 furnace shells, so a single shell is emptied while another is filled on each day, approximately.

Installed: January 30, 1981; Modification: June 2001

Maximum Rated Capacity: 3.995 tons/hr or 35,000 tons/yr

**Control Equipment/Efficiency:** 

Two Electrostatic Precipitators (ESP), K-90-27A & B;

Minimum ESP control efficiency = 97.3% for PM

# APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations.
401 KAR 59:105, New process gas streams, Section 3. (H<sub>2</sub>S).
Note: the CO standard does not apply pursuant to 401 KAR 59:105, Section 1(3).
40 CFR 64, Compliance Assurance Monitoring (CAM).

# **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

# **PRECLUDUED REGULATION:**

401 KAR 59:105, New process gas streams, Section 4. (SO<sub>2</sub>)

# 1. **Operating Limitations**:

- a. At least one ESP shall be in operation when the Ring Bake furnace is in operation. [401 KAR 52:020, Section 10]
- b. Refer to 7. Specific Control Equipment Operating Conditions.

# **Compliance Demonstration Method:**

Compliance will be demonstrated by 6. Specific Reporting Requirements.

# 2. <u>Emission Limitations</u>:

a. For emissions from a control device or stack, no person shall cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010 and summarized below: [401 KAR 59:010 Section 3(2)]:

(1) 2.34 lbs/hr for process weight rate up to 1,000 lbs/hr;

- (2)  $3.59(P)^{0.62}$  lbs/hr for process weight rates up to 60,000 lbs/hr; and
- (3)  $17.31(P)^{0.16}$  lbs/hr for process weight rates in excess of 60,000 lbs/hr.

Where: E = rate of particulate emissions in lbs/hr, and

P = process weight rate in tons/hr.

#### **Compliance Demonstration Method:**

The permittee is assumed to be in compliance with **2.** <u>Emission Limitations a.</u>, based on the uncontrolled particulate emission factor of 20.27 lbs/ton and minimum control efficiency provided in the application submitted and listed in table above. [401 KAR 52:020, Section 10]

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 59:010, Section 3(1)(a)]

#### **Compliance Demonstration Method:**

For compliance with the opacity limitations, refer to 4. <u>Specific Monitoring</u> <u>Requirements a., 5. Specific Recordkeeping Requirements a.(3)</u> and 6. <u>Specific</u> <u>Reporting Requirements</u>.

- c. Refer to **D** Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.
- d. Standard for Hydrogen Sulfide. No person shall cause, suffer, allow or permit the emission of hydrogen sulfide in a process gas stream to exceed ten (10) grains per 100 dscf (165 ppm by volume) at zero percent oxygen. [401 KAR 59:105, Section 3]

#### **Compliance Demonstration Method:**

The permittee is assumed to be in compliance with 2. <u>Emission Limitation d</u>. based on analysis of the sulfur content of the green and baked electrodes and calculations of  $H_2S$  emissions from the baking process.

e. Refer to **D** - Source Emission Limitations and Testing Requirements, 7. for sourcewide SO<sub>2</sub> and NOx emission limitations.

#### **Compliance Demonstration Method:**

For compliance with 2. <u>Emission Limitations e.</u>, refer to **D** - Source Emission Limitations and Testing Requirements, 7.

# 3. <u>Testing Requirements</u>:

a. The permittee shall conduct performance test using U.S. EPA Reference Method 5 within 180 days of issuance of permit V-25-005. The performance test shall be conducted a minimum of once every five (5) years and no more than sixty-two (62) calendar months following the previous performance test approved by the Division. The inlet and outlet PM concentrations shall be measured during the test to determine the control efficiency of at least one ESP. The permittee shall as soon as practicable determine the control efficiency of the other ESP. The performance tests shall be conducted in accordance with 401 KAR 50:045. Refer to Section G 5. for other requirements.

b. Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

# 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall perform a qualitative visual observation of the opacity of emissions at each stack no less than weekly while the affected unit is operating. If visible emissions from the stack are observed (not including condensed water in the plume), the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]
- b. The permittee shall monitor the amount of material processed and hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- c. The permittee shall monitor the change in sulfur content between the green electrodes and baked electrodes by collecting and analyzing samples during the initial performance test required under 3. Testing Requirements b. of V-18-055 and thereafter by collecting and analyzing monthly samples of the green and baked electrodes (in a batch) for sulfur content for a period of at least six (6) months. If the average of the change in sulfur content between the green and baked electrodes in a batch from the six (6) monthly samples is equal to or less than the change in sulfur content between the green and baked electrodes established during the initial performance test, the permittee may reduce monitoring of sulfur content of the green and baked electrodes to an annual basis. If any annual analysis results in a change in sulfur content between the green and baked electrodes in a batch greater than the change in sulfur content of the green and baked electrodes established during the initial performance test, the permittee shall begin monitoring the sulfur content of the electrodes on a monthly basis. The permittee may return to monitoring on an annual basis after six months if monitoring provides an average change in electrode sulfur content equal to or less than the sulfur content established during the initial performance test. [401 KAR 52:020, Section 10]

# d. Refer to Section D - Source Emission Limitations and Testing Requirements 5.

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
  - (1) The tons of raw material throughput and hours of operation shall be maintained on a monthly basis.
  - (2) A log of the sulfur content of the electrodes as required in **4. Specific Monitoring Requirements**, c.
  - (3) All routine and non-routine maintenance activities performed on the corresponding control device shall be recorded.
  - (4) A weekly log of the qualitative visual observations required by **4**. <u>Specific</u> <u>Monitoring Requirements</u> including the date, time, initials of observer, whether

any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions.

### 6. <u>Specific Reporting Requirements</u>: Refer to Section F - Monitoring, Recordkeeping, and Reporting Requirements, 6.

### 7. <u>Specific Control Equipment Operating Conditions</u>:

For CAM pursuant to 40 CFR 64 for PM, refer to Section D - Source Emission Limitations and Testing Requirements, 5.

#### EU 03-Storage Tanks

**Process Units:** Two Coal Tar Pitch Tanks (50,000 gallons each) (≈190 m<sup>3</sup> each) Extrusion Oil Tank (17,000 gallons)

#### **Description:**

Coal tar pitch is stored on site. The tar pitch tanks are heated, using electric heaters, near 380°F to avoid solidification. The pitch transfer from railcar tankers or truck tankers requires a preheating of the mobile tank and piping lines. The piping lines are jacketed and heated with thermion, whereas the railcars and truck tanks are electrically heated.

Installed: Two Coal Tar Pitch Tanks November 1998; Extrusion Oil Tank: 1966 Maximum Rated Capacity: Two Coal Tar Pitch Tanks: 1 tons/hr or 8760 tons/yr, per tank Extrusion Oil Tank: 0.021 tons/hr or 184 tons/yr

#### **Control Equipment:**

Two Coal Tar Pitch Tanks: Condenser Extrusion Oil Tank: None. Note: 401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b to 60.117b, (Subpart Kb) does not apply to the Extrusion Oil Tank

# **APPLICABLE REGULATIONS:**

401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b, (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.

Note: 401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489, (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006, as referenced by 40 CFR 60, Subpart Kb.

# **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

#### 1. **Operating Limitations**:

The permittee shall operate, maintain, and monitor the condenser at all times when EU 03 is in operation. [401 KAR 52:020, Section 10]

#### **Compliance Demonstration Method:**

Compliance will be demonstrated by 5. <u>Specific Reporting Requirements</u>.

#### 2. <u>Emission Limitations</u>:

a. For the Two Coal Tar Pitch Tanks, the permittee of a storage vessel with a design capacity greater than or equal to 151 m<sup>3</sup> containing a volatile organic liquid (VOL) that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kiloPascal (kPa) but less than 76.6 kPa shall equip each storage vessel with a fixed roof in combination with an internal floating roof, an external floating roof or a closed vent system and control device. [40 CFR 60.112b(a)]

- (1) A closed vent system and control device meeting the following specifications: [40 CFR 60.112b(a)(3)(i) and ii)]
  - (i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, Subpart VV, 40 CFR 60.485(b). [40 CFR 60.112b(a)(3)(i)]
  - (ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. [40 CFR 60.112b(a)(3)(ii)]
- b. Refer to Section D Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.
- c. The permittee shall meet the following standards in d. through f., below, for pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors: [40 CFR 60.482-1]
- d. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at connectors, the permittee shall follow either one of the following procedures: [40 CFR 60.482-8(a)]
  - (1) The permittee shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d). [40 CFR 60.482-8(a)(1)]
  - (2) The permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection. [40 CFR 60.482-8(a)(2)]
- e. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [40 CFR 60.482-8(b)]
  - When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-8(c)(1)]
  - (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-8(c)(2)]
- f. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-2(c)(2) and 60.482-7(e). [40 CFR 60.482-8(d)]
- g. The permittee shall meet the following standards in h. through q., below, for closed vent systems (CVS) and control devices: [40 CFR 60.482-1]
- h. CVSs and control devices used to comply with provisions of 40 CFR 60, Subpart VV shall comply with the provisions therein. [40 CFR 60.482-10(a)]

- i. Vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume (ppmv), whichever is less stringent. [40 CFR 60.482-10(b)]
- j. The permittee of control devices used to comply with the provisions of 40 CFR 60, Subpart VV shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. [40 CFR 60.482-10(e)]
- k. Except as provided in 40 CFR 60.485(b)(i) through (k), each closed vent system shall be inspected according to the procedures and schedule specified in 40 CFR 60.485(b)(f). [40 CFR 60.482-10(f)]
  - (1) If the vapor collection system or closed vent system is constructed of hard-piping, the permittee shall comply with the requirements specified in 40 CFR 60.482(f)(1)(i and ii): [40 CFR 60.482-10(f)(1)]
    - (i) Conduct an initial inspection according to the procedures in 40 CFR 60.485(b); and [40 CFR 60.482-10(f)(1)(i)]
    - (ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks. [40 CFR 60.482-10(f)(1)(ii)]
  - (2) If the vapor collection system or closed vent system is constructed of ductwork, the permittee shall: [40 CFR 60.482-10(f)(2)]
    - (i) Conduct an initial inspection according to the procedures in 40 CFR 60.485(b); and [40 CFR 60.482-10(f)(2)(i)]
    - (ii) Conduct annual inspections according to the procedures in 40 CFR 60.485(b). [40 CFR 60.482-10(f)(2)(ii)]
- 1. Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). [40 CFR 60.482-10(g)]
  - (1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. [40 CFR 60.482-10(g)(1)]
  - (2) Repair shall be completed no later than 15 calendar days after the leak is detected. [40 CFR 60.482-10(g)(2)]
- m. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)]
- n. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(1)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(j): [40 CFR 60.482-10(j)]

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- (1) The permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with 40 CFR 60.482-10(f)(1)(i) or (f)(2); and [40 CFR 60.482-10(j)(1)]
- (2) The permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times. [40 CFR 60.482-10(j)(2)]
- Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(1)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified below: [40 CFR 60.482-10(k)]
  - (1) The permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and [40 CFR 60.482-10(k)(1)]
  - (2) The process unit within which the closed vent system is located becomes an affected facility through 40 CFR 60.14 or 60.15, or the permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and [40 CFR 60.482-10(k)(2)]
  - (3) The permittee has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum. [40 CFR 60.482-10(k)(3)]
- p. The permittee shall record the information specified below: [40 CFR 60.482-10(l)]
  - (1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment. [40 CFR 60.482-10(1)(1)]
  - (2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment. [40 CFR 60.482-10(1)(2)]
  - (3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c). [40 CFR 60.482-10(1)(3)]
  - (4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(1)(4)]
  - (5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(1)(5)]
- q. Closed vent systems and control devices used to comply with provisions of 40 CFR 60, Subpart VV shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(m)]

### **Compliance Demonstration Method:**

For compliance with Emission Limitations, refer to **4.** <u>Specific Monitoring</u> <u>Requirements</u>, **5.** <u>Specific Recordkeeping Requirements</u>, and **6.** <u>Specific Reporting</u> <u>Requirements</u>.

#### 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

#### 4. Specific Monitoring Requirements:

The permittee of each source that is equipped with a closed vent system and control device as required in 40 CFR 60.112b(a)(3) is exempt from 40 CFR 60.8 of the General Provisions and shall meet the following requirements: [40 CFR 60.113b(c)]

- a. Submit for approval by the Division as an attachment to the notification required by 40 CFR 60.7(a)(1) or, if the facility is exempt from 40 CFR 60.7(a)(1), as an attachment to the notification required by 40 CFR 60.7(a)(2), an operating plan containing the information listed below: [40 CFR 60.113b(c)(1)]
  - (1) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under 40 CFR 60, Subpart VV, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 Celsius (°C) is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of 40 CFR 60.113(b). [40 CFR 60.113b(c)(1)(i)]
  - (2) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters). [40 CFR 60.113b(c)(1)(ii)]
- b. Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Division in accordance with 40 CFR 60.113b(c)(1), unless the plan was modified by the Division during the review process. In this case, the modified plan applies. [40 CFR 60.113b(c)(2)]

# 5. Specific Recordkeeping Requirements:

a. The permittee of each storage vessel as specified in 40 CFR 60.112b(a) shall keep records and furnish reports as required by 40 CFR 60.115b(c). The permittee shall keep copies of all reports and records required by 40 CFR 60.115b(c), except for the record

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# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

required by 40 CFR 60.115b(c)(1), for at least 2 years. The record required 40 CFR 60.115b(c)(1) will be kept for the life of the control equipment. [40 CFR 60.115b]

- b. After installing control equipment in accordance with 40 CFR 60.112b(a)(3), the permittee shall keep the following records. [40 CFR 60.115b(c)]
  - (1) A copy of the operating plan. [40 CFR 60.115b(c)(1)]
  - (2) A record of the measured values of the parameters monitored. [40 CFR 60.115b(c)(2)]
- c. The permittee shall keep copies of the record required by 40 CFR 60.116b(b) for the life of the source. [40 CFR 60.116b(a)]
- d. The permittee of each storage vessel as specified in 40 CFR 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 60.116b(b)]
- e. Any records required to be maintained by 40 CFR 60, Subpart VV that are submitted electronically via the EPA's Compliance and Emissions Data Reporting Interface (CEDRI) may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation. [40 CFR 60.486(1)]

# 6. <u>Specific Reporting Requirements</u>:

- a. The permittee subject to the provisions of 40 CFR 60, Subpart VV shall submit semiannual reports to the Administrator beginning six months after the initial startup date. Beginning on July 15, 2025, or once the report template for 40 CFR 60, Subpart VV has been available on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/cedri*) for 1 year, whichever date is later, submit all subsequent reports using the appropriate electronic report template on the CEDRI website for 40 CFR 60, Subpart VV and following the procedure specified in 40 CFR 60.487(g). The date report templates become available will be listed on the CEDRI website. Unless the Administrator or delegated state agency or other authority has approved a different schedule for submission of reports, the report must be submitted by the deadline specified in t40 CFR 60, Subpart VV, regardless of the method in which the report is submitted. [40 CFR 60.487(a)]
- b. If the permittee is required to submit notifications or reports following the procedure specified in 40 CFR 60.487(g), the permittee must submit notifications or reports to the EPA via CEDRI, which can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/). The EPA will make all the information submitted through CEDRI available to the public without further notice to the owner or operator.

Do not use CEDRI to submit information the owner or operator claims as CBI. [40 CFR 60.487(g)]

c. Refer to Section F Monitoring, Recordkeeping, and Reporting Requirements 6.

EU 04-Mixing and Extrusion System

Process Units: Eirich Mixer

#### **Description:**

Raw coke material is mixed with coal tar pitch, extrusion oil, stearic acid, iron oxide and water. The mixture is extruded through a die-mold.

Installed: June 21, 1995; Maximum Rated Capacity: 25 tons/hr or 219,000 tons/yr

**Control Equipment/Minimum Control Efficiency:** 

RTO: 60% for VOC control and Wet Scrubber: 90% for PM and VOC control. The control devices are in series, with a combined PM, VOC and toxic air pollutant control efficiency of 96% (established from July 2021 test)

Fuel Input and Primary Fuel: 1.0 mmBtu/hr and natural gas for RTO

# **APPLICABLE REGULATIONS:**

401 KAR 59:010, New process operations.

401 KAR 50:012, General application, Reasonably Available and Practical (RAP) 40 CFR 64, Compliance Assurance Monitoring (CAM).

# **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

### 1. **Operating Limitations**:

The permittee shall operate, maintain, and monitor the RTO and Wet Scrubber at all times when the Mixing and Extrusion system is in operation. [401 KAR 52:020, Section 10]

# **Compliance Demonstration Method:**

The source is assumed to be in compliance when the associated control devices are operating and properly maintained. Refer to **5**. <u>Specific Reporting Requirements.</u>

#### 2. <u>Emission Limitations</u>:

a. For emissions from a control device or stack no person shall cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010 and summarized below: [401 KAR 59:010 Section 3(2)]

(1) 2.34 lbs/hr for process weight rate up to 1,000 lbs/hr;

- (2)  $3.59(P)^{0.62}$  lbs/hr for process weight rates up to 60,000 lbs/hr; and
- (3)  $17.31(P)^{0.16}$  lbs/hr for process weight rates in excess of 60,000 lbs/hr.

Where: E = rate of particulate emissions in lbs/hr, and P = process weight rate in tons/hr.

# **Compliance Demonstration Method:**

The permittee is assumed to be compliance with **2**. <u>Emission Limitations a.</u>, based on the proper operation of the scrubber control device and the control efficiency listed in table above. Refer to **4**. <u>Specific Monitoring Requirements f.</u>

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 59:010 Section 3(1)(a).

### **Compliance Demonstration Method:**

For compliance with the opacity limitations, refer to 4. <u>Specific Monitoring</u> <u>Requirements a.</u>, 5. <u>Specific Recordkeeping Requirements a.(2)</u> and 6. <u>Specific Reporting requirements</u>.

- c. Refer to **D** Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.
- d. Refer to **D** Source Emission Limitations and Testing Requirements, 7. for sourcewide SO<sub>2</sub> and NOx emission limitations

#### 3. <u>Testing Requirements</u>:

- a. The permittee shall demonstrate compliance with the PM emission limits and verify the PM and VOC emission factors, by conducting a performance test of the wet scrubber and RTO control device of EU 04. The performance test shall be repeated a minimum of once every five (5) years and no more than sixty-two (62) calendar months following the previous performance test approved by the Division. The performance test shall be conducted in accordance with 401 KAR 50:045. Refer to **Section G. 5** for other requirements. [401 KAR 52:020, Section 10]
- b. During the performance test the permittee shall establish the particulate emissions and VOC destruction efficiency and operating limits for the RTO as follows:
  - (1) During the performance test, monitor and record the temperature in the combustion chamber at least once every fifteen (15) minutes during each of the three (3) test runs.
  - (2) Use the data collected during the performance test to calculate and record the average combustion chamber temperature. This temperature shall be the operating temperature for the RTO. Refer to Section D Source Emission Limitations and Testing Requirements, 6. e. and g.

# 4. Specific Monitoring Requirements:

a. The permittee shall perform a qualitative visual observation of the opacity of emissions at each stack no less than weekly while the affected unit is operating. If visible emissions from the stack are observed (not including condensed water in the plume), the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

- b. During burnouts of the RTO conducted on a routine basis in accordance with manufacturer's preventative maintenance instructions, the permittee shall observe the visible emissions from the RTO, as follows: [401 KAR 52:020, Section 10]
  - (1) A trained employee, who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of visible emissions for the RTO during a burnout, shall perform the observation;
  - (2) The observation shall be taken during the portion of the burnout process that would normally be expected to cause the visible emissions with the highest opacity;
  - (3) The results of the observation shall be noted; and
  - (4) If visible emissions are observed, the permittee shall implement corrective actions to restore the RTO to its usual manner of operation during a burnout. The date, duration, and corrective actions for all burnouts during which visible emissions are observed shall be reported as part of the semiannual report.
- c. The permittee shall monitor the amount of material processed and hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- d. The permittee shall monitor the volume of makeup scrubbing liquid added on a daily basis. [401 KAR 52:020, Section 10]
- e. The permittee must meet the following continuous temperature monitoring requirements for the scrubber: [401 KAR 52:020, Section 10]
  - (1) Install, operate, and maintain a gas temperature monitor at the outlet of the scrubber.
    - (i) Locate the temperature sensor in a position that provides a representative temperature;
    - (ii) Use a temperature sensor with a measurement sensitivity of five (5) (°F) or one(1) percent of the temperature value, whichever is larger;
    - (iii)Refer to Section E Source Control Equipment Requirements, 2 for additional requirements.
  - (2) Collect temperature data at least once every fifteen (15) minutes and reduce the data to three (3) hour block averages.
- f. The permittee shall monitor the pressure drop across the scrubber on a daily basis. [401 KAR 52:020, Section 10]
- g. The permittee must meet the following continuous monitoring requirements for the RTO. [401 KAR 52:020, Section 10]
  - (1) Install a gas temperature monitor in the combustion chamber as required by <u>3.</u> <u>Testing Requirements b(1) and (2).</u>
    - (i) Locate the temperature sensor in a position that provides a representative temperature.
    - (ii) Use a temperature sensor with a measurement sensitivity of five (5) <sup>o</sup>F or one (1) percent of the temperature value, whichever is larger.

- (iii)Refer to **E** Source Control Equipment Requirements, 2. for additional requirements.
- (2) Collect temperature data at least once every fifteen (15) minutes and reduce the data to three (3) hr block averages.

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
  - (1) The tons of raw material throughput and hours of operation shall be maintained on a monthly basis.
  - (2) A weekly log of the qualitative visual observations required by 4. <u>Specific</u> <u>Monitoring Requirements</u> including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions.
  - (3) The opacity determined by U.S. EPA Reference Method 9, when taken, and documentation of any repairs that were made due to any opacity reading, which exceeded the standard.
  - (4) A log showing the date of all routine or other maintenance, malfunction or repair of the oxidizer and/or scrubber, the nature of the action taken on such date and any corrective action or preventive measures taken.
  - (5) A log showing the date and duration of regenerative thermal oxidizer burnouts and the nature of any corrective action or preventive measures taken to eliminate visible emissions.
  - (6) The RTO combustion chamber temperature when the source is in operation. Records shall be kept of the times when the source is not operating.
  - (7) The scrubber outlet temperature when the source is in operation. Records shall be kept of the times when the source is not operating.
  - (8) The 24 hour block average scrubber pressure drop and daily makeup liquid volume when the source is in operation. The times when the source does not operate shall be noted.

# 6. Specific Reporting Requirements:

Refer to Section F - Monitoring, Recordkeeping, and Reporting Requirements, 6.

# 7. <u>Specific Control Equipment Operating Conditions</u>:

- a. For CAM for the scrubber PM emissions, pursuant to 40 CFR 64, refer to Section D Source Emission Limitations and Testing Requirements, 4.
- b. For RAP for RTO VOC emissions, pursuant to 401 KAR 50:012, refer to Section D Source Emission Limitations and Testing Requirements, 6.

EU 08-Therminol Natural Gas Heater

#### **Description:**

Natural gas fired indirect heat exchanger providing process heat to Pitch Tanks, Mixing, and Extrusion using Therminol as the heat transfer medium.

Installed: July 1966 Maximum Rated Capacity: 6.1 mmBtu/hr

Control Equipment: None

# **<u>APPLICABLE REGULATIONS</u>:**

401 KAR 61:015, Existing indirect heat exchangers

# **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

# 1. **Operating Limitations:**

- a. The heater (EU 08) shall be fired with pipeline quality natural gas. [401 KAR 52:020, Section 10]
- b. During a startup period or a shutdown period, the permittee shall comply with the following work practice standards: [401 KAR 61:015, Section 9]
  - (1) The permittee shall comply with 401 KAR 50:055, Section 2(5); [401 KAR 61:015, Section 9(1)(a)]
  - (2) The frequency and duration of startup periods or shutdown periods shall be minimized by the affected facility; [401 KAR 61:015, Section 9(1)(b)]
  - (3) All reasonable steps shall be taken by the owner or operator to minimize the impact of emissions on ambient air quality from the affected facility during startup periods and shutdown periods; [401 KAR 61:015, Section 9(1)(c)]
  - (4) The actions, including duration of the startup period, of the permittee of each affected facility during startup periods and shutdown periods, shall be documented by signed, contemporaneous logs or other relevant evidence; and [401 KAR 61:015, Section 9(1)(d)]
  - (5) Startups and shutdowns shall be conducted according to either: [401 KAR 61:015, Section 9(1)(e)]
    - (i) The manufacturer's recommended procedures; or [401 KAR 61:015, Section 9(1)(e)1.]
    - (ii) Recommended procedures for a unit of similar design, for which manufacturer's recommended procedures are available, as approved by the Cabinet based on documentation provided by the owner or operator of the affected facility. [401 KAR 61:015, Section 9(1)(e)2.]

#### **Compliance Demonstration Method:**

Refer to 5. Specific Recordkeeping Requirements b.

#### 2. <u>Emission Limitations</u>:

a. The permittee shall not cause emissions of particulate matter in excess of 0.56 lb/MMBtu actual heat input. [401 KAR 61:015, Section 4(1)(a)]

- b. The permittee shall not cause emissions of particulate matter in excess of 20 percent opacity, except [401 KAR 61:015, Section 4(1)(b)]
  - (1) Emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions if the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations. [401 KAR 61:015, Section 4(1)(b)3.]
- c. The permittee shall not cause emissions of gases that contain sulfur dioxide in excess of 6.0 lbs/MMBtu. [401 KAR 61:015, Section 5(1)]

# **Compliance Demonstration Method:**

The heater (EU 08) is assumed to be in compliance with the PM, SO<sub>2</sub> and opacity standards while burning pipeline quality natural gas.

- d. Refer to Section D Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.
- e. Refer to **D** Source Emission Limitations and Testing Requirements, 7. for sourcewide SO<sub>2</sub> and NOx emission limitations

# 3. <u>Testing Requirements</u>:

Performance testing shall be conducted if required by the Cabinet. [401 KAR 50:045, Section 1]

4. <u>Specific Monitoring Requirements</u>: None

# 5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain records of the amount of natural gas combusted, in MMscf, on a monthly basis. [401 KAR 52:020, Section 10]
- b. The permittee shall keep records of the manufacturer's recommended procedures for startup and shutdown, any instance in which the recommended procedures were not followed, and any corrective action taken. [401 KAR 52:020, Section 10]

# 6. <u>Specific Reporting Requirements</u>:

Refer to Section F – Monitoring, Recordkeeping, and Reporting Requirements, 9.

#### EU 09-Cleaver Brooks Extrusion Pond Natural Gas Heater

**Description:** Natural Gas fired heater providing process heat to the Cooling Pond Installed: 1997; Maximum Rated Capacity: 2.5mmBtu/hr Control Equipment: None

#### EU 10-Apache ESP Cleaning Steam Natural Gas Boiler

**Description:** Natural gas fired boiler used to clean ESP Units Installed: 1982; Maximum Rated Capacity: 6.3 mmBtu/hr Control Equipment: None

#### EU 21- Process Heater for Pitch Impregnation Autoclaves (A&B)

**Description:** Natural gas fired heater providing process heat to the Process Impregnation (PI) Autoclaves (Thermal Oil Heating Medium) Construction Date: January 8, 2021; Maximum Rated Capacity: 8.0 mmBtu/hr

Control Equipment: None

#### EU 22- Process Heater for Pitch Tanks

**Description:** Natural gas fired heater for the two Pitch Tanks. (Thermal Oil Heating Medium)

Construction Date: January 15, 2021; Maximum Rated Capacity: 2.4 mmBtu/hr Control Equipment: None

#### EU 23 – Process Preheater for Electrodes

#### **Description:**

Natural gas fired heater used to preheat electrodes before entering the PI Autoclaves (A & B)

Construction Date: May 28, 2021; Maximum Rated Capacity: 8.0 mmBtu/hr Control Equipment: None

#### EU 28 – New Therminol Natural Gas Heater

**Description:** Natural gas fired indirect heat exchanger providing process heat to Pitch Tanks, Mixing, and Extrusion using Therminol as the heat transfer medium. Installed: December 2023; Maximum Rated Capacity: 5.0 mmBtu/hr Control Equipment: None

#### **APPLICABLE REGULATIONS:**

401 KAR 59:015, New indirect heat exchangers.

#### **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

#### 1. **Operating Limitations:**

a. Emission units EU 09, EU 10, EU 21, EU 22, EU 23 and EU 28 shall be fired with pipeline quality natural gas. [401 KAR 52:020, Section 10]

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# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- b. During a startup period or shutdown period, the permittee shall comply with the work practice standards established in 401 KAR 59:015, Section 7. [401 KAR 59:015, Section 7]
  - (1) The permittee shall comply with 401 KAR 50:055, Section 2(5); [401 KAR 59:015, Section 7(1)(a)]
  - (2) The frequency and duration of startup periods or shutdown periods shall be minimized by the affected facility; [401 KAR 59:015, Section 7(1)(b)]
  - (3) All reasonable steps shall be taken by the owner or operator to minimize the impact of emissions on ambient air quality from the affected facility during startup periods and shutdown periods; [401 KAR 59:015, Section 7(1)(c)]
  - (4) The actions, including duration of the startup period, of the permittee during startup and shutdown periods, shall be documented in signed, contemporaneous logs or other relevant evidence; [401 KAR 59:015, Section 7(1)(d)]
  - (5) Startups and shutdowns shall be conducted according to either: [401 KAR 59:015, Section 7(1)(e)]
    - (i) The manufacturer's recommended procedures; or [401 KAR 59:015, Section 7(1)(e)1.]
    - (ii) Recommended procedures for a unit of similar design, for which manufacturer's recommended procedures are available, as approved by the Cabinet based on documentation provided by the owner or operator of the affected facility. [401 KAR 59:015, Section 7(1)(e)2.]

# **Compliance Demonstration Method:**

For compliance with 1. <u>Operating Limitations</u>, b. refer to 5. <u>Specific Recordkeeping</u> <u>Requirements</u> b.

# 2. <u>Emission Limitations</u>:

a. PM, opacity and SO<sub>2</sub> standards listed below, respectively, shall not be exceeded: [401 KAR 59:015, Section 4(1)(a), Section 4(2) and Section 5(1)(a) and (c)]

| Standard                    | EU 09       | EU 10    | EU 21    | EU 22    | EU 23    | EU 28    |
|-----------------------------|-------------|----------|----------|----------|----------|----------|
|                             | 0.56        | 0.51     | 0.42     | 0.42     | 0.42     | 0.41     |
| PM                          | lb/MMBtu    | lb/MMBtu | lb/MMBtu | lb/MMBtu | lb/MMBtu | lb/MMBtu |
|                             | 20% Opacity |          |          |          |          |          |
| SO <sub>2</sub><br>lb/MMBtu | 3.0         | 2.55     | 1.83     | 1.83     | 1.83     | 1.73     |

- b. The permittee shall not cause emissions of particulate matter in excess of 20 percent opacity, except: [401 KAR 59:015, Section 4(2)]
  - (1) A maximum of 40 percent opacity shall be allowed for a maximum of 6 consecutive minutes in any 60 minutes during fire box cleaning or soot blowing; and [401 KAR 59:015, Section 4(2)(b)]

(2) For emissions from an affected facility caused by building a new fire, emissions during the period required to bring the boiler up to operating conditions shall be allowed, if the method used is recommended by the manufacturer and the time does not exceed the manufacturer's recommendations. [401 KAR 59:015, Section 4(2)(c)]

#### **Compliance Demonstration Method:**

Each indirect heat exchanger is assumed to be in compliance with the PM, SO<sub>2</sub> and opacity standards while burning pipeline quality natural gas.

c. Refer to **D** - Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.

# 3. <u>Testing Requirements</u>:

Performance testing using the reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet. [401 KAR 50:045, Section 1, and 401 KAR 59:005, Section 2(2)]

#### 4. <u>Specific Monitoring Requirements</u>: None

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall maintain records of the amount of natural gas combusted, in MMscf, on a monthly basis. [401 KAR 52:020, Section 10]
- b. The permittee shall keep records of the manufacturer's recommended procedures for startup and shutdown, any instance in which the recommended procedures were not followed, and any corrective action taken. [401 KAR 52:020, Section 10]

#### 6. <u>Specific Reporting Requirements</u>:

Refer to Section F – Monitoring, Recordkeeping, and Reporting Requirements, 9.

EU 12-Caterpillar Emergency Generator Engine

**Description:** Diesel driven generator engine that supplies emergency power to the extrusion process; Manufactured: 1987; Installed: November 2004; Maximum Rated Capacity: 217 horsepower (hp) Control Equipment: None

### **APPLICABLE REGULATIONS:**

401 KAR 63:002, Section 2.(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1A through 8 and Appendix A, (Subpart ZZZZ), National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

#### 1. **Operating Limitations:**

- a. The permittee must operate the emergency stationary RICE according to the requirements in 40 CFR 63.6640(f)(1) through (4). In order for the engine to be considered an emergency stationary RICE under 40 CFR 63, Subpart ZZZZ, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 63.6640(f)(1) through (4), is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under 40 CFR 63, Subpart ZZZZ and must meet all requirements for non-emergency engines. [40 CFR 63.6640(f)]
  - (1) There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 63.6640(f)(1)]
  - (2) The permittee may operate the emergency stationary RICE for the purpose specified in 40 CFR 63.6640(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by 40 CFR 63.6640(f)(2). [40 CFR 63.6640(f)(2)]
    - (i) Emergency stationary RICE 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 RICE beyond 100 hours per calendar year. [40 CFR 63.6640(f)(2)(i)]
  - (3) Emergency stationary RICE located at area sources of HAP 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 provided in 40 CFR 63.6640(f)(2). Except as provided in 40 CFR 63.6640(f)(4)(i) and (ii), the 50 hours per 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 63.6640(f)(4)]

- b. At all times the permittee must 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. [40 CFR 63.6605(b)]
- c. The permittee shall be in compliance with 40 CFR 63, Subpart ZZZZ by complying with the requirements stated in Table 2d item 4 for an existing stationary RICE located at an area source of HAP emissions. For an emergency compression ignition (CI) RICE the permittee must: [40 CFR 63.6603(a)]
  - Change oil and filter every 500 hours of operation or within 1 year + 30 days of the previous change, whichever comes first. [Item 4.a. in Table 2d to 40 CFR 63, Subpart ZZZZ]
  - (2) Inspect air cleaner every 1,000 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary, and Item 4.b. in Table 2d to 40 CFR 63, Subpart ZZZZ]
  - (3) Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days of the previous inspection, whichever comes first, and replace as necessary. Item 4.c. in Table 2d to 40 CFR 63, Subpart ZZZZ]
- d. The permittee must be in compliance with the emission limitations, operating limitations, and other requirements in 40 CFR 63, Subpart ZZZZ that apply at all times. [40 CFR 63.6605(a)]
- e. The permittee must 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 apply. [40 CFR 63.6625(h)]
- f. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement as stated in Table 2d of 40 CFR 63, Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2d. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the permittee is not required to change the oil. If any of the limits are exceeded, the permittee must change the oil within 2 business days of receiving the results of the

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# SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

analysis; if the engine is not in operation when the results of the analysis are received, the permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i)]

# **Compliance Demonstration:**

The permittee will demonstrate compliance by: [40 CFR 63.6640(a), Table 6 item 9]

- a. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or [Item 9.a.i. in Tabe 6 of 40 CFR 63, Subpart ZZZZ]
- b. Develop and follow the permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [Item 9.a.ii. in Tabe 6 of 40 CFR 63, Subpart ZZZZ]

# 2. <u>Emission Limitations</u>:

Refer to **D** - Source Emission Limitations and Testing Requirements, 7. for sourcewide  $SO_2$  and NOx emission limitations.

# 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

# 4. Specific Monitoring Requirements:

The permittee of an existing emergency stationary RICE located at an area source of HAP emissions, must install a non-resettable hour meter if one is not already. [40 CFR 63.6625(f)]

# 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee must 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. [40 CFR 63.6655(d)]
- b. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to its own maintenance plan. [40 CFR 63.6655(e)(2)]
- c. The permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. [40 CFR 63.6655(f)(1)]

- d. The permittee must keep the following records described in 40 CFR 63.6655(a)(1) through (5): [40 CFR 63.6655(a)]
  - A copy of each notification and report that was submitted to comply, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.6655(a)(1)]
  - (2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(2)]
  - (3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). [40 CFR 63.6655(a)(3)]
  - (4) Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(4)]
  - (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. [40 CFR 63.6655(a)(5)]
- e. Records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1). [40 CFR 63.6660(a)]
- f. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.6660(b)]
- g. The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). [40 CFR 63.6660(c)]
- h. The permittee shall maintain records of the amount of fuel burned and hours of operation for the engines on a monthly basis. [401 KAR 52:020, Section 10]

# 6. <u>Specific Reporting Requirements</u>:

- a. The permittee must report each instance in which the source did not meet each applicable operating limitation in Table 2d to Subpart ZZZZ. These instances are deviations from operating limitations in Subpart ZZZZ. These deviations must be reported according to the requirements in 40 CFR 63.6650 (f). [40 CFR 63.6640(b)]
- b. The permittee must report each instance in which the applicable requirements in Table 8 to Subpart ZZZZ were not met according to the requirements in 40 CFR 63.6650(f). [40 CFR 63.6640(e)]
- c. Refer to Section F Monitoring, Recordkeeping, and Reporting Requirements, 9.
EU 18- Kohler Natural Gas Emergency Generator

**Description:** Natural gas driven generator engine used to supply emergency power Manufactured: 2008 Installed: May 2016; Maximum Rated Capacity: 98 hp

Control Equipment: None

## **<u>APPLICABLE REGULATIONS</u>:**

401 KAR 63:002, Section 2.(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1A through 8 and Appendix A, (Subpart ZZZZ), National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

## 1. **Operating Limitations:**

The permittee shall comply with 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6590(c)(1)]

## 2. <u>Emission Limitations</u>:

Refer to **D** - Source Emission Limitations and Testing Requirements, 7. for sourcewide  $SO_2$  and NOx emission limitations.

## 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

## 4. Specific Monitoring Requirements:

The permittee shall monitor hours of operation for the unit. [401 KAR 52:020, Section 10]

## 5. <u>Specific Recordkeeping Requirements</u>: The permittee shall maintain records of hours of operation. [401 KAR 52:020, Section 10]

## 6. <u>Specific Reporting Requirements</u>: Refer to Section F – Monitoring, Recordkeeping, and Reporting Requirements, 9.

EU 29- New Generac Natural Gas Emergency Generator Description: Generac ZG035 Certified Four Stroke Rich Burn 54 hp natural gas generator engine for emergency power Installed: October 2024; Manufactured: July 2024 Control Equipment: None Engine Family: RGNXB04.5MDI; Certificate Number: RGNXB04.5MDI-040

## **APPLICABLE REGULATIONS:**

401 KAR 60:005, Section 2.(2)(eeee) 40 C.F.R. 60.4230 through 60.4248, Tables 1 through 4 (Subpart JJJJ), Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

401 KAR 63:002, Section 2.(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1A through 8 and Appendix A, (Subpart ZZZZ), National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

## 1. **Operating Limitations:**

- a. The permittee shall comply with 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6590(c)(1)]
- b. The permittee shall operate and maintain stationary SI ICE that achieve the emission standards as required in 40 CFR 60.4233 over the entire life of the engine. [40 CFR 60.4234]
- c. In order for the engine to be considered an emergency stationary internal combustion engine (ICE) under 40 CFR 60, Subpart JJJJ, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4243(d)(1) through (3) below, is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 60.4243(d)(1) through (3) below, is prohibited. If the permittee does not operate the engine will not be considered an emergency engine under 40 CFR 60, Subpart JJJJ and must meet all requirements for non-emergency engines. [40 CFR 60.4243(d)]
  - (1) There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4243(d)(1)]
  - (2) The permittee may operate the emergency stationary ICE for the purpose specified in 40 CFR 60.4243(d)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4243(d)(3) counts as part of the 100 hours per calendar year allowed by 40 CFR 60.4243(d)(2). [40 CFR 60.4243(d)(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

Division for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 60.4243(d)(2)(i)]

- (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 provided in 40 CFR 60.4243(d)(2). Except as provided in 40 CFR 60.4243(d)(3)(i), the 50 hours per 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 60.4243(d)(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 60.4243(d)(3)(i)]
    - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator. [40 CFR 60.4243(d)(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 60.4243(d)(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 60.4243(d)(3)(i)(C)]
    - (D) The power is provided only to the facility itself or to support the local transmission and distribution system. [40 CFR 60.4243(d)(3)(i)(D)]
    - (E) The owner or operator 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 engine owner or operator. [40 CFR 60.4243(d)(3)(i)(E)]
- (4) The permittee may operate the engine using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the permittee is required to conduct a performance test to demonstrate compliance with the emission standards of 40 CFR 60.4233. [40 CFR 60.4243(e)]
- d. The permittee shall maintain the certified stationary SI internal combustion engine and control device (if any) according to the manufacturer's emission-related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if the permittee is an owner or operator. The permittee shall also meet the requirements as specified in 40 CFR part

1068, subparts A through D, as they apply. If the permittee adjusts engine settings according to and consistent with the manufacturer's instructions, the stationary SI internal combustion engine will not be considered out of compliance. [40 CFR 60.4243(a)(1)]

- e. If the permittee does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and you must demonstrate compliance according to 40 CFR 60.4243(a)(2)(i). [40 CFR 604243(a)(2)]
  - (1) The permittee of a stationary SI internal combustion engine less than 100 HP must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.

## 2. <u>Emission Limitations</u>:

a. The permittee of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to 40 CFR 60, Subpart JJJJ for their emergency stationary SI ICE. [40 CFR 600.4233(d) and Table 1 of 40 CFR 60, Subpart JJJJ]:

 $NO_X + HC: 10 g/hp-hr;$  and CO: 387 g/hp-hr

## **Compliance Demonstration:**

The engine shall comply by purchasing an engine certified to the emissions standards for the same engine class and maximum engine power. In addition, the permittee must meet the requirement in **1. Operating Limitations** d. and e.

b. Refer to **D** - Source Emission Limitations and Testing Requirements, 7. for sourcewide SO<sub>2</sub> and NOx emission limitations

## 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

## 4. <u>Specific Monitoring Requirements</u>:

If the engine does not meet the standards applicable to non-emergency engines under 40 CFR 60, Subpart JJJJ, the permittee must install a non-resettable hour meter. [40 CFR 60.4237(a)]

## 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee must keep records of the information in 40 CFR 60.4245(a)(1) through (4): [40 CFR 60.4245(a)]
  - (1) All notifications submitted to comply with 40 CFR 60, Subpart JJJJ and all documentation supporting any notification. [40 CFR 60.4245(a)(1)]

- (2) Maintenance conducted on the engine. [40 CFR 60.4245(a)(2)]
- (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 1048, 1054, and 1060, as applicable. [40 CFR 60.4245(a)(3)]
- (4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that the engine meets the emission standards. [40 CFR 60.4245(a)(4)]
- b. If the engine does not meet the standards applicable to non-emergency engines under 40 CFR 60, Subpart JJJJ, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. [40 CFR 60.4245(b)]

## 6. Specific Reporting Requirements:

Refer to Section F – Monitoring, Recordkeeping, and Reporting Requirements, 9.

| EU 20 – Diesel Emergency Generator        |                          |  |
|---|--------------------------|--|
| Description: Emergency Generator: Generac |                          |  |
| Industrial Engine:                        | Perkins                  |  |
| Construction Date:                        | August 26, 2021          |  |
| Model year:                               | 2019                     |  |
| Power output:                             | 762 bhp                  |  |
| Displacement:                             | 2.53 liters per cylinder |  |
| Primary fuel:                             | Diesel                   |  |
|   |                          |  |

Certified diesel generator engine that supplies emergency power to the PI Process Certification number: KCPXL15.2NZS-008

## APPLICABLE REGULATIONS:

401 KAR 60:005, Section 2.(2)(ddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8, (Subpart IIII), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

401 KAR 63:002, Section 2.(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8 and Appendix A, (Subpart ZZZZ), National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

## 1. **Operating Limitations:**

- a. The permittee shall comply with 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII, for compression ignition engines. No further requirements apply for such engines under 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6590(c)(1)]
- b. The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 60.4205 over the entire life of the engine.
   [40 CFR 60.4206]
- c. Beginning October 1, 2010, the permittee operating 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 must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR 60.4207(b)]
- d. If the permittee must comply with the emission standards in 40 CFR 60, Subpart III, then the permittee must do all of the following: [40 CFR 60.4211(a)]
  - (1) Maintain the stationary CI internal combustion engine and control device, if any, 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. [40 CFR 60.4211(a)(2)]
  - (3) Meet the requirements of 40 CFR part 1068, as they apply. [40 CFR 60.4211(a)(3)]

- e. 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, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4211(f)(1) through (3), is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (3), the engine will not be considered an emergency engine under 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 the purpose specified in 40 CFR 60.4211(f)(2)(i), for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4211(f)(3) below, counts as part of the 100 hours per calendar year allowed. [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 owner or operator 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 owner or operator 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)]
  - (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 provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), 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 owner or operator 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)]

## 2. <u>Emission Limitations</u>:

- a. Permittee of 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 must 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 for their 2007 model year and later emergency stationary CI ICE. [40 CFR 60.4205(b)]
  - a. For engines with a rated power greater than or equal to 37 KW (50 HP), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105 beginning in model year 2007. [40 CFR 60.4202(a)(2)]
    - (i) NMHC+NO<sub>x</sub> 6.4 g/KW-hr
    - (ii) CO 3.5 g/KW-hr, and
    - (iii)PM 0.2 g/KW-hr
    - (iv)Smoke opacity from the engines may not exceed the following standards: [40 CFR 1036.105(b)]
      - A. 20 percent during the acceleration mode. [40 CFR 1036.105(b)(1)]
      - B. 15 percent during the lugging mode. [40 CFR 1036.105(b)(2)]
      - C. 50 percent during the peaks in either the acceleration or lugging modes. [40 CFR 1036.105(b)(3)]

## **Compliance Demonstration:**

The permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b). The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g). [40 CFR 60.4211(c)]

b. Refer to **D** - Source Emission Limitations and Testing Requirements, 7. for sourcewide SO<sub>2</sub> and NOx emission limitations.

## 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

## 4. Specific Monitoring Requirements:

The permittee shall keep monitor the hours of operation on a monthly basis. [401 KAR 52:020, Section 10]

## 5. <u>Specific Recordkeeping Requirements</u>:

- a. If the permittee does not install, configure, operate, and maintain the engine and control device (if any) 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 must demonstrate compliance as follows: [40 CFR 60.4211(g)]
  - (1) The permittee shall keep a maintenance plan and records of conducted maintenance and must, 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. The permittee shall conduct subsequent performance testing every 8,760 hours of engine operation or three years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.
- b. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the permittee is not required to submit an initial notification. Starting with the model years in table 5 to 40 CFR 60, Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]
- c. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must 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)]
- d. Beginning on February 26, 2025, within 60 days after the date of completing each performance test required by 40 CFR 60, Subpart IIII, the permittee must submit the results of the performance test required following the procedures specified in 40 CFR 60.4214(f)(1) and (2). [40 CFR 60.4214(f)]

## 6. <u>Specific Reporting Requirements</u>:

a. The permittee of an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purpose specified in 40 CFR 60.4211(f)(3)(i), must submit an annual report according to the requirements in40 CFR 60.4211(d)(1) through (3). [40 CFR 60.4211(d)]

- b. If the permittee is required to submit notifications or reports following the procedure specified in 40 CFR 60.4211(g), the permittee must submit notifications or reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The EPA will make all the information submitted through CEDRI available to the public without further notice. Do not use CEDRI to submit information you claim as CBI. [40 CFR 60.4211(g)]
- c. Refer to Section F Monitoring, Recordkeeping, and Reporting Requirements, 9.

## EU 14 – Gasoline Refueling Tank

Description: 250 gallon horizontal above ground gasoline storage tank Installed: 1990; Annual Throughput: 3,500 gallons/year Control Equipment: None

## **<u>APPLICABLE REGULATIONS</u>:**

401 KAR 63:002, Section 2.(4)(dddd), 40 C.F.R. 63.11110 through 63.11132, Tables 1 through 3 (Subpart CCCCCC), National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities.

## 1. **Operating Limitations:**

- a. The permittee must, at all times, 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. 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. [40 CFR 63.11115(a)]
- b. The permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: [40 CFR 63.1111(b) and 40 CFR 63.11116(a)]
  - (1) Minimize gasoline spills; [40 CFR 63.11116(a)(1)]
  - (2) Clean-up spills as expeditiously as practicable; 40 CFR 63.11116(a)(2)]
  - (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; and 40 CFR 63.11116(a)(3)]
  - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. 40 CFR 63.11116(a)(4)]
- c. Portable gasoline containers that meet the requirements of 40 CFR part 59, Subpart F, are considered acceptable for compliance with 40 CFR 63.11116 (a)(3). [40 CFR 63.11116(d)]

# 2. <u>Emission Limitations</u>:

None

#### 3. <u>Testing Requirements</u>:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

4. <u>Specific Monitoring Requirements</u>: None

## 5. <u>Specific Recordkeeping Requirements</u>:

The permittee shall keep records as specified in 40 CFR 63.11125(d)(1) and (2). [40 CFR 63.11125(d)]:

- a. Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment; and [40 CFR 63.11125(d)(1)]
- b. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.11125(d)(2)]

## 6. <u>Specific Reporting Requirements</u>:

- a. The permittee shall, upon request by the Administrator, demonstrate that their monthly throughput is less than the 10,000-gallon threshold level. [40 CFR 63.11111(e)]
- b. The permittee shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year 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 the permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred. [40 CFR 63.11126(b)]

### EU 24 – Electrode Pitch Impregnation (PI) Process

Process Unit:

Electrode PI Process

## **Description of PI Process:**

Railcar/Truck Pitch Unloading Station Two indirectly heated (by EU 21) Autoclaves (A&B) Two Pitch Tanks, storing either coal tar pitch or petroleum pitch each indirectly heated (by EU 22) (23,000 gallons each) Two pitch reservoirs (305 gallons each) and two pitch holding tanks (2,000 gallons each) All vented to the Thermal Oxidizer (TO#1).

Construction Date: March 26, 2021 Maximum Rated Capacity: 27 metric tons per batch, 20 hour total batch time

**Control Equipment:** 

Thermal Oxidizer rated at 10.0 mmBtu/hr

## **<u>APPLICABLE REGULATIONS</u>**:

401 KAR 50:012, General application (RAP)

401 KAR 59:010, New process operations

401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b, (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. (Pitch Tanks).

Note: Referenced portions of 401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 to 60.489, (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006, as referenced by 40 CFR 60, Subpart Kb. (Pitch Tanks).

## **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

## PRECLUDED REGULATIONS:

401 KAR 59:105, New process gas streams, Section 4. (SO<sub>2</sub>)

#### 1. **Operating Limitations**:

a. The permittee shall operate, maintain, and monitor TO#1 at all times when the PI Process is in operation. [401 KAR 63:020 and 401 KAR 50:012 (RAP)]

## **Compliance Demonstration Method:**

The source is assumed to be in compliance when affected facilities and the associated control devices are operating and properly maintained. Refer to **5**. <u>Specific</u> <u>Recordkeeping Requirements.</u>

## Pitch Tanks:

b. The permittee shall vent the Pitch Tanks to TO#1. [401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b to 60.117b, (40 CFR 60, Subpart Kb) and 401 KAR 63:020]

## **Compliance Demonstration Method:**

The source is assumed to be in compliance when affected facilities and the associated control devices are operating and properly maintained. Refer to **5.** <u>Specific Reporting</u> <u>Requirements.</u>

## 2. <u>Emission Limitations</u>:

- a. Pursuant to 401 KAR 59:010, Section 3(2), PM emissions into the open air shall not exceed:
  - (1) 2.34 lbs/hr for process weight rate up to 1,000 lbs/hr;
  - (2)  $3.59(P)^{0.62}$  lbs/hr for process weight rates up to 60,000 lbs/hr; and
  - (3)  $17.31(P)^{0.16}$  lbs/hr for process weight rates in excess of 60,000 lbs/hr.

Where: E = rate of particulate emissions in lbs/hr, and P = process weight rate in tons/hr.

- b. Pursuant to 401 KAR 59:010, Section 3(1)(a), 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.
- c. Refer to SECTION D Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.
- d. Refer to SECTION D Source Emission Limitations and Testing Requirements,
   7. for source-wide SO<sub>2</sub> and NOx emission limitations.

## **Compliance Demonstration Method:**

- a. The permittee is assumed to be compliance with **2**. <u>Emission Limitations a.</u> based on information provided in the application.
- b. For compliance with <u>2. Emission Limitations, b.</u> refer to <u>4. Specific Monitoring</u> <u>Requirements a.</u>, <u>5. Specific Recordkeeping Requirements a.(2)</u> and <u>6. Specific</u> <u>Reporting Requirements</u>.

## Pitch Tanks:

- e. The permittee of a storage vessel with a design capacity greater than or equal to 151 m<sup>3</sup> containing a volatile organic liquid (VOL) that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kiloPascal (kPa) but less than 76.6 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with a fixed roof in combination with an internal floating roof, an external floating roof or a closed vent system and control device. [40 CFR 60.112b(a)]
- f. The closed vent system and control device meeting the following specifications: [40 CFR 60.112b(a)(3)(i) and (ii)]
  - (1) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, 40 CFR 60.485(b).
  - (2) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater.
- g. The permittee shall meet the following standards in 40 CFR 60.482-8(a), 40 CFR 60.482-8(b), 40 CFR 60.482-8(c)(1) and (2) and 40 CFR 60.482-8(d), below, within 180 days after startup for pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors. [40 CFR 60.482-1]
- h. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the permittee shall follow either one of the following procedures: [40 CFR 60.482-8(a)]
  - (1) Pursuant to 40 CFR 60.482-8(a)(1), the permittee shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d).
  - (2) Pursuant to 40 CFR 60.482-8(a)(2), the permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.
- i. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [40 CFR 60.482-8(b)]
- j. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-8(c)(1)]
- k. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-8(c)(2)]
- 1. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-2(c)(2) and 60.482-7(e). [40 CFR 60.482-8(d)]

- m. The permittee shall meet the following standards in 40 CFR 60.482-10(a), 40 CFR 60.482-10(c), 40 CFR 60.482-10(e), 40 CFR 60.482-10(f), 40 CFR 60.482-10(g), 40 CFR 60.482-10(h), 40 CFR 60.482-10(i), 40 CFR 60.482-10(j), 40 CFR 60.482-10(k), 40 CFR 60.482-10(i), for closed vent systems (CVS) and control devices. [40 CFR 60.482-1]
- n. The permittee of closed vent systems and control devices used to comply with provisions of 40 CFR 60, Subpart VV shall comply with the provisions therein. [40 CFR 60.482-10(a)]
- o. Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C. [40 CFR 60.482-10(c)]
- p. The permittee of control devices used to comply with the provisions of 40 CFR 60, Subpart VV shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. [40 CFR 60.482-10(e)]
- q. Except as provided in 40 CFR 60.482-10(i) through (k), each closed vent system shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10(f)(1) and (f)(2). [40 CFR 60.482-10(f)]
  - (1) If the vapor collection system or closed vent system is constructed of hard-piping, the permittee shall comply with the requirements specified in 40 CFR 60.482(f)(1)(i) and (ii): [40 CFR 60.482-10(f)(1)]
    - (i) Conduct an initial inspection according to the procedures in 40 CFR 60.485(b); and
    - (ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.
  - (2) If the vapor collection system or closed vent system is constructed of ductwork, the permittee shall: [40 CFR 60.482-10(f)(2)(i) and (ii)]
    - (i) Conduct an initial inspection according to the procedures in 40 CFR 60.485(b); and
    - (ii) Conduct annual inspections according to the procedures in 40 CFR 60.485(b).
- r. Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). [40 CFR 60.482-10(g)]
  - (1) Pursuant to 40 CFR 60.482-10(g)(1), a first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
  - (2) Pursuant to 40 CFR 60.482-10(g)(2), repair shall be completed no later than 15 calendar days after the leak is detected.

- s. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)]
- t. If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2). [40 CFR 60.482-10(i)]
- Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(1)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(j)(1) and (2): [40 CFR 60.482-10(j)]
  - (1) The permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with 40 CFR 60.482-10(f)(1)(i) or (f)(2); and [40 CFR 60.482-10(j)(1)]
  - (2) The permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times. [40 CFR 60.482-10(j)(2)]
- v. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(1)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(k)(1) through (3) below: [40 CFR 60.482-10(k)]
  - (1) The permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and [40 CFR 60.482-10(k)(1)]
  - (2) The process unit within which the closed vent system is located becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15, or the permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and [40 CFR 60.482-10(k)(12)]
  - (3) The permittee has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum. [40 CFR 60.482-10(k)(3)]
- w. The permittee shall record the information specified below: [40 CFR 60.482-10(1)]
  - (1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment. [40 CFR 60.482-10(l)(1)]
  - (2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment. [40 CFR 60.482-10(1)(2)]
  - (3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c). [40 CFR 60.482-10(l)(3)]

- (4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(1)(4)]
- (5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(l)(5)]
- x. Pursuant to 40 CFR 60.482-10(m), closed vent systems and control devices used to comply with provisions of 40 CFR 60, Subpart VV shall be operated at all times when emissions may be vented to them.

## **Compliance Demonstration Method:**

For compliance with Emission Limitations, refer to **4.** <u>Specific Monitoring</u> <u>Requirements</u>, **5.** <u>Specific Recordkeeping Requirements</u>, and **6.** <u>Specific Reporting</u> <u>Requirements</u>.

## 3. <u>Testing Requirements</u>:

- a. The permittee shall establish the VOC emission factor (in lb/ton electrodes processed) and outlet concentration (in ppmv) by conducting a performance test of TO#1 using U.S. EPA Reference Method 25A. Performance tests shall be performed a minimum of once every five (5) years and no more than sixty-two (62) calendar months following the previous performance test approved by the Division. The performance test shall be conducted in accordance with 401 KAR 50:045. Refer to **Section G 5.** for other requirements.
- b. During each performance test the permittee shall establish the operating limits for TO#1 as follows: [401 KAR 52:020, Section 10]
  - (1) During the performance test, monitor and record the temperature in the combustion chamber at least once every fifteen (15) minutes during each of the three (3) test runs.
  - (2) Use the data collected during the performance test to calculate and record the average combustion chamber temperature. This temperature shall be the operating temperature for TO#1. Refer to Section D Source Emission Limitations and Testing Requirements, 6. e. and g.
- c. Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

## 4. <u>Specific Monitoring Requirements</u>:

a. The permittee shall perform a qualitative visual observation of the opacity of emissions at the TO no less than weekly while the affected unit is operating. If visible emissions from the stack are observed (not including condensed water in the plume), the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately

perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

- b. The permittee shall monitor the amount of electrodes impregnated (in tons) and hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- c. The permittee must meet the following continuous monitoring requirements for TO#1. [401 KAR 52:020, Section 10]
  - (1) Install a gas temperature monitor in the combustion chamber as required by **3**. <u>Testing Requirements c(1) and (2).</u>
    - (i) Locate the temperature sensor in a position that provides a representative temperature.
    - (ii) Use a temperature sensor with a measurement sensitivity of five (5) °F or one (1) percent of the temperature value, whichever is larger.
  - (2) Collect temperature data at least once every fifteen (15) minutes and reduce the data to three (3) hr block averages.

# Pitch Tanks:

- d. The permittee of each source that is equipped with a closed vent system and control device as required in 40 CFR 60.112b(a)(3) is exempt from 40 CFR 60.8 of the General Provisions and shall meet the following requirements: [40 CFR 60.113b(c)]
- e. The permittee shall submit for approval by the Administrator as an attachment to the notification required by 40 CFR 60.7(a)(1) or, if the facility is exempt from 40 CFR 60.7(a)(1), as an attachment to the notification required by 40 CFR 60.7(a)(2), an operating plan containing the information listed below: [40 CFR 60.113b(c)(1)]
  - (1) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under 40 CFR 60, Subpart VV, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 Celsius (°C) is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of 40 CFR 60.113(b). [40 CFR 60.113b(c)(1)(i)]
  - (2) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters). [40 CFR 60.113b(c)(1)(ii)]

f. The permittee shall operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with 40 CFR 60.113b(c)(1), unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies. [40 CFR 60.113b(c)(2)]

## 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
  - (1) The tons of electrodes impregnated and hours of operation shall be maintained on a monthly basis.
  - (2) A weekly log of the qualitative visual observations required by 4. <u>Specific</u> <u>Monitoring Requirements</u> including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions.
  - (3) The opacity determined by U.S. EPA Reference Method 9, when taken, and documentation of any repairs that were made due to any opacity reading, which exceeded the standard.
  - (4) A log showing the date of all routine or other maintenance, malfunction or repair of TO#1, the nature of the action taken on such date and any corrective action or preventive measures taken.
  - (5) The TO combustion chamber temperature when the source is in operation.
  - (6) Records shall be kept of the times when the source is not operating.

## Pitch Tanks:

- b. The permittee of each storage vessel as specified in 40 CFR 60.112b(a) shall keep records and furnish reports as required by 40 CFR 60.115b(c). The permittee shall keep copies of all reports and records required by 40 CFR 60.115b(c), except for the record required by 40 CFR 60.115b(c)(1), for at least 2 years. The record required 40 CFR 60.115b(c)(1) will be kept for the life of the control equipment. [40 CFR 60.115b]
- c. After installing control equipment in accordance with 40 CFR 60.112b(a)(3), the permittee shall keep the following records: [40 CFR 60.115b(c)(1 and 2)]
  (1) A copy of the operating plan.
  - (2) A record of the measured values of the parameters monitored.
- d. The permittee shall keep copies of the records required by 40 CFR 60.116b(b) for the life of the source. [40 CFR 60.116b(a)]
- e. The permittee of each storage vessel as specified in 40 CFR 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 60.116b(b)]

## 6. <u>Specific Reporting Requirements</u>:

Refer to Section F - Monitoring, Recordkeeping, and Reporting Requirements, 6.

## 7. <u>Specific Control Equipment Operating Conditions</u>:

Refer to Section D - Source Emission Limitations and Testing Requirements, 6 for 401 KAR 50:012 requirements.

## EU 25 & 26 – Two Carbottom Electrode Furnaces

## **Process Unit:**

Two direct fired Electrode Furnaces; Construction Date: May 2021

## **Description:**

Two direct fired furnaces for the final Electrode curing (EU 25&26).

Maximum Rated Capacity: 660 tons/batch (total). Batch Cycle time: 80 hrs Construction Date: May 2021

## **Control Equipment:**

Two Thermal Oxidizers (TO#2 for EU 25 and TO#3 for EU 26), rated at 6.0 mmBtu/hr.

## **<u>APPLICABLE REGULATIONS</u>**:

401 KAR 50:012, General application (RAP)
401 KAR 59:010, New process operations
401 KAR 59:105, New process gas streams, Section 3. (H<sub>2</sub>S)

## PRECLUDED REGULATION:

401 KAR 59:105, New process gas streams, Section 4. (SO<sub>2</sub>)

## **STATE-ORIGIN REQUIREMENTS:**

401 KAR 63:020, Potentially hazardous matter or toxic substances.

## 1. **Operating Limitations**:

The permittee shall operate, maintain, and monitor TO#2 and TO#3 at all times when the associated Carbottom Furnace is in operation. [401 KAR 63:020 and 401 KAR 50:012 (RAP)]

## **Compliance Demonstration Method:**

# Refer to 4. <u>Specific Monitoring Requirements, d.</u>, and 5. <u>Specific Recordkeeping</u> <u>Requirements, a.</u>

## 2. <u>Emission Limitations</u>:

- a. For emissions from a control device or stack no person shall cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010 and summarized below: [401 KAR 59:010 Section 3(2)]
  - (1) E = 2.34 lbs/hr for process weight rate up to 1,000 lbs/hr;
  - (2)  $E = 3.59(P)^{0.62}$  lbs/hr for process weight rates up to 60,000 lbs/hr, and
  - (3)  $E = 17.31(P)^{0.16}$  lbs/hr for process weight rates in excess of 60,000 lbs/hr.
    - Where: E = rate of particulate emissions in lbs/hr, and

P = process weight rate in tons/hr.

- 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 59:010 Section 3(1)(a)]
- c. Standard for Hydrogen Sulfide. No person shall cause, suffer, allow or permit the emission of hydrogen sulfide in a process gas stream to exceed ten (10) grains per 100 dscf (165 ppm by volume) at zero percent oxygen. [401 KAR 59:105, Section 3]
- d. Refer to Section D Source Emission Limitations and Testing Requirements, 3. for 401 KAR 63:020 requirements.
- e. Refer to Section D Source Emission Limitations and Testing Requirements, 7. for the source-wide SO<sub>2</sub> and NOx emission limitations.

## **Compliance Demonstration Method:**

- a. The permittee is assumed to be compliance with **2**. <u>Emission Limitations a.</u> based on information provided in the application.
- b. For compliance with **2. Emission Limitations** b., refer to **4. <u>Specific Monitoring</u>** <u>Requirements a., 5. <u>Specific Recordkeeping Requirements a.(2)</u> and **6. <u>Specific</u>** <u>Reporting requirements</u>.</u>
- c. The permittee is assumed to be in compliance with 2. <u>Emission Limitation c</u>. based on analysis of the sulfur content of the green and baked electrodes and calculations of  $H_2S$  emissions from the baking process.

## 3. <u>Testing Requirements</u>:

- a. The permittee shall establish the VOC emission factor (in lb/ton electrodes process) and outlet concentration (in ppmv) by conducting a performance test of each TO using U.S. EPA Reference Method 25A. Subsequent performance tests shall be performed a minimum of once every five (5) years and no more than sixty-two (62) calendar months following the previous performance test approved by the Division. The performance test shall be conducted in accordance with 401 KAR 50:045. Refer to **Section G 5.** for other requirements. [401 KAR 52:020, Section 10]
- b. For each performance test, the permittee shall establish the operating limits for each TO as follows: [401 KAR 52:020, Section 10]
  - (1) During the performance test, monitor and record the temperature in the combustion chamber at least once every fifteen (15) minutes during each of the three (3) test runs.
  - (2) Use the data collected during the performance test to calculate and record the average combustion chamber temperature. This temperature shall be the operating temperature for the respective TO. Refer to Section D Source Emission Limitations and Testing Requirements, 6. e. and g.

c. Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1]

## 4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall perform weekly qualitative visual observations during daylight hours of the emissions from each TO#2 or TO#3, whichever is venting, and maintain a log of the observation. If visible emissions are observed (not including condensed water in the plume), the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]
- b. The permittee shall monitor the amount of material processed from each Carbottom Furnace (in tons) and hours of operation on a monthly basis. [401 KAR 52:020, Section 10]
- c. The permittee must meet the following continuous monitoring requirements for each TO#2 and TO#3. [401 KAR 52:020, Section 10]
  - (1) Install a gas temperature monitor in the combustion chambers for each TO#2 and TO #3 as required by **3.** <u>Testing Requirements c.(1) and (2).</u>
    - (i) Locate the temperature sensor in a position that provides a representative temperature.
    - (ii) Use a temperature sensor with a measurement sensitivity of five (5) <sup>o</sup>F or one (1) percent of the temperature value, whichever is larger.
  - (2) Collect temperature data at least once every fifteen (15) minutes and reduce the data to three (3) hr block averages.
- d. The permittee shall install, maintain and operate a device capable of monitoring temperature data in each Carbottom Furnace at least once every fifteen (15) minutes and reduce the data to three (3) hr block averages. [401 KAR 52:020, Section 10]
- e. The permittee shall monitor the change in sulfur content between the green electrodes and baked electrodes by collecting and analyzing samples during the performance test required under **3. Testing Requirements** b. and thereafter by collecting and analyzing monthly samples of the green and baked electrodes (in a batch) for sulfur content for a period of at least six (6) months. If the average of the change in sulfur content between the green and baked electrodes in a batch from the six (6) monthly samples is equal to or less than the change in sulfur content between the green and baked electrodes established during the initial performance test, the permittee may reduce monitoring of sulfur content of the green and baked electrodes to an annual basis. If any annual analysis results in a change in sulfur content between the green and baked electrodes in a batch greater than the change in sulfur content of the green and baked electrodes to an annual basis. If any annual analysis results in a change in sulfur content of the green and baked electrodes in a batch greater than the change in sulfur content of the green and baked electrodes established during the initial performance test, the permittee shall begin monitoring the sulfur content of the electrodes on a monthly basis. The permittee may return to monitoring on an annual basis after six months if monitoring provides an average

change in electrode sulfur content equal to or less than the sulfur content established during the initial performance test. [401 KAR 52:020, Section 10]

## 5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
  - (1) The tons of electrodes processed for each Carbottom Furnace and hours of operation shall be maintained on a monthly basis.
  - (2) A log of the sulfur content of the electrodes as required in 4. Specific Monitoring Requirements, e.
  - (3) A weekly log of the qualitative visual observations required by 4. <u>Specific</u> <u>Monitoring Requirements</u> including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions.
  - (4) The opacity determined by U.S. EPA Reference Method 9, when taken, and documentation of any repairs that were made due to any opacity reading, which exceeded the standard.
  - (5) A log showing the date of all routine or other maintenance, malfunction or repair of the oxidizer and/or scrubber, the nature of the action taken on such date and any corrective action or preventive measures taken.
  - (6) All times when either Carbottom Furnace temperature is below  $300^{\circ}$ C.

## 6. <u>Specific Reporting Requirements</u>: Refer to Section F - Monitoring, Recordkeeping, and Reporting Requirements, 6.

## 7. <u>Specific Control Equipment Operating Conditions</u>:

Refer to **Section D - Source Emission Limitations and Testing Requirements, 6** for 401 KAR 50:012 requirements.

**EU 27-**Caterpillar C18 Fire Pump Engine

#### Description

Diesel driven pump engine used to supply firewater during emergencies Installed: November 2021 Maximum Rated Capacity: 800 hp Control Equipment: None

## APPLICABLE REGULATIONS:

401 KAR 60:005, Section 2.(2)(ddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8, (Subpart IIII), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to new compression ignition internal combustion engines (CI ICE).

401 KAR 63:002, Section 2.(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1A to 8 and Appendix A, (Subpart ZZZZ), National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

## 1. **Operating Limitations:**

- a. The permittee must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII, for compression ignition engines. No further requirements apply for such engines under 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6590(c)(1)]
- b. The permittee of stationary CI ICE must 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]
- c. Beginning October 1, 2010, the permittee of stationary CI ICE subject to 40 CFR 60, Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [40 CFR 60.4207(b)]
- d. If the permittee must comply with the emission standards specified in 40 CFR 60, Subpart IIII, the permittee must do all of the following, except as permitted under 40 CFR 60.4211(g): [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;
  - (2) Change only those emission-related settings that are permitted by the manufacturer; and
  - (3) Meet the requirements of 40 CFR part 1068, as they apply.
- e. The permittee of an emergency stationary ICE must operate the emergency stationary ICE according to the requirements in 40 CFR 60.4211(f)(1) through (3). 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 40 CFR

60.4211(f)(1) through (3), is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (3), the engine will not be considered an emergency engine under 40 CFR 60, Subpart IIII and must 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.
- (2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in 40 CFR 60.4211(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by 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.
- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in nonemergency 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 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), 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.
  - (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:
    - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
    - (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.
    - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
    - (D) The power is provided only to the facility itself or to support the local transmission and distribution system.
    - (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 engine owner or operator.

- f. 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 must demonstrate compliance as follows: [40 CFR 60.4211(g)(3)]
  - (1) The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must 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 you change emission-related settings in a way that is not permitted by the manufacturer. The permittee must 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.

## 2. Emission Limitations:

- a. The permittee of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to 40 CFR 60, Subpart IIII, for all pollutants as follows: [40 CFR 60.4205(c)]
  - (1) 6.4 g/KW-hr (4.8 g/hp-hr) of NMHC +  $NO_X$ ;
  - (2) 3.5 g/KW-hr (2.6 g/hp-hr) of CO; and
  - (3) 0.2 g/KW-hr (0.15 g/hp-hr) of PM.

## **Compliance Demonstration Method:**

The permittee must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(c) as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g). [40 CFR 40.4211(c)]

b. Refer to **D** - Source Emission Limitations and Testing Requirements, 7. for sourcewide SO<sub>2</sub> and NOx emission limitations

## 3. <u>Testing Requirements:</u>

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 50:045, Section 1].

## 4. Specific Monitoring Requirements:

If you are the permittee of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]

## 5. Specific Recordkeeping Requirements:

If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee must 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 must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]

#### 6. <u>Specific Reporting Requirements:</u> See Section F.

# 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 must 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.

| EP   | Description  | Generally Applicable Regulation |
|------|--|---------------------------------|
| IA 1 | Coke Unloading inside Graphite Building  | 401 KAR 63:010                  |
| IA 4 | Iron Oxide System  | 401 KAR 59:010                  |
| IA 5 | Pitch Railcar and Truck Heating Station  | None                            |
|      | Storage vessels having less than 10.567 gallons<br>capacity that contain petroleum or organic liquids<br>with a vapor pressure of 1.5 pounds per square inch<br>absolute (psia) or less at storage temperature | None                            |
| IA 6 | Pitch Impregnation Process Cooling Tower   | 401 KAR 59:010                  |

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

- 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>, VOC, CO, SO<sub>2</sub>, HAP, and visible fugitive dust 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. 401 KAR 63:020, Potentially Hazardous Matter and Toxic Substances. Persons responsible for a source from which hazardous matter or toxic substances may be emitted shall provide the utmost care and consideration, in the handling of these materials, to the potentially harmful effects of the emissions resulting from such activities. 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. Evaluation of such facilities as to adequacy of controls and/or procedures and emission potential will be made on an individual basis by the Cabinet. The source is assumed to be in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source.
- 4. PM Compliance Assurance Monitoring for EU 04 Mixing and Extrusion System

Per 40 CFR 64.4(a)(1) and the compliance assurance monitoring (CAM) plan submitted with the Title V permit renewal application received by the Division on October 19, 2018, the permittee shall provide reasonable assurance of compliance with the PM emission limitations or standards for operation as follows:

a. General Requirements:

Permittee shall install, operate and maintain, according to the manufacturer's specification, whenever the Mixing and Extrusion System is in operation, a regenerative thermal oxidizer and a wet scrubber to control PM emissions.

- b. Wet Scrubber Monitoring:
  - (1) Indicator:
    - (i) Parameter: Pressure drop across the scrubber.
    - (ii) Measurement method:
      - (A) Measurement of pressure drop using pressure gauges located at the inlet and outlet of the scrubber.
      - (B) Measurement of the volume of scrubber makeup water added using a flowmeter gauge.
      - (C) Measurement of scrubber operating temperature at least once per 15minutes by use of a thermocouple located in the duct at the inlet to the thermal oxidizer.

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

- (2) Indicator Range:
  - (i) The pressure drop range indicative of normal operation is 1.0 to 7.0 inches of water. Any 24-hour block average outside this operating range will be considered an excursion. Times when the Mixer is not operating shall be excluded from the 24-hour block average.
  - (ii) The volume of scrubber makeup water added is not selected as a performance indicator, but will be monitored and controlled to ensure the liquid level in the scrubber remains within the optimum range embedded in the scrubber's control logic.
  - (iii) The maximum scrubber outlet exhaust temperature indicative of normal operation, 300 °F, was established based on manufacturer's recommendations and has been verified during the initial performance test of the regenerative thermal oxidizer in March 2011. Any 3-hour block average scrubber exhaust temperature reading outside of this range will be considered an excursion. Times when the Mixer is not operating shall be excluded from the 3-hour block average.
- (3) Performance Criteria:
  - (i) Data Representativeness:

The efficiency by which PM is collected in the scrubbing liquid is dependent on the pressure drop as this operating variable provides a direct measurement of the energy imparted to the turbulent water sheet created by the exhaust gas flow through the stationary impeller.

- (ii) Verification of Operational Status: Records of pressure drop readings, volume of makeup water added and temperature measurements will be kept onsite and made available for inspection.
- (iii) QA/QC Practices and Criteria:

The permittee must follow the manufacturer's recommendations for installation, operation, maintenance, and calibration of the pressure drop and temperature monitoring devices. To ensure that monitoring device malfunctions do not prevent the collection of accurate scrubber operating parameter data, operators will repair or replace malfunctioning monitoring devices as soon as is practicable once a malfunction is recognized.

- (iv) Monitoring Frequency and Data Collection Procedures:
  - (A) Pressure drop measurements will be collected daily. Times when the Mixer is not operating shall be excluded from the 3-hour block average.
  - (B) Measurements of the volume of scrubber makeup water added will be collected daily from the makeup water flow meter gauge.
  - (C) The scrubber outlet exhaust temperature will be monitored continuously and recorded at least once every 15-minutes to determine the 3-hour block average using appropriate process control systems. Times when the Mixer is not operating shall be excluded from the 3-hour block average.
- (v) Corrective Action:

When an out of range scrubber operating parameter reading occurs, operators will check the scrubber system to ensure proper operation. If any of these checks indicate abnormal operation, the permittee must inspect all potentially

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

malfunctioning components of the offending system. Once the source of the malfunction is determined, the problem will be remedied as soon as practicable after the malfunction is recognized by repairing or replacing the malfunctioning component of the system.

## 5. PM Compliance Assurance Monitoring for EU 07 Ring Bake Furnace

Per 40 CFR 64.4(a)(1) and the compliance assurance monitoring (CAM) plan submitted with the Title V permit renewal application received by the Division on October 19, 2018, the permittee shall provide reasonable assurance of compliance with the PM emission limitations or standards for operation as follows:

a. General Requirements:

The permittee shall operate and maintain, according to the manufacturer's specification, whenever the Ring Bake Furnace, is in operation, electrostatic precipitators to control PM emissions.

- b. ESPs:
  - (1) Indicator:
    - (i) Parameter:

Secondary current across the ESP plates.

- (ii) Measurement method: Measurement of secondary current across the ESP plates using an ammeter on an hourly basis.
- (2) Indicator Range:

An excursion is defined as a secondary current reading below 100 mA at both ESP units for three consecutive hours during normal steady-state operation of the Ring Bake Furnace and ESP control system. This secondary current threshold indicating the need for maintenance is based on process knowledge. Times when the Ring Bake Furnace is not operating shall be noted.

- (3) Performance Criteria:
  - (i) Data Representativeness:

The control efficiency of an ESP is primarily controlled by the power supply to the discharge electrodes. Maintaining adequate current between the discharge electrodes and collection plates, while also not causing excessive sparkover, maximizes the negative charge applied to the particles in the exhaust gas, and thus maximizes the collection of PM on the grounded plates.

- (ii) Verification of Operational Status: Records of hourly secondary current readings will be kept onsite and made available for inspection.
- (iii) QA/QC Practices and Criteria:

The permittee must follow the manufacturer's recommendations for installation, operation, maintenance, and calibration of the secondary current monitoring device. To ensure that monitoring device malfunctions do not prevent the collection of accurate secondary current data, operators will repair or replace malfunctioning monitoring devices as soon as is practicable once a malfunction is recognized.

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

- (iv) Monitoring Frequency and Data Collection Procedures: The secondary current will be monitored and recorded at least once per hour in the facility's process control system. Times when the Ring Bake Furnace is not operating shall be noted.
- (v) Corrective Action:

When the secondary current falls below the specified operating limit at both ESP units during normal-steady state operation of the bake furnace and ESP control system, operators will check the ESP to ensure proper operation. If any of these checks indicate abnormal operation, the permittee will inspect all potentially malfunctioning components of the offending system. Once the source of the malfunction is determined, the problem will be remedied as soon as practicable after the malfunction is recognized by repairing or replacing the malfunctioning component of the system.

## 6. VOC control pursuant to 401 KAR 50:012, General applicability

To comply with 401 KAR 50:012, the permittee shall vent all emissions from EU 04, EU 24, EU 25, and EU 26 through the associated control device and according to the following monitoring procedures:

- a. The permittee shall measure the temperature in the combustion chamber at least once every 15 minutes, by use of a thermocouple or other equally capable device to determine the 3-hour block average using appropriate process control systems.
- b. The temperature monitoring devices for the RTO and TOs shall be located in the combustion chamber.
- c. The permittee must follow the manufacturer's recommendations for operation, maintenance, and calibration of the temperature monitoring devices.
- d. Operators will replace malfunctioning thermocouples or other equally capable device if necessary as soon as is practicable once a malfunction is recognized.
- e. The minimum temperature in the combustion chamber indicative of acceptable operation for the RTO and each TO#1, TO#2 and TO#3 as established during performance testing as described in Section B. Any 3-hour period of operation during which the average temperature of the combustion chamber, as measured by the temperature monitoring devices, is below the design gas stream temperature will be considered an excursion. Times when the Mixer (EU 04), Pitch Impregnation Process (EU 24) or the Carbottom Furnaces (EU 25 and EU 26) are not operating shall be excluded from the block average for the associated RTO or TO.
- f. Records of RTO and each TO combustion chamber temperature readings shall be kept onsite and made available for inspection. The records shall be retained for six (6) months.
- g. When any oxidizer temperature falls below the specified operating limit, operators will check the oxidizer system to ensure proper operation. If any of these checks indicate the cause of low oxidizer temperature, the permittee must inspect all potentially

# SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

malfunctioning components of the offending system. Once the source of the malfunction is determined, the problem will be remedied as soon as practicable after the malfunction is recognized by repairing or replacing the malfunctioning component of the system.

- 7. The source has taken the following limits: [401 KAR 52:020, Section 10]
  - a. To preclude 401 KAR 59:105, Section 4, source-wide emissions of SO<sub>2</sub> shall not equal or exceed 90 tons per year on a 12-month rolling total basis.
  - b. To preclude being a major source for NOx, source-wide emissions of NOx shall not equal or exceed 90 tons per year on a 12-month rolling total basis.

## **Compliance Demonstration Method:**

The permittee shall calculate and maintain a record of the monthly and the 12-month rolling total of source wide emissions of  $SO_2$  and NOx (including emission units in **SECTIONS B** and **C**) as follows:

 $\sum$  [Processing rate for each emission point (MMscf/month or tons/month)] × [Respective emission factor]

## **SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS**

- 1. 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.
- 2. Baghouses, vent filters, wet scrubbers, regenerative thermal oxidizers, direct flame thermal oxidizers and electrostatic precipitators shall be maintained according to the manufacturer's specifications.
## 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 permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken shall be submitted to the Regional Office listed on the front of this permit. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement does not identify a specific time frame for reporting deviations, prompt reporting, as required by 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, shall be defined as follows:
  - a. For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
  - b. For emissions of any regulated air pollutant, excluding those listed in F.8.a., that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
  - c. All deviations from permit requirements, including those previously reported, shall be included in the semiannual report required by F.6.
- 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.

## SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

- 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.
- 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 | U.S. EPA Region 4      |
|--------------------------|------------------------|
| Paducah Regional Office  | Air Enforcement Branch |
| 130 Eagle Nest Drive     | Atlanta Federal Center |
| Paducah, KY 42003        | 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 must 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) b.].
- 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) d.].
- 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) a.].

- 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. Permit Expiration and Reapplication Requirements
  - 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

No construction authorized by this permit (V-25-003).

#### 5. Testing Requirements

- 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. <u>Emergency Provisions</u>
  - 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 224.1-400, 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 82.155.
  - (5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156 and 40 CFR 82.157.
  - (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 U.S. EPA using the RMP\* eSubmit software.
  - b. If requested, submit additional relevant information to the Division or the U.S. EPA.

## **SECTION H – ALTERNATE OPERATING SCENARIOS**

None

## SECTION I - COMPLIANCE SCHEDULE

None