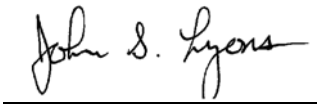
Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601
(502) 564-3999

Final

AIR QUALITY PERMIT
Issued under 401 KAR 52:030

Permittee Name:	**Chisolm Energy, LLC.**
Mailing Address:	**630 First Avenue Suite 30G, New York, New York 10016**
Source Name:	**Chisolm Energy, LLC.**
Mailing Address:	**Adjacent to KY-194 Phelps, Kentucky 41553**
Source Location:	**Adjacent to KY-194**
Permit ID:	**F-11-030**
Agency Interest #:	**111334**
Activity ID:	**APE20110001**
Review Type:	**Conditional Major/Synthetic Minor, Construction / Operating**
Source ID:	**21-195-00288**
Regional Office:	**Hazard Regional Office 233 Birch Street, Suite 2 Hazard, KY 41701 (606) 435-6022**
County:	**Pike**
Application Complete Date:	**5/16/2011**
Issuance Date:	**6/28/2011**
Revision Date:	**N/A**
Expiration Date:	**6/28/2016**



John S. Lyons, Director
Division for Air Quality

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	Permit type	**Activity#**	**Complete Date**	**Issuance Date**	**Summary of Action**
F-11-030	**Initial**	**APE20110001**	**5/16/2011**	**6/28/2011**	**Initial Construction/ Operating Permit**

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality (Division) hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes (KRS) Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:030, Federally-enforceable permits for non-major sources.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Energy and Environment Cabinet (Cabinet) or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Material Handling, Storage, Sizing, & Preparation

Coal Handling, Storage, Sizing, and Preparation					
Emission Unit ID	**Emission Point**	**Description**	**Construction Commenced**	**Design Capacity**	**Control Device (%efficiency)**
B1	TPC1	Truck Dump Bin 1	2011	346 tons/hour (tph)	Partially Enclosed (50%)
B2	TPC2	Truck Dump Bin 2	2011	346 tph	Partially Enclosed (50%)
BC1	TPC3 TPC4 TPC5	Primary Crusher Feed Belt	2011	346 tph 346 tph 346 tph	Full enclosure (80%) Full enclosure (80%) Full enclosure (80%)
BC2	TPC6 TPC7	Stockpile Feed Belt Conveyor	2011	346 tph 346 tph	Full enclosure (80%) Partially Enclosed (50%)
BC3	TPC8 TPC9	Stockpile Transfer Belt Coveyor	2011	346 tph 346 tph	Partially Enclosed (Partially Enclosed (50%)
BC4	TPC10	Stockpile Transfer Belt Coveyor	2011	346 tph	Full enclosure (80%)
BC5	TPC11	Stockpile Reclaim Belt Conveyor	2011	346 tph	Partially Enclosed (50%)
BC6	TPC12	Plant Feed Belt Conveyor	2011	346 tph 346 tph	Full enclosure (80%)

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

Material Handling, Storage, Sizing, & Preparation

CR1	CR1	Coal Crusher	2011	346 tph	(BHCS5) Baghouse (99%)
CS	CS	Coal Stockpile	2011	346 tph	200,000 scf/hr vented through baghouse (BHCS1-4) (5mg/m^3)
PR	PR	Coal Delivery – Paved Haulroad	2011	1.73 Vehicle Miles Traveled (VMT)/hour	Watering Trucks/Wet Dust Suppression (85%)
FH 1, 3, 5, 7, 9	VF 1, 3, 5, 7, 9	Coal Feed Bunkers	2011	346 tph/each	Vent Filters (VF 1, 3, 5, 7, 9) (99%)

Ash-Slag Handling, Storage, and Load-out					
Emission Unit ID	Emission Point	Description	Construction Commenced	Design Capacity	Control Device (%efficiency)
BC7-8	TPA1-5	Transfer Points and Conveyors	2011	100 tph design, limited to 604,440 tons per year per transfer point	Full Enclosures for TPA 1, 2, 3, and 4 (80%). Partially Enclosed for TPA 5 (50%).
SSP	SSP	Ash/Slag Stockpile	2011	100 tph	Full Enclosure - Ash storage not anticipated to generate emissions except from transfers and trucking.

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

Material Handling, Storage, Sizing, & Preparation

B	B	Load-out Bin	2011	100 tph	Full Enclosure-Ash storage not anticipated to generate emissions except from transfers and trucking.
PR	PR	Ash/Slag Removal – Paved Haulroad (include Filter Cake)	2011	0.38 Vehicle Miles Traveled (VMT)/hour	Watering Trucks/Wet Dust Suppression (85%)

Filter Cake Handling & Load-out and Sulfur Trucking					
Emission Unit ID	**Emission Point**	**Description**	**Construction Commenced**	**Design Capacity**	**Control Device (%efficiency)**
BC10	TPFC 1&2	Transfer Points and Conveyors	2011	7 tph production with 100 tph loadout each. Limited to 61320 tons/year each	Full Enclosure for TPFC1 (80%) Partially Enclosed for TPC2 (50%)
FCS1	FCS1	Filter Cake Silo	2011	7 tph production with 100 tph loadout each. Limited to 61320 tons/year each	Ash storage not anticipated to generate emissions except from transfers and trucking
PR	PR	Sulfur Removal – Paved Haulroad	**2011**	1.08 Vehicle Miles Traveled (VMT)/hour	Watering Trucks/Wet Dust Suppression (85%)

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

Material Handling, Storage, Sizing, & Preparation

APPLICABLE REGULATIONS:

Coal Handling, Storage, Sizing, and Preparation

Emission Unit	Emission Point	Description	Applicable Regulations	Pollutant
(BC1-6) TPC1-12	**TPC1-12**	**Transfer Points and Conveyors**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$
			40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*	Opacity
CR1		**Coal Crusher**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*	Opacity
				PM
CS		**Coal Stockpile**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$
			40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*	Opacity
				PM

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

Material Handling, Storage, Sizing, & Preparation

Coal Handling, Storage, Sizing, and Preparation (Continued)

PR		**Coal Delivery – Paved Haulroad**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$
FH 1, 3, 5, 7, 9		**Coal Feed Bunkers**	40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*	Opacity
				PM
			401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity

Ash-Slag Handling, Storage, and Load-out

Emission Unit	Emission Point	Description	Applicable Regulations	Pollutant
TPA 1-5	**BC7-9**	**Transfer Points and Conveyors**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$, Opacity
SSP		**Ash/Slag Stockpile**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$
PR		**Ash/Slag Removal – Paved Haulroad (include filter cake)**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$, Opacity

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

Material Handling, Storage, Sizing, & Preparation

Filter Cake Handling & Load-out and Sulfur Trucking

Emission Unit	Emission Point	Description	Applicable Regulations	Pollutant
TPFC 1 & 2	**BC 10**	**Transfer Points and Conveyors**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5,}$ Opacity
FCS1		**Filter Cake Silo**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$
PR		**Sulfur Removal– Paved Haulroad**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5,}$ Opacity

401 KAR 59:010, *New process operations*, is applicable to an emissions unit not covered by another PM emission standard in 401 KAR Chapter 59 that commenced on or after July 2, 1975.

401 KAR 63:010, *Fugitive Emissions*, is applicable to each affected facility as an apparatus, operation, or road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*, is applicable to the following affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day. The provisions in 40 CFR 60.251, 60.252(b)(1) through (3), and (c), 60.253(b), 60.254(b) and (c), 60.255(b) through (h), 60.256(b) and (c), 60.257, and 60.258 are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, transfer and loading systems, and open storage piles.

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030, Section 26 and 401 KAR 63:010 Section 3(1), the permittee shall install and operate, whenever the material handling, preparation, sizing, storage, and load-out emission units are in operation, the following control devices, equipment and methods required in a manner consistent with good air pollution control

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

Material Handling, Storage, Sizing, & Preparation

practices for minimizing emissions:

(1) TPC1-12/BC1-6: Partial Enclosures for TPC 1, 2, 7, 8, 9, and 11 (50% Control Efficiency). Full Enclosures for TPC 3, 4, 5, 6, 10, and 12 (80% Control Efficiency).

(2) CR1: Baghouse (BHCS5), 99% Control Efficiency

(3) CS: Coal Stockpiles enclosed in building(s) vented to Baghouse(s) (BHCS1-4) (5 mg/m^3).

(4) PR: Paved Haulroads, Watering Trucks/Wet Dust Suppression (85% Efficiency)

(5) TPA1-5: Full Enclosures for TPA 1, 2, 3, and 4(80% Control Efficiency). Partial Enclosure for TPA 5 (50% Control Efficiency)..

(6) TPFC1&2: Full Enclosures for TPFC1 (80% Control Efficiency) and Partial Enclosure TPFC2 (50% Control Efficiency).

(7) FH1, 3, 5, 7, & 9: Vent Filter (VF 1, 3, 5, 7, 9) (99% Control Efficiency).

b. Pursuant to 401 KAR 63:010 Section 3(1), reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:
(1) Use, where possible, water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
(2) Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;
(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;
(4) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
(5) The maintenance of paved roads in a clean condition; and
(6) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

c. Pursuant to 401 KAR 63:010 Section 3(2), the permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.

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

Material Handling, Storage, Sizing, & Preparation

d. At all times, the permittee shall maintain and operate affected units that are subject to 40 CFR Part 60 Subpart Y, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, pursuant to 40 CFR 60.11(d).

e. The amount of material processed or handled shall not exceed the following:

Emission Point	Operating Limit
Transfer Points and Conveyors (TPC1-12)	3,030,960 tons/year per transfer point/conveyor
CR1	346 tons/hour (tph)
TPA1-5	604,440 tons per year each transfer point/conveyor
TPFC1 & TPFC2	61,320 tons/year each

Compliance Demonstration Method:

a. For compliance with Operating Limit e., the permitee shall maintain records as specified in **Specific Recordkeeping Requirements** d.

b. For Compliance with Operating Limitations a. – d., the permittee shall comply with the requirements in **3. Testing Requirements** and **5. Specific Recordkeeping Requirements.**

2. Emission Limitations:

a. Pursuant 40 CFR 60.254(b), on and after the date on which the performance test is conducted or required to be completed under 40 CFR 60.8, whichever date comes first, the permittee of any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs b(1) and (2) of 40 CFR 60.254, as applicable to the affected facility. Open coal storage piles are not permitted at the facility.
   (1) Except as provided in 40 CFR 60.254(b)(3), the permittee must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 10 percent opacity or greater; and
   (2) The permittee must not cause to be discharged into the atmosphere from any mechanical vent on an affected facility gases which contain particulate matter in excess of 0.023 g/dscm (0.010 gr/dscf).

b. Pursuant to 401 KAR 59:010 Section 3(2), particulate matter emissions shall not exceed the calculated allowable rate as determined by the following equation.

$E_{Allowable}$ = 2.34 lb/hr for P less than or equal to 0.5 ton/hr

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

Material Handling, Storage, Sizing, & Preparation

= $3.59 * P^{0.62}$ for P greater than 0.5 ton/hr but less than or equal to 30 ton/hr

= $17.31 * P^{0.16}$ for P greater than 30 ton/hr

where

$E_{Allowable}$ = Allowable rate of particulate emissions (lbs/hr)

P = Process weight rate (tons/hr), equal to the total process weight for a period that covers a complete batch operation (tons/batch) divided by the hours of actual process operation during the batch operation (hrs/batch)

c. Pursuant to 401 KAR 63:010 Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

Compliance Demonstration Method:

a. See **3. Testing Requirements** for opacity compliance demonstration.

b. Compliance with $PM/PM_{10}/PM_{2.5}$ **Emission Limitations** b, is demonstrated based on the $PM/PM_{10}/PM_{2.5}$ emission factors, maximum process rates, and control efficiencies, provided in the application submitted by the source. If the source alters processes or process rates, or any other factor that would result in increased emissions of the previously evaluated $PM/PM_{10}/PM_{2.5}$, the source shall submit the appropriate application forms pursuant to 401 KAR 52:030 Section 4. Refer to **1. Operating Limitations** and **3. Testing Requirements** for proper operation of the controls and testing:

3. Testing Requirements:

a. Pursuant to 401 KAR 50:045, the permittee shall demonstrate compliance with the $PM/PM_{10}/PM_{2.5}$ emission limits and opacity limits by conducting an initial performance test within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility. The performance test shall be conducted in accordance with the applicable methods described in paragraphs d and e below for particulate matter and opacity.

b. Pursuant to 401 KAR 52:030 Section 26, the permittee must conduct an initial opacity performance test on TPC1-12, CR1, TPA1-5, and TPFC1&2 and an initial PM performance test on CR1, CS and FH 1,3,5,7,9 according to the procedures in paragraphs c, and d below. The permittee shall conduct subsequent performance tests according to paragraph e.

c. Pursuant to 40 CFR 60.257(b), the permittee must conduct all PM performance tests

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

Material Handling, Storage, Sizing, & Preparation

required by Section 40 CFR 60.8 to demonstrate compliance with the applicable emissions standards using the applicable test methods and procedures below:

(1) Method 1 or 1A of 40 CFR 60, Appendix A-4 shall be used to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.

(2) Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR 60, Appendix A-4 shall be used to determine the volumetric flow rate of the stack gas.

(3) Method 3, 3A, or 3B of 40 CFR 60, Appendix A-4 shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference - see 40 CFR 60.17) as an alternative to EPA Method 3B of 40 CFR 60, Appendix A-2.

(4) Method 4 of 40 CFR 60, Appendix A-4 shall be used to determine the moisture content of the stack gas.

(5) Method 5 or 5D of 40 CFR 60, Appendix A-4 or Method 17 of 40 CFR 60, Appendix A-7 shall be used to determine the PM concentration as follows:

(i) The sampling time and sample volume for each run shall be at least sixty (60) minutes and thirty (30) dscf. Sampling shall begin no less than thirty (30) minutes after startup and shall terminate before shutdown procedures begin. A minimum of three (3) valid test runs are needed to comprise a PM performance test.

(ii) Method 5D of 40 CFR 60, Appendix A-4 shall be used for positive pressure fabric filters and other similar applications (e.g., stub stacks and roof vents).

(iii) Method 17 of appendix A–6 of 40 CFR 60 may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of 40 CFR 60 may be used in Method 17 of appendix A–6 of 40 CFR 60 only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of 40 CFR 60 after wet FGD systems if the effluent is saturated or laden with water droplets.

d. Pursuant to 40 CFR 60.257(a), the permittee must determine compliance with the applicable opacity standards as specified in paragraphs d.(1) through (3) below.

(1) Method 9 of appendix A–4 of 40 CFR 60 and the procedures in 40 CFR 60.11 must be used to determine opacity, with the exceptions specified in paragraphs d.(1)(i) and (ii) below.

(i) The duration of the Method 9 of appendix A–4 of 40 CFR 60 performance test shall be 1 hour (ten 6-minute averages).

(ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A–4 of 40 CFR 60 performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

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

Material Handling, Storage, Sizing, & Preparation

(2) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs d.(2)(i) through (iii) below must be used.
  (i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back.
  (ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction.
  (iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

(3) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs d.(3)(i) through (iii) below are met.
  (i) No more than three emissions points may be read concurrently.
  (ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.
  (iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point.

e. Pursuant to 40 CFR 60.255(b), the permittee of each affected facility that commenced construction, reconstruction, or modification after April 28, 2008, must conduct performance tests according to the requirements of 40 CFR 60.8 and the methods identified in 40 CFR 60.257 to demonstrate compliance with the applicable emissions standards in 40 CFR 60 Subpart Y as specified in paragraphs e.(1) and (2) below.
  (1) For each affected facility subject to a PM standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according the requirements in paragraphs e.(1)(i) through (iii) below, as applicable.
    (i) If the results of the most recent performance test demonstrate that emissions from the affected facility are greater than 50 percent of the applicable emissions standard, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.
    (ii) If the results of the most recent performance test demonstrate that emissions from the affected facility are 50 percent or less of the applicable emissions standard, a new performance test must be conducted within 24 calendar months of the date that the previous performance test was required to be completed.

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

Material Handling, Storage, Sizing, & Preparation

(iii) The permittee of an affected facility that has not operated for the 60 calendar days prior to the due date of a performance test is not required to perform the subsequent performance test until 30 calendar days after the next operating day.

(2) For each affected facility subject to an opacity standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according to the requirements in paragraphs e.(2)(i) through (ii) below, as applicable, except as provided for in 40 CFR 60.255(e) and (f). Performance test and other compliance requirements for coal truck dump operations are specified in 40 CFR 60.255(h).

(i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.

(ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

f. Pursuant to 40 CFR 60.255(c), if any affected coal processing and conveying equipment (*e.g.*, breakers, crushers, screens, conveying systems), coal storage systems, or coal transfer and loading systems that commenced construction, reconstruction, or modification after April 28, 2008, are enclosed in a building, and emissions from the building do not exceed any of the standards in 40 CFR 60.254 that apply to the affected facility, then the facility shall be deemed to be in compliance with such standards.

g. Pursuant to 40 CFR 60.255(d), the permittee of an affected facility (other than a thermal dryer) that commenced construction, reconstruction, or modification after April 28, 2008, and is subject to a PM emission standard and uses a control device with a design controlled potential PM emissions rate of 1.0 Mg (1.1 tons) per year or less is exempted from the requirements of paragraphs (b)(1)(i) and (ii) of 40 CFR 60.255 provided that the owner or operator meets all of the conditions specified in paragraphs (d)(1) through (3) of 40 CFR 60.255. This exemption does not apply to thermal dryers.

(1) PM emissions, as determined by the most recent performance test, are less than or equal to the applicable limit,

(2) The control device manufacturer's recommended maintenance procedures are followed, and

(3) All 6-minute average opacity readings from the most recent performance test are equal to or less than half the applicable opacity limit or the monitoring requirements in paragraphs (d) or (e) of this section are followed.

h. Pursuant to 40 CFR 60.255(e), for the permittee of a group of up to five of the same type of affected facilities that commenced construction, reconstruction, or modification after April 28, 2008, that are subject to PM emissions standards and use identical control

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

Material Handling, Storage, Sizing, & Preparation

devices, the Division may allow the permittee to use a single PM performance test for one of the affected control devices to demonstrate that the group of affected facilities is in compliance with the applicable emissions standards provided that the permittee meets all of the conditions specified in paragraphs (e)(1) through (3) of 40 CFR 60.255.

(1) PM emissions from the most recent performance test for each individual affected facility are 90 percent or less of the applicable PM standard;
(2) The manufacturer's recommended maintenance procedures are followed for each control device; and
(3) A performance test is conducted on each affected facility at least once every 5 calendar years.

i. Pursuant to 40 CFR 60.255(f), as an alternative to meeting the requirements in 40 CFR 60.255 (b)(2) above, the permittee of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, may elect to comply with the requirements in paragraphs i.(1) or (2) below.
   (1) Monitor visible emissions from each affected facility according to the requirements in paragraphs i.(1)(i) through (iii) below.
      (i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of appendix A–7 of 40 CFR 60. If visible emissions are observed during any 15-second observation, the permittee must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A–4 of 40 CFR 60, performance test must be conducted within 45 operating days.
      (ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.
      (iii) Conduct a performance test using Method 9 of appendix A–4 of 40 CFR 60 at least once every 5 calendar years for each affected facility.
   (2) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Division. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, *see* OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from

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

Material Handling, Storage, Sizing, & Preparation

the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Division shall be implemented by the permittee.

j. Pursuant to 40 CFR 60.255(g), as an alternative to meeting the requirements in 40 CFR 60.255 (b)(2)above, the permittee of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, subject to a visible emissions standard under 40 CFR 60 Subpart Y may install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of 40 CFR 60 Subpart Y must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs j.(1) and (2) below.
   (1) The COMS must meet Performance Specification 1 in 40 CFR 60, appendix B.
   (2) The COMS must comply with the quality assurance requirements in paragraphs j.(2)(i) through (v) below.
      (i) The permittee must automatically (intrinsic to the opacity monitor) check the zero and upscale (span) calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR 60, appendix B.
      (ii) The permittee must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.
      (iii) The permittee must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.
      (iv) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
      (v) The permittee must reduce all data from the COMS to 6-minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally

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spaced over each 6-minute period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used.

k. Pursuant to 40 CFR 60.255(h), the permittee of each affected coal truck dump operation that commenced construction, reconstruction, or modification after April 28, 2008, must meet the requirements specified in paragraphs k.(1) through (3) below.
   (1) Conduct an initial performance test using Method 9 of appendix A–4 of 40 CFR 60 according to the requirements in paragraphs k.(1)(i) and(ii) below.
      (i) Opacity readings shall be taken during the duration of three separate truck dump events. Each truck dump event commences when the truck bed begins to elevate and concludes when the truck bed returns to a horizontal position.
      (ii) Compliance with the applicable opacity limit is determined by averaging all 15-second opacity readings made during the duration of three separate truck dump events.
   (2) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.
   (3) Conduct a performance test using Method 9 of appendix A–4 of 40 CFR 60 at least once every 5 calendar years for each affected facility.

4. Specific Monitoring Requirements:

a. Pursuant to 401 KAR 52:030, Section 26, for each emission unit that uses a baghouse to control emissions, the permittee must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A–7) test, including the date and any corrective actions taken, in a logbook.

b. Pursuant to 401 KAR 52:030, Section 26, as an alternative to the periodic Method 22 (40 CFR part 60, Appendix A–7) visible emissions inspections specified in Specific Monitoring Requirement a., may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to the following specifications:
   (1) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic

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meter (0.00044 grains per actual cubic foot) or less.

(2) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.* , using a strip chart recorder or a data logger).

(3) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (4) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(4) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(5) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Division except as provided in paragraph (6) of this section.

(6) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c) of this section.

(7) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

c. Pursuant to 401 KAR 52:030, Section 26, must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the following items:

(1) Installation of the bag leak detection system;

(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(3) Operation of the bag leak detection system, including quality assurance procedures;

(4) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(5) How the bag leak detection system output will be recorded and stored; and

(6) Corrective action procedures. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

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(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(7) In approving the site-specific monitoring plan, the Division may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

5. Specific Recordkeeping Requirements:

a. Pursuant to 401 KAR 59:005 Section 3(2), the permittee shall maintain the records of the occurrence and duration of any malfunction of the air pollution control equipment and or any periods during which a continuous emission monitoring system or monitoring device is inoperative.

b. Pursuant to 401 KAR 52:030, Section 26 the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total of PM/PM_{10}/$PM_{2.5}$ emissions using emission factors, data from performance tests, and process rates or other applicable data along with supporting calculations.

c. Pursuant to 40 CFR 60.258(a), the permittee of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:

(1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.

(2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.

(3) The amount and type of coal processed each calendar month.

(4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

(5) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.

(6) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters

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from the Division providing approval of any alternative control measures shall be maintained with the logbook. Any actions, *e.g.* objections, to the plan and any actions relative to the alternative control measures, *e.g.* approvals, shall be noted in the logbook as well.

(7) For each bag leak detection system, the permittee must keep the records specified in paragraphs c(7)(i) through (iii) below.
   (i) Records of the bag leak detection system output;
   (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and
   (iii)The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(8) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

d. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
   (1) Emissions of PM, PM_{10}, and $PM_{2.5}$, with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, vehicle miles traveled, process rates or other applicable data along with supporting calculations;
   (2) Hours of operation for each emission unit;
   (3) Material process rates for each emission point, transfer point and conveyor; and
   (4) Vehicle miles traveled (VMT) on Paved Haul-roads (PR).

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60.258(b), for the purpose of reports required under 40 CFR 60.7(c), the permittee subject to the provisions of 40 CFR 60 Subpart Y shall report semiannually, periods of all six (6) minute average opacities that exceed the applicable standard.

b. Pursuant to 40 CFR 60.258(c), the permittee of an affected facility shall submit the results of initial performance tests to the Division, consistent with the provisions of 40 CFR 60.8. The permittee who elects to comply with the reduced performance testing provisions of 40 CFR 60.255(c) or (d) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. The permittee electing to comply with 40 CFR 60.255(d) shall also include information which demonstrates that the control devices are identical.

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c. Pursuant to 40 CFR 60.258(d), after July 1, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the permittee of the affected facility must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at *http://cfpub.epa.gov/oarweb/index.cfm?action =fire.main.* For performance tests that cannot be entered into WebFIRE (*i.e.*, Method 9 of appendix A–4 of this part opacity performance tests) the permittee of the affected facility must mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243–01; RTP, NC 27711.

7. Specific Control Equipment Operating Conditions:
None

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Limestone Handling, Storage, Sizing, and Preparation	
TPL1-5	Transfer Points and Conveyors
CR7	Limestone Crusher
LS	Limestone Stockpile
PR	Limestone Delivery –Paved Haulroads
FH 2, 4, 6 8, 10	Limestone Feed Bunkers

Description	
Construction Date	2011
Capacity	19 tph feed rate to plant with 100 tph bin filling rate for Limestone Transfer Points & Conveyors, Feed Bunks, and Limestone Crusher 100 tph for limestone stockpile / 200,000 scf/hr vented through baghouse 0.095 Vehicle Miles Traveled (VMT)/hour for Limestone Delivery
Source of Emissions	Material Transfer Points
Control Measures	Baghouses, Building Vent Filters, Enclosures, Dust Suppression

APPLICABLE REGULATIONS:

Limestone Handling, Storage, Sizing, and Preparation

Emission Unit	Emission Point	Description	Applicable Regulations	Pollutant
TPL 1-5	**BC 7-9**	**Transfer Points and Conveyors**	401 KAR 63:010, *Fugitive Emissions*	PM/PM_{10}/$PM_{2.5,}$ Opacity
			40 CFR 60 Subpart OOO, *Standards of Performance for Non-*	Opacity

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			metallic Mineral Processing Plants	
CR7		**Limestone Crusher**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			40 CFR 60 Subpart OOO, *Standards of Performance for Non-metallic Mineral Processing Plants*	Opacity
LS		**Limestone Stockpile**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			40 CFR 60 Subpart OOO, *Standards of Performance for Non-metallic Mineral Processing Plants*	Opacity
				PM
PR		**Limestone Delivery – Paved Haulroads**	401 KAR 63:010, *Fugitive Emissions*	$PM/PM_{10}/PM_{2.5}$
			401 KAR 63:010, *Fugitive Emissions*	Opacity
FH 2, 4, 6, 8, 10		**Limestone Feed Bunkers**	401 KAR 59:010, *New process operations*	PM
			401 KAR 59:010, *New process operations*	Opacity
			40 CFR 60 Subpart OOO, *Standards of Performance for Non-metallic Mineral Processing Plants*	Opacity
				PM

401 KAR 59:010, *New process operations*, is applicable to an emissions unit not covered by another PM emission standard in 401 KAR Chapter 59 that commenced on or after July 2, 1975.

401 KAR 63:010, *Fugitive Emissions*, is applicable to each affected facility as an apparatus, operation, or road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

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40 CFR 60 Subpart OOO, *Standards of Performance for Non-metallic Mineral Processing Plants* is applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030, Section 26 and 401 KAR 63:010 Section 3(1), the permittee shall install and operate, whenever the material handling, preparation, sizing, storage, and load-out emission units are in operation, the following control devices, equipment and methods required in a manner consistent with good air pollution control practices for minimizing emissions:

(1) LS: Limestone Stockpiles enclosed in building(s) vented to Baghouse(s) (BHLS1&2) (5mg/m^3).

(2) PR: Paved Haulroads, Watering Trucks/Wet Dust Suppression (85% Control Efficiency)

(3) TPL1-5: Full Enclosures for TPL 2, 3, 4, and 5 (80% Efficiency)

(4) CR7: Full Enclosure (80% Efficiency).

(5) FH 2, 4, 6, 8, 10: Vent Filters (VF 2, 4, 6, 8, 10) (99% Efficiency).

b. The amount of material processed or handled shall not exceed the following:

Emission Point	Operating Limit
TPL 1-5	166,440 tons/year each (feed rate to plant), 100 tph bin filling rate
CR7	166,440 tons/year each (feed rate to plant) 100 tph bin filling rate
LS	0.2 mmscf/hr vented through baghouse

2. Emission Limitations:

a. Pursuant to 401 KAR 63:010 Section 3(1), reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

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(1) Use, where possible, water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
(2) Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;
(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;
(4) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
(5) The maintenance of paved roads in a clean condition; and
(6) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

b. Pursuant to 401 KAR 63:010 Section 3(2), the permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.

c. Pursuant to 401 KAR 59:010 Section 3(2), particulate matter emissions shall not exceed the calculated allowable rate as determined by the following equation.

$E_{Allowable}$ = 2.34 lb/hr for P less than or equal to 0.5 ton/hr

= $3.59 * P^{0.62}$ for P greater than 0.5 ton/hr but less than or equal to 30 ton/hr

= $17.31 * P^{0.16}$ for P greater than 30 ton/hr

where

$E_{Allowable}$ = Allowable rate of particulate emissions (lbs/hr)

P = Process weight rate (tons/hr), equal to the total process weight for a period that covers a complete batch operation (tons/batch) divided by the hours of actual process operation during the batch operation (hrs/batch)

d. Pursuant to 40 CFR 60.672(a), the affected facilities must meet the stack emission limits and compliance requirements in Table 2 of 40 CFR 60 Subpart OOO within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.8. The requirements in Table 2 of 40 CFR 60 Subpart OOO apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

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e. Pursuant to 40 CFR 60.672(b), affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of 40 CFR 60 Subpart OOO within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11. The requirements in Table 3 of 40 CFR 60 Subpart OOO apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

f. Pursuant to 40 CFR 60.672(d), truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

g. Pursuant to 40 CFR 60.672(e), if any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of 40 CFR 60.672, or the building enclosing the affected facility or facilities must comply with the following emission limits:
   (1) Fugitive emissions from the building openings (except for vents as defined in 40 CFR 60.671) must not exceed 7 percent opacity; and
   (2) Vents (as defined in 40 CFR 60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of 40 CFR 60 Subpart OOO.

h. Pursuant to 40 CFR 60.672(f), any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of 40 CFR 60 Subpart OOO but must meet the applicable stack opacity limit and compliance requirements in Table 2 of 40 CFR 60 Subpart OOO. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

Compliance Demonstration Method:

a. See **4. Monitoring Requirements** for opacity compliance demonstration and **3.Testing Requirements for** performance tests requirements.

b. For compliance with Emission Limitations d., e., f., and g., the permittee shall conduct an initial performance test according to 40 CFR 60.8 of this part and 40 CFR 60.675 of this subpart; and perform monitoring of baghouses according to 40 CFR 60.674(c), (d), or (e) and 40 CFR 60.676(b).

c. For compliance with Emission Limitation e., the permittee shall conduct an initial performance test according to 40 CFR 60.11 of Part 60 and 40 CFR 60.675 and a repeat performance test according to 40 CFR 60.11 of this part and 40 CFR 60.675 within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays.

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3. Testing Requirements:

a. Pursuant to 401 KAR 50:045, the permittee shall demonstrate compliance with the $PM/PM_{10}/PM_{2.5}$ emission limits and opacity limits by conducting an initial performance test within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility. The performance test shall be conducted in accordance with the applicable methods described in paragraphs d and e below for particulate matter and opacity.

b. Pursuant to 401 KAR 52:030 Section 26, the permittee must conduct an initial opacity performance test on LS, FH 2, 4, 6, 8, 10, TPL1-5 and CR7 and an initial PM performance test on LS and FH 2, 4, 6, 8, 10, according to the procedures in paragraphs e. – m. below.

c. Pursuant to 40 CFR 60.674(c), except as specified in paragraph (d) or (e) of 40 CFR 60.674, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A–7). The Method 22 (40 CFR part 60, Appendix A–7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A–7) test, including the date and any corrective actions taken, in the logbook required under 40 CFR 60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to 40 CFR 60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A–7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of 40 CFR 60 Subpart OOO. The revised visible emissions success level must be incorporated into the permit for the affected facility.

d. Pursuant to 40 CFR 60.674 (d), as an alternative to the periodic Method 22 (40 CFR part 60, Appendix A–7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of 40 CFR 60.674.

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e. The permittee shall conduct performance tests required in 40 CFR 60.8. When conducting performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A–1 through A–7 of 40 CFR Part 60 or other methods and procedures as specified in section 40 CFR 60.675, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of 40 CFR 60.675.

f. The owner or operator shall determine compliance with the PM standards in 40 CFR 60.672(a) as follows:
   (1) Except as specified in paragraphs (e)(3) and (4) of 40 CFR 60.675, Method 5 of Appendix A–3 of 40 CFR Part 60 or Method 17 of Appendix A–6 of 40 CFR Part 60 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A–3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
   (2) Method 9 of Appendix A–4 of 40 CFR Part 60 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

g. In determining compliance with the particulate matter standards in 40 CFR 60.672(b) or 40 CFR 60.672(e)(1), the owner or operator shall use Method 9 of Appendix A–4 of 40 CFR Part 60 and the procedures in 40 CFR 60.11, with the following additions:
   (1) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
   (2) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.*, road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of 40 CFR Part 60, Section 2.1) must be followed.
   (3) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

h. In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under 40 CFR 60.672(f) of 40 CFR 60 Subpart OOO, using Method 9 (40 CFR part 60, Appendix A–4), the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations shall be 1 hour (ten 6-minute averages).

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(1) The duration of the Method 9 (40 CFR part 60, Appendix A–4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(2) When determining compliance with the fugitive emissions standard for any affected facility described under 40 CFR 60.672(b) or 40 CFR 60.672(e)(1) of 40 CFR 60 Subpart OOO, the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

i. To demonstrate compliance with the fugitive emission limits for buildings specified in 40CFR 60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of 40 CFR 60.675. Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to 40 CFR 60.675 and 40 CFR 60.11.

j. The owner or operator may use the alternatives to the reference methods and procedures specified in 40 CFR 60.675(e).

k. To comply with 40 CFR 60.676(d), the owner or operator shall record the measurements as required in 40 CFR 60.676(c) using the monitoring devices in 40 CFR 60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.

l. For performance tests involving only Method 9 (40 CFR part 60 Appendix A–4) testing, the owner or operator may reduce the 30-day advance notification of performance test in 40 CFR 60.7(a)(6) and 40 CFR 60.8(d) to a 7-day advance notification.

m. If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in 40 CFR 60.671) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

4. Specific Monitoring Requirements:

a. The permittee shall comply with the monitoring requirements specified in 40 CFR 60.674.

b. Baghouses shall be monitored as specified in 40 CFR 60.674(c)-(e).

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

Material Handling, Storage, Sizing, & Preparation

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60.676(b)(1), owners or operators of affected facilities (as defined in 40 CFR 60.670 and 40 CFR 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under 40 CFR 60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

b. Pursuant to 40 CFR 60.676(b)(2), for each bag leak detection system installed and operated according to 40 CFR 60.674(d), the owner or operator must keep the following records as specified in paragraphs (b)(2)(i) through (iii) of 40 CFR 60.676:
(1) Records of the bag leak detection system output;
(2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
(3) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

c. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
(1) Emissions of PM, PM_{10}, and $PM_{2.5}$, with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, vehicle miles traveled, process rates or other applicable data along with supporting calculations;
(2) Hours of operation for each emission unit;
(3) Material process rates for each emission point, emission unit, transfer point and conveyor; and
(4) Vehicle miles traveled (VMT) on Paved Haul-roads (PR).

6. Specific Reporting Requirements:

a. Pursuant to 450 CFR 60.676(f), the owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR 60.672 of 40 CFR 60 Subpart OOO, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A–4) to demonstrate compliance with 40 CFR 60.672(b), (e) and (f).

7. Specific Control Equipment Operating Conditions:
None

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

Gasification & Gas Cleanup

Emission Unit(s)	Name
A1/1 – A1/5	**Mill and Heaters** Capacity: 3,030,960 tons per year / 346 tons/hr Normal Plant Operation - one unit is in standby and NOT operating and the other four units, two units per gasifier, are operating when the full plant is operational.
A2/1	**Startup Vessel No.1** Capacity: 15,570 tons per year / 173 tons/hr
A2/2	**Startup Vessel No.2** Capacity: 15,570 tons per year / 173 tons/hr
B1/1	**Lock Hoppers No.1-6 (Feed Bunker No.1)** Capacity: 1,515,480 tons per year / 173 tons/hr
B1/2	**Lock Hoppers No.7-12 (Feed Bunker No.2)** Capacity: : 1,515,480 tons per year / 173 tons/hr
Construction Date: 2011	

APPLICABLE REGULATIONS:

401 KAR 59:010, *New process operations*, is applicable to an emissions unit not covered by another PM emission standard in 401 KAR Chapter 59 that commenced on or after July 2, 1975.

40 CFR 60 Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*, is applicable to the following affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day. The provisions in 40 CFR 60.251, 60.252(b)(1) through (3), and (c), 60.253(b), 60.254(b) and (c), 60.255(b) through (h), 60.256(b) and (c), 60.257, and 60.258 are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, transfer and loading systems, and open storage piles.

NON-APPLICABLE REGULATIONS:

401 KAR 63:010, *Fugitive Emissions*, is applicable to each affected facility as an apparatus, operation, or road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality. The emissions from Emission Points A1-A5, A2/1, A2/2, B1/1, B1/2, and C1 do not meet the definition of "fugitive emissions" as defined in 401 KAR 63:010, Section 2(2), since the emissions are emitted from stack.

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

Gasification & Gas Cleanup

1. Operating Limitations:

a. The permittee shall limit the operation of each emission unit as follows:

Emission Unit(s)	Operating Limit
A1/1 – A1/5	3,030,960 tons per year coal for gasification
A1/1 – A1/5	During Normal Plant Operation, the permittee shall not operate more than four (4) units, two (2) units per gasifier, when the full plant is operational. (One (1) unit must be in standby and NOT operating when the full plant is operational.)
A1/1 – A1/5	During cold startup, the permittee shall use only one unit with natural gas when hydrogen is not available for fuel and the remaining units shall be started on hydrogen. The duration of cold startups per year shall be limited to 40 (forty) hours. Any one (1) unit may be used for coal startup.
A2/1	15,570 tons per year coal for gasification and 173 tons/hr. 31.5 million standard cubic feet (mmscf) gas discharge per /year 90 hours of startup/year
A2/2	15,570 tons per year coal for gasification and 173 tons/hr. 31.5 million standard cubic feet (mmscf) gas discharge per /year 90 hours of startup/year
B1/1	1,515,480 tons per year coal for gasification and 173 tons/hr 7008 mmscf discharge from lockhopper/year and an additional 0.57 mmscf/hr allowed during 30 feedstock changes per year
B1/2	1,515,480 tons per year coal for gasification

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

Gasification & Gas Cleanup

	and 173 tons/hr 7008 mmscf discharge from lockhopper/year and an additional 0.57 mmscf/hr allowed during 30 feedstock changes per year

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements.**

b. The permittee shall use PRB-coal or other low sulfur coal with a maximum sulfur content of 0.5% during startup.

c. When reasonably possible, low sulfur coal shall be re-introduced for shutdowns.

Compliance Demonstration Method:
Compliance with Operating Limits b and c shall be demonstrated by maintaining records as specified in **5. Specific Recordkeeping Requirements** e.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:010 Section 3(2), particulate matter emissions shall not exceed the calculated allowable rate as determined by the following equation.

$E_{Allowable}$ = 2.34 lb/hr for P less than or equal to 0.5 ton/hr

= $3.59 * P^{0.62}$ for P greater than 0.5 ton/hr but less than or equal to 30 ton/hr

= $17.31 * P^{0.16}$ for P greater than 30 ton/hr

where

$E_{Allowable}$ = Allowable rate of particulate emissions (lbs/hr)

P = Process weight rate (tons/hr), equal to the total process weight for a period that covers a complete batch operation (tons/batch) divided by the hours of actual process operation during the batch operation (hrs/batch)

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.

Compliance Demonstration Method:
Compliance shall be demonstrated by complying with the requirements in **3. Testing Requirements, 4. Specific Monitoring Requirements,** and **5. Specific Recordkeeping Requirements.**

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

Gasification & Gas Cleanup

c. Pursuant to 40 CFR 60.252 (b) on and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after April 28, 2008, subject to the provisions of this subpart must meet the applicable standards for PM and opacity, as specified in 40 CFR 60.252 (b)(1):
   (1) The owner or operator must meet the requirements for PM emissions in 40 CFR 60.252 (b)(1)(i):
      (i) For each thermal dryer constructed or reconstructed after April 28, 2008, the owner or operator must meet the requirements of (b)(1)(i)(A) and (b)(1)(i)(B).
         (A)The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that contain PM in excess of 0.023 g/dscm (0.010 grains per dry standard cubic feet (gr/dscf)); and
         (B)The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that exhibit 10 percent opacity or greater.

d. Pursuant to 40 CFR 60.252 (b) (2) (iii), thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to an SO_2limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input are not subject to the SO_2limits of 40 CFR 60.252 (b) (2).

e. Pursuant to 40 CFR 60.252 (b) (3) (iii), thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to a NO_X limit and/or CO limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input, are not subject to the combined NO_X and CO limits of 40 CFR 60.252 (b) (3).

Compliance Demonstration Method:

Compliance shall be demonstrated by complying with the requirements in **3. Testing Requirements, 4. Specific Monitoring Requirements,** and **5. Specific Recordkeeping Requirements.**

3. Testing Requirements:

a. Pursuant to 401 KAR 50:045, the permittee shall demonstrate compliance with the $PM/PM_{10}/PM_{2.5}$ emission limits and opacity limits by conducting an initial performance test within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility. The performance test shall be conducted in accordance with the applicable methods described in paragraphs c and d below for particulate matter and opacity.

b. Pursuant to 401 KAR 52:030 Section 26, the permittee must conduct an initial opacity and PM performance test on A1/1 – A1/5, Mills and Heaters, according to the procedures in paragraphs c – h below.

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

Gasification & Gas Cleanup

c. Pursuant to 40 CFR 60.257(b), the permittee must conduct all PM performance tests required by Section 40 CFR 60.8 to demonstrate compliance with the applicable emissions standards using the applicable test methods and procedures below:
   (1) Method 1 or 1A of 40 CFR 60, Appendix A-4 shall be used to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.
   (2) Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR 60, Appendix A-4 shall be used to determine the volumetric flow rate of the stack gas.
   (3) Method 3, 3A, or 3B of 40 CFR 60, Appendix A-4 shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference - see 40 CFR 60.17) as an alternative to EPA Method 3B of 40 CFR 60, Appendix A-2.
   (4) Method 4 of 40 CFR 60, Appendix A-4 shall be used to determine the moisture content of the stack gas.
   (5) Method 5 or 5D of 40 CFR 60, Appendix A-4 or Method 17 of 40 CFR 60, Appendix A-7 shall be used to determine the PM concentration as follows:
      (i) The sampling time and sample volume for each run shall be at least sixty (60) minutes and thirty (30) dscf. Sampling shall begin no less than thirty (30) minutes after startup and shall terminate before shutdown procedures begin. A minimum of three (3) valid test runs are needed to comprise a PM performance test.
      (ii) Method 5D of 40 CFR 60, Appendix A-4 shall be used for positive pressure fabric filters and other similar applications (e.g., stub stacks and roof vents).
      (iii) Method 17 of appendix A–6 of 40 CFR 60 may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of 40 CFR 60 may be used in Method 17 of appendix A–6 of 40 CFR 60 only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of 40 CFR 60 after wet FGD systems if the effluent is saturated or laden with water droplets.

d. Pursuant to 40 CFR 60.257(a), the permittee must determine compliance with the applicable opacity standards as specified in paragraphs d.(1) through (3) below.
   (1) Method 9 of appendix A–4 of 40 CFR 60 and the procedures in 40 CFR 60.11 must be used to determine opacity, with the exceptions specified in paragraphs d.(1)(i) and (ii) below.
      (i) The duration of the Method 9 of appendix A–4 of 40 CFR 60 performance test shall be 1 hour (ten 6-minute averages).
      (ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A–4 of 40 CFR 60 performance test, all of the 6-minute average opacity readings are

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

Gasification & Gas Cleanup

less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

(2) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs d.(2)(i) through (iii) below must be used.

(i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back.

(ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction.

(iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

(3) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs d.(3)(i) through (iii) below are met.

(i) No more than three emissions points may be read concurrently.

(ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point.

e. Pursuant to 40 CFR 60.255(b), the permittee of each affected facility that commenced construction, reconstruction, or modification after April 28, 2008, must conduct performance tests according to the requirements of 40 CFR 60.8 and the methods identified in 40 CFR 60.257 to demonstrate compliance with the applicable emissions standards in 40 CFR 60 Subpart Y as specified in paragraphs e.(1) and (2) below.

(1) For each affected facility subject to a PM standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according the requirements in paragraphs e.(1)(i) through (iii) below, as applicable.

(i) If the results of the most recent performance test demonstrate that emissions from the affected facility are greater than 50 percent of the applicable emissions standard, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

(ii) If the results of the most recent performance test demonstrate that emissions from the affected facility are 50 percent or less of the applicable emissions standard, a new performance test must be conducted within 24 calendar months of the date that the previous performance test was required to be completed.

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

Gasification & Gas Cleanup

(iii) The permittee of an affected facility that has not operated for the 60 calendar days prior to the due date of a performance test is not required to perform the subsequent performance test until 30 calendar days after the next operating day.

(2) For each affected facility subject to an opacity standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according to the requirements in paragraphs e.(2)(i) through (ii) below, as applicable, except as provided for in 40 CFR 60.255(e) and (f). Performance test and other compliance requirements for coal truck dump operations are specified in 40 CFR 60.255(h).

(i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.

(ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

f. Pursuant to 40 CFR 60.255(e), for the permittee of a group of up to five of the same type of affected facilities that commenced construction, reconstruction, or modification after April 28, 2008, that are subject to PM emissions standards and use identical control devices, the Division may allow the permittee to use a single PM performance test for one of the affected control devices to demonstrate that the group of affected facilities is in compliance with the applicable emissions standards provided that the permittee meets all of the conditions specified in paragraphs (f)(1) through (3) of 40 CFR 60.255.

(1) PM emissions from the most recent performance test for each individual affected facility are 90 percent or less of the applicable PM standard;

(2) The manufacturer's recommended maintenance procedures are followed for each control device; and

(3) A performance test is conducted on each affected facility at least once every 5 calendar years.

g. Pursuant to 40 CFR 60.255(f), as an alternative to meeting the requirements in paragraph e.(2) above, the permittee of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, may elect to comply with the requirements in paragraphs g.(1) or (2) below.

(1) Monitor visible emissions from each affected facility according to the requirements in paragraphs g.(1)(i) through (iii) below.

(i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant

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

Gasification & Gas Cleanup

is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of appendix A–7 of 40 CFR 60. If visible emissions are observed during any 15-second observation, the permittee must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A–4 of 40 CFR 60, performance test must be conducted within 45 operating days.

(ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(iii) Conduct a performance test using Method 9 of appendix A–4 of 40 CFR 60 at least once every 5 calendar years for each affected facility.

(2) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Division. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, *see* OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Division shall be implemented by the permittee.

h. Pursuant to 40 CFR 60.255(g), as an alternative to meeting the requirements in paragraph e.(2) above, the permittee of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, subject to a visible emissions standard under 40 CFR 60 Subpart Y may install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of 40 CFR 60 Subpart Y must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs j.(1) and (2) below.

(1) The COMS must meet Performance Specification 1 in 40 CFR 60, appendix B.

(2) The COMS must comply with the quality assurance requirements in paragraphs j.(2)(i) through (v) below.

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

Gasification & Gas Cleanup

(i) The permittee must automatically (intrinsic to the opacity monitor) check the zero and upscale (span) calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR 60, appendix B.

(ii) The permittee must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(iii) The permittee must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

(iv) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(v) The permittee must reduce all data from the COMS to 6-minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used.

4. Specific Monitoring Requirements:

Pursuant to 40 CFR 60.256 (a) (1) (i), the owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(i) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the type of coal, including sulfur content, processed during startup and immediately prior to shutdown.

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

Gasification & Gas Cleanup

a. Pursuant to 40 CFR 60.258(a), the permittee of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:
   (1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.
   (2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.
   (3) The amount and type of coal processed each calendar month.
   (4) For each bag leak detection system, the permittee must keep the records specified in paragraphs a(4)(i) through (iii) below.
      (i) Records of the bag leak detection system output;
      (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and
      (iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.
   (5) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

b. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
   (1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
   (2) Hours of operation for each emission unit;
   (3) Fuel usage and fuel specifications from fuel supplier.
   (4) Number of startups and hours of each startup
   (5) Standard volumetric discharge from lockhoppers (mmscf)
   (6) Number of feed changes and duration of feed change
   (7) The total weight of the materials processed each month by each emission point listed above.

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

Gasification & Gas Cleanup

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60.258(b), for the purpose of reports required under 40 CFR 60.7(c), the permittee subject to the provisions of 40 CFR 60 Subpart Y shall report semiannually, periods of all six (6) minute average opacities that exceed the applicable standard.

b. Pursuant to 40 CFR 60.258(c), the permittee of an affected facility shall submit the results of initial performance tests to the Division, consistent with the provisions of 40 CFR 60.8. The permittee who elects to comply with the reduced performance testing provisions of 40 CFR 60.255(c) or (d) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. The permittee electing to comply with 40 CFR 60.255(d) shall also include information which demonstrates that the control devices are identical.

c. Pursuant to 40 CFR 60.258(d), after July 1, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the permittee of the affected facility must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at *http://cfpub.epa.gov/oarweb/index.cfm?action =fire.main.* For performance tests that cannot be entered into WebFIRE (*i.e.*, Method 9 of appendix A–4 of this part opacity performance tests) the permittee of the affected facility must mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243–01; RTP, NC 27711.

7. Specific Control Equipment Operating Conditions:
None

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

Gasification & Gas Cleanup

C1	**CO_2 Purification Unit** Capacity: 511 ton/hr CO_2 to purification 11 tons/hr CO_2 to Coal Preparation Type: CO_2 Stripping and/or Catalytic Purification Note: E4 MTG Regeneration Off-Gas Emissions included in C1
Construction Date: 2011	

APPLICABLE REGULATIONS:

401 KAR 59:105, *New process gas streams*, applies to any process gas stream commenced after June 6, 1979, which is not elsewhere subject to a standard of performance within 401 KAR Chapter 59 with respect to hydrogen sulfide (H_2S).

State-Origin Requirements:

401 KAR 63:020 – *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall install and operate a CO_2 Stripping and/or Catalytic Purification unit for the control of CO, H_2S and VOC emissions from the Acid Gas Removal (AGR) unit.

b. Pursuant to 401 KAR 52:030, Section 26, the regeneration off-gas rate from the MTG plant (regeneration of catalyst) shall not exceed 356.3 MMscf per year.

c. Pursuant to 401 KAR 52:030, Section 26, the mass flow rate of off-gas from the AGR system shall not exceed 3,058,660 tons per year.

d. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall limit the operation of Emission Unit C1 to 8,000 hours per year.

Compliance Demonstration Method: Refer to Specific Monitoring and Recordkeeping Requirements.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:105, the permittee shall not discharge into the atmosphere any gases from the CO_2 Purification System that contain H_2S that exceed ten (10) gr/100 dscf (165 ppm by volume) at zero (0) percent O_2 or without reducing the concentration by 85 percent, based on a three (3) hour average.

Compliance Demonstration Method: Refer to Testing Requirements, Specific Monitoring

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

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and Specific Recordkeeping Requirements.

b. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:
Refer to SECTION D.

3. Testing Requirements:

a. Pursuant to 401 KAR 59:105 Section 6, except as provided in 401 KAR 50:045, performance tests used to demonstrate compliance with H_2S shall be conducted according to the following methods, filed by reference in 401 KAR 50:015:
(1) Method 11 for H_2S.
The sample shall be drawn from a point near the centroid of the gas line. The minimum sampling time shall be ten (10) minutes and the minimum sample volume shall be 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two (2) samples shall constitute one (1) run. Samples shall be taken at approximately one (1) hour intervals.

b. Pursuant to 401 KAR 52:030, Section 26, the permittee shall verify the CO, SO_2, H_2S, methanol and VOC (if CEMS are installed see paragraph d of this Section) emission rates by conducting an initial performance test within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility. The performance test shall be conducted in accordance with 401 KAR 50:045 and shall be conducted a minimum of once every five (5) years (no more than sixty-two (62) calendar months following the previous performance test). If CO, SO_2, or VOC CEMS are not installed, the permittee shall perform subsequent performance tests every 2½ years (no more than thirty-two (32) calendar months following the last performance test.) The initial and subsequent CO performance tests must be conducted during the venting of regeneration off-gas in addition to normal operation of the unit to establish the CO emission rate during each scenario.

c. During the performance tests the permittee shall establish the CO, VOC and H_2S destruction efficiency and operating limits for the catalytic oxidizer as follows:
(1) The catalytic oxidizer shall be operated within a temperature range specified by the control device manufacturer.
(2) Monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every fifteen (15) minutes during each of the three (3) test runs; and
(3) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference

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

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across the catalyst bed during the performance test. These are the minimum operating limits for the catalytic oxidizer.

d. Pursuant to 401 KAR 52:030, Section 26, if the permittee installs a CO, SO_2, or VOC CEMS, the initial performance test may be performed in the following alternative manner.
   (1) Perform a minimum of nine (9) RATA reference method runs, with a minimum time per run of twenty-one (21) minutes, at a single syngas throughput level, within plus or minus twenty-five (25) percent of 100 percent the maximum syngas throughput. The ambient temperature shall be greater than zero (0) degrees Fahrenheit during the RATA runs.
   (2) For each RATA run, concurrently measure the syngas input to the unit using a fuel flow meter (or flow meters) and measure the syngas output from the unit.
   (3) Use the test data both to demonstrate compliance with the applicable emission limit and to provide the required reference method data for the RATA of the CEMS.
   (4) Compliance with the applicable emission limit is achieved if the arithmetic average of all of the emission rates for the RATA runs, expressed in units of lb/hr does not exceed the emission limit.

4. Specific Monitoring Requirements:

a. Pursuant to 401 KAR 52:030, Section 26 to monitor CO emissions, the permittee shall do one of the methods below:
   (1) The permittee shall use a CEMS that shall be installed, calibrated, operated, tested, and monitored in accordance with 40 CFR 60.13 or 40 CFR 75; or
   (2) A performance test shall be conducted every 2½ years (no more than thirty-two (32) calendar months following the last performance test.)

b. Pursuant to 401 KAR 52:030, Section 26 to monitor SO_2 and H_2S emissions, the permittee shall do one of the methods below:
   (1) The permittee shall install a SO_2 CEMS that shall be calibrated, operated, tested, and monitored in accordance with 40 CFR 60.13 or 40 CFR 75; or
   (2) A performance test shall be conducted every 2½ years (no more than thirty-two (32) calendar months following the last performance test.)

c. Pursuant to 401 KAR 52:030, Section 26 to monitor VOC emissions, the permittee shall do one of the methods below:
   (1) The permittee shall install a VOC CEMS that shall be calibrated, operated, tested, and monitored in accordance with 40 CFR 60.13; or
   (2) A performance test shall be conducted every 2½ years (no more than thirty-two (32) calendar months following the last performance test.)

d. The permittee shall install, operate, calibrate and maintain a continuous monitoring system (CMS) on the inlet and outlet of the CO_2 Purification unit to measure and record

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

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the off-gas processing rate for the unit. The CMS must be able to correct for the temperature and pressure of the system and output flow in standard conditions as defined in 40 CFR 60.2. The permittee shall install, operate, and maintain the CMS according to the manufacturer's specifications and requirements. [KAR 52:030, Section 26].

e. The permittee shall install, operate, calibrate and maintain CMS on the MTG Reaction Section vent to the CO_2 Purification unit to measure and record the vent rate during MTG catalyst regeneration. The CMS must be able to correct for the temperature and pressure of the system and output flow in standard conditions as defined in 40 CFR 60.2. The permittee shall install, operate, and maintain the CMS according to the manufacturer's specifications and requirements. [KAR 52:030, Section 26].

f. Pursuant to 401 KAR 52:030, Section 26, the permittee must meet the following continuous monitoring requirements for the catalytic oxidizer.
   (1) Install gas temperature monitors upstream and downstream of the catalyst bed as required by Testing Requirements c (2) and (3).
      (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) degrees Fahrenheit or one (1) percent of the temperature value, whichever is larger.
   (2) Collect temperature data at least once every 15 minutes and reduce the data to three (3) hour block averages.
      (i) Maintain the three (3) hour average temperature before the catalyst bed at or above the temperature limit established according Testing Requirements c (2).
      (ii) Maintain the three (3) hour average temperature difference across the catalyst bed at or above the temperature limit established according to Testing Requirements c (3).

5. Specific Recordkeeping Requirements:

a. Pursuant to 401 KAR 59:005 Section 3(2), the permittee shall maintain the records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous emission monitoring system or monitoring device is inoperative.

b. Pursuant to 401 KAR 52:030 Section 26, the permittee shall maintain the following records on site:
   (1) All measurements, including CEMS, monitoring devices, and performance test results; and all continuous monitoring system performance evaluations and calibration checks;
   (2) Manufacturer's maintenance and operating instructions for the pollution control devices and process equipment; and

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

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(3) Maintenance conducted on control devices, instrumentation, and process equipment.

c. The permittee shall maintain monthly and annual records of the mass flow rate of off-gas from the AGR system.

d. The permittee shall maintain monthly and annual records of the regeneration off-gas rate from the MTG plant.

e. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
(1) Emissions of SO_2, VOC, H_2S, and CO with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
(2) Hours of operation;
(3) Fuel usage and fuel specifications from fuel supplier;
(4) Mass flow rate of off-gas from the AGR system; and
(5) The regeneration off-gas rate from the MTG plant.

6. Specific Reporting Requirements:

a. CO_2 Purification Vent performance test protocols, test notifications, and test reports shall be submitted to the Division in accordance with the 401 KAR 50:045. In addition to other information required to be included in a test report, test reports shall include detailed information on the operating conditions of the CO2 Purification unit and gasification block during testing, including:
(1) Feedstock consumption rate and mixture percentage;
(2) Sulfur content of the feedstock;
(3) Significant operating parameters of the gasifiers;
(4) Amount of syngas processed by the AGR unit;
(5) Opacity of the exhaust, 6-minute averages, as determined by reference Method 9.

7. Specific Control Equipment Operating Conditions:
Pursuant to 401 KAR 52:030, Section 26, the permittee shall meet the following operating limits for the catalytic oxidizer:
(1) The average temperature measured just before the catalyst bed in any three (3) hour period must not fall below the limit established according to Testing Requirements c (2); and
(2) The average temperature difference across the catalyst bed in any three (3) hour period shall not fall below the temperature difference established according to Testing Requirements c (3).

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

Gasification & Gas Cleanup

Emission Unit:

C2 Acid Gas (CO_2/H_2S) Removal

Description:
Absorber Column (AC)
Solvent Flash I & II Columns (SF1 & SF2)
CO_2 Stripper (ST)
Hot Regeneration Column (HRC)
MEOH/H_2O Separator (MWS)
CO_2 Wash Column (CWC)
Line Safety Vents (LSV1, LSV2, LSV3)

Emissions Source: C2 located on line between Absorber Column and Mercury Scrubber
Control Device: Vents to the flare FL during startup.

APPLICABLE REGULATIONS:

401 KAR 59:105, *New process gas streams*, applies to any process gas stream commenced after June 6, 1979, which is not elsewhere subject to a standard of performance within 401 KAR Chapter 59 with respect to hydrogen sulfide (H_2S).

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030, Section 26, the total amount of gas flared shall not exceed 280 metric tons per year.

Compliance Demonstration Method:
Refer to Specific Monitoring and Recordkeeping Requirements.

b. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:
Refer to SECTION D.

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

Gasification & Gas Cleanup

2. Emission Limitations:

a. Pursuant to 401 KAR 59:105, the permittee shall not discharge into the atmosphere any gases from the Acid Gas (CO_2/H_2S) Removal System that contain H_2S that exceed ten (10) gr/100 dscf (165 ppm by volume) at zero (0) percent O_2 or without reducing the concentration by 85 percent, based on a three (3) hour average.

Compliance Demonstration Method: Refer to Specific Monitoring and Recordkeeping Requirements.

b. Refer to SECTION D for source-wide emission limits.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall install, operate, calibrate, and maintain a continuous monitoring system (CMS) to measure and record the exhaust gas flow rate of Emission Unit C2. The CMS must be able to correct for temperature and pressure of the system and output flow in standard conditions as defined in 40 CFR 60.2. The permittee shall install, operate, and maintain each CMS according to manufacturer's specifications and requirements.

b. Pursuant to 401 KAR 52:030, Section 26, the permittee shall install a gas chromatograph (GC) analyzer to determine the sulfur, CO, and non-CO hydrocarbon content and heating value of gas vented to the flare. The gas chromatograph shall meet the requirements of 40 CFR 60, Appendix B, Performance Specification 9—Specifications and Test Procedures for Gas Chromatographic Continuous Emission Monitoring Systems in Stationary Sources and the quality assurance procedures in 40 CFR 60, Appendix F.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain annual records of the number of flaring events from Emission Unit C2, including the date and time of each flaring event.

b. The permittee shall maintain records of the volume and mass of off-gas discharged from Emission Unit C2 during each flaring event.

c. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:

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

Gasification & Gas Cleanup

(1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
(2) Hours of operation;
(3) Fuel usage and fuel specifications from fuel supplier; and
(4) Number and duration (hrs) of flaring events.

6. Specific Reporting Requirements:
Refer to Emission Unit FL Specific Reporting Requirements.

7. Specific Control Equipment Operating Conditions:
Refer to Emission Unit FL – Flare.

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

MTG (Methanol to Gasoline Plant)

Emission Unit:	Fuel Input:	Capacity:
E1 (SURGH) MTG Fired Heater Start-Up/Regeneration Gas Heater	30 mmBtu/hr	101,351 scf/hr 87.46 mmscf/yr
Description:		
Primary Fuel	Syngas (296 Btu/scf)	
Secondary Fuel	None	
Source of Emissions	Fuel Combustion	
Construction Date	2011	
Control Measures	Usage Limitations	

APPLICABLE REGULATIONS:

401 KAR 60:005 – 40 C.F.R. Part 60 standards of performance for new stationary sources incorporating by reference 40 CFR Part 60 Subpart Dc—*Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.* This regulation is applicable to facilities which commenced construction after June 9, 1989 and that has a maximum design heat input capacity of 100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 10 MMBtu/hr.

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. The unit shall be limited to the combustion of syngas fuel only.

Compliance Demonstration Method: Refer to SECTION F.9.

b. The permittee shall limit the annual fuel input to the MTG Fired Heater (E1) to 87.46 mmscf/yr.

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

MTG (Methanol to Gasoline Plant)

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements e.**

2. Emission Limitations:

a. Pursuant to 40 CFR 60.42c (b) (2) the Division has made the determination required by 40 CFR 60.48c (a) (4) that the permittee uses an emerging technology for the control of SO_2 emissions and therefore the following emission limits apply:
   (i) The permittee shall not cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 50 percent (0.50) of the potential SO_2 emission rate (50 percent reduction); and
   (ii) The permittee shall not cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 260 ng/J (0.60 lb/MMBtu) heat input.

b. Pursuant to 40 CFR 60.42c (f) reduction in the potential SO_2emission rate through fuel pretreatment is not credited toward the percent reduction requirement under 40 CFR 60.42c (b)(2) unless:
   (1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2emission rate; and
   (2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2control) are equal to or less than the emission limits specified under 40 CFR 60.42c (b)(2).

   Compliance Demonstration Method: Pursuant to 40 CFR 60.42c (i) the SO_2emission limits, percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction. Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

c. Pursuant to 40 CFR 60.43c (c) the permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

d. Pursuant to 40 CFR 60.43c (e)(1) the permittee shall not cause to be discharged into the atmosphere from the affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input.

   Compliance Demonstration Method: Pursuant to 40 CFR 60.43c (d) the PM and opacity standards under this section apply at all times, except during periods of startup,

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

MTG (Methanol to Gasoline Plant)

shutdown, or malfunction. Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

e. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:
Refer to SECTION D.

3. Testing Requirements:

a. Pursuant to 401 KAR 50:045 and 40 CFR 60.8 within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility the permittee shall comply with the following testing requirements:

(1) Pursuant to 40 CFR 60.44c (b) the initial performance test required under 40 CFR 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2emission limits under 40 CFR 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(2) Pursuant to 40 CFR 60.44c (c) after the initial performance test required under paragraph (b) of this section and 40 CFR 60.8, compliance with the percent reduction requirements and SO_2emission limits under 40 CFR 60.42c is based on the average percent reduction and the average SO_2emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2emission rate are calculated to show compliance with the standard.

b. The permittee shall comply with the applicable requirements of 40 CFR 60.44c (d), (e) (f) and (j).

c. The permittee shall conduct an initial performance test as required under 40 CFR 60.8, and shall conduct subsequent performance tests as requested by the Division, to determine compliance with the PM and opacity standards using the procedures and reference methods in 40 CFR 60.45c (a).

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

MTG (Methanol to Gasoline Plant)

d. Refer to Testing Requirements for Emission Unit E3.

4. Specific Monitoring Requirements:

a. The permittee shall comply with the applicable monitoring requirements in 40 CFR 60.46c (a), (b), (c), (d) and (f) for SO_2 emissions.

b. Pursuant to 40 CFR 60.47c (c) the permittee of an affected facility that burns only gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO_2 or PM emissions and that are subject to an opacity standard in 40 CFR 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in 40 CFR 60.48c(f).

c. The permittee must conduct subsequent opacity performance tests according to the requirements of 40 CFR 60.47c (a).

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60.48c (c) the permittee shall maintain records according to the requirements specified in 40 CFR 60.48c (c)(1) through (3), as applicable to the visible emissions monitoring method used.

b. Pursuant to 40 CFR 60.48c (e) the permittee subject to the SO_2 emission limits or percent reduction requirements under 40 CFR 60.42c shall keep records as required including the information in 40 CFR 60.48c (e) (1) through (11), as applicable.

c. Pursuant to 40 CFR 60.48c (f) (4) fuel supplier certification shall include the following information:
   (i) The name of the supplier of the fuel;
   (ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and
   (iii) The method used to determine the potential sulfur emissions rate of the fuel.

d. Pursuant to 40 CFR 60.48c (g)(1) the permittee shall record and maintain records of the amount of each fuel combusted during each operating day.

e. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
   (1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;

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

MTG (Methanol to Gasoline Plant)

(2) Hours of operation; and
(3) Fuel usage and fuel specifications from fuel supplier.

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60.48c (a) the permittee shall submit notification of the date of construction or reconstruction and actual startup, as provided by 40 CFR 60.7. This notification shall include:
(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
(2) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

b. Pursuant to 40 CFR 60.48c (b) the permittee shall submit to the Division the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

c. Pursuant to 40 CFR 60.48c (c) in addition to the applicable requirements in 40 CFR 60.7, the permittee of an affected facility subject to the opacity limits in 40 CFR 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period.

d. Pursuant to 40 CFR 60.48c (d) the permittee subject to the SO_2emission limits, or percent reduction requirements under 40 CFR 60.42c shall submit reports to the Division.

7. Specific Control Equipment Operating Conditions:
None

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

MTG (Methanol to Gasoline Plant)

Emission Unit:	Fuel Input:	Capacity:
E2 (SURH) MTG Fired Heater Start-Up/Reactivation Heater	120 mmBtu/hr	405,405 scf/hr 227.9 mmscf/yr
Description:		
Primary Fuel	Syngas (296 Btu/scf)	
Secondary Fuel	None	
Source of Emissions	Fuel Combustion	
Construction Date	2011	
Control Measures	Usage Limitations	

APPLICABLE REGULATIONS:

401 KAR 60:005 – *40 C.F.R. Part 60 standards of performance for new stationary sources* incorporating by reference 40 CFR Part 60 Subpart – Db Standards of Performance for Industrial -Commercial-Institutional Steam Generating Units. This regulation is applicable to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

401 KAR 59:015 – *New indirect heat exchangers*. This regulation is applicable with respect to SO_2 emissions from emission unit E2 since the unit is not subject to a specific emission standard for SO_2 in 40 CFR 60 Subpart Db.

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. The unit shall be limited to the combustion of syngas fuel only.

Compliance Demonstration Method: Refer to SECTION F.9.

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

MTG (Methanol to Gasoline Plant)

b. The permittee shall limit the annual fuel input to the MTG Fired Heater (E2) to 227.9 mmscf/yr.

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements f.**

2. Emission Limitations:

a. Pursuant to 40 CFR 60.42b (k)(1), the permittee shall not discharged into the atmosphere any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO_2emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input.

b. Pursuant to 401 KAR 59:015, Section 5 (1) (c), SO_2 emissions shall not exceed 0.819 lb/MMBtu. Pursuant to 40 CFR 60.42b (k)(2) units firing only gaseous fuel with a potential SO_2emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO_2emissions limit in 40 CFR 60.42b (k)(1).

Compliance Demonstration Method: Pursuant to 40 CFR 60.42b (e) compliance with the SO_2emission limits and percent reduction requirements are determined on a 30-day rolling average basis. Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

c. Pursuant to 40 CFR 60.44b (a)(1) the permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X (expressed as NO_2) in excess of 210 ng/J (0.50 lb/MMBtu) heat input.

d. Pursuant to 40 CFR 60.43b (h)(1) the permittee shall not cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input.

e. Pursuant to 40 CFR 60.43b (f) the permittee shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

Compliance Demonstration Method:
Pursuant to 40 CFR 63.46b (a) the PM and opacity standards apply at all times, except during periods of startup, shutdown, or malfunction. The NO_X emission standards under 40 CFR 60.44b apply at all times. Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

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

MTG (Methanol to Gasoline Plant)

f. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:
Refer to SECTION D.

3. Testing Requirements:

Pursuant to 401 KAR 50:045 and 40 CFR 60.8 within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility the permittee shall comply with the following testing requirements:

a. The permittee shall comply with all applicable compliance and performance test methods and procedures for SO_2 in 40 CFR 60.45b.

b. Pursuant to 40 CFR 60.45b (k) the owner or operator of an affected facility seeking to demonstrate compliance with 40 CFR 60.42b(k)(2) shall follow the applicable procedures in 40 CFR 60.49b(r).

c. The permittee shall conduct PM and opacity performance tests according to the requirements of 40 CFR 60.46b (d).

d. The permittee must conduct subsequent opacity performance tests according to the requirements of 40 CFR 60.48b (a).

e. Pursuant to 40 CFR 60.48b (g) the permittee shall comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of 40 CFR 60.48b or shall monitor the steam generating unit operating conditions and predict NO_X emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b (c).

f. Refer to Testing Requirements for Emission Unit E3.

4. Specific Monitoring Requirements:

a. Pursuant to 40 CFR 60.48b(a), the permittee subject to the opacity standard under 40 CFR 60.43b shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring opacity of emissions discharged to the atmosphere and record the output of the system.

b. Pursuant to 40 CFR 60.48b (j) (2) the permittee that burns gaseous fuels with potential SO_2emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO_2 or PM emissions is not required to install a continuous opacity monitoring system (COMS). The permittee must maintain fuel records of the sulfur content of the fuels burned, as described under 40 CFR 60.49b(r).

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

MTG (Methanol to Gasoline Plant)

c. The permittee shall comply with all applicable SO_2 emission monitoring requirements in 40 CFR 60.47b.

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60.49b (f) for an affected facility subject to the opacity standard in 40 CFR 60.43b, the owner or operator shall maintain records of opacity. In addition, an owner or operator that elects to monitor emissions according to the requirements in 40 CFR 60.48b(a) shall maintain records according to the requirements specified in 40 CFR 60.49b (f)(1) through (3).

b. Pursuant to 40 CFR 60.49b (g) the owner or operator of an affected facility subject to the NO_X standards under 40 CFR 60.44b shall maintain the applicable records specified in 40 CFR 60.49b (g) (1) through (10).

c. The permittee shall comply with all applicable SO_2 emission recordkeeping requirements in 40 CFR 60.49b(k).

d. Pursuant to 40 CFR 60.49b (d) (2) as an alternative to meeting the requirements of 40 CFR 60.49b (d)(1), the owner or operator of an affected facility that is subject to a federally enforceable permit restricting fuel use to a single fuel such that the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

e. Pursuant to 40 CFR 60.49b (r)(2), the permittee of an affected facility who elects to use the fuel based compliance alternatives in 40 CFR 60.42b shall demonstrate compliance based on fuel analysis and shall develop and submit a site-specific fuel analysis plan to the Division for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:
(i) The potential sulfur emissions rate of the representative fuel in ng/J heat input;
(ii) The method used to determine the potential sulfur emissions rate of the fuel; and
(iii) The owner or operator can petition the Division to approve monthly or quarterly sampling in place of weekly sampling.

f. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
(1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;

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

MTG (Methanol to Gasoline Plant)

(2) Hours of operation; and
(3) Fuel usage and fuel specifications from fuel supplier.

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60.49b (a) the permittee shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:
(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility;
(2) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired; and

b. Pursuant to 40 CFR 60.49b (b) the permittee subject to the SO_2, PM, and/or NO_Xemission limits under 40 CFR 60.42b, 60.43b, and 60.44b shall submit to the Division the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part.

c. Pursuant to 40 CFR 60.49b (c) the permittee subject to the NO_X standard in 40 CFR 60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions in the provisions of 40 CFR 60.48b(g)(2) shall submit to the Division for approval a plan that identifies the operating conditions to be monitored in 40 CFR 60.48b(g)(2) and the records to be maintained in 40 CFR 60.49b(g). This plan shall be submitted to the Division for approval within 360 days of the initial startup of the affected facility. If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall:
(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NO_Xemission rates (*i.e.* , ng/J or lbs/MMBtu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (*i.e.* , the ratio of primary air to secondary and/or tertiary air) and the level of excess air (*i.e.* , flue gas O_2level);
(2) Include the data and information that the owner or operator used to identify the relationship between NO_Xemission rates and these operating conditions; and
(3) Identify how these operating conditions, including steam generating unit load, will be monitored under 40 CFR 60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under 40 CFR 60.49b(g).

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

MTG (Methanol to Gasoline Plant)

d. The permittee shall submit excess emission reports as required by 40 CFR 60.49b (h).

e. Pursuant to 40 CFR 60.49b (i) the owner or operator of any affected facility subject to the continuous monitoring requirements for NO_X under 40 CFR 60.48(b) shall submit reports containing the information recorded under 40 CFR 60.49b (g).

f. Pursuant to 401 KAR 52:030, Section 26 the permittee shall submit to the Division a written application for an exemption from SO_2 testing and monitoring. The application must contain the following information:
   (i) A description of the fuel gas stream/system to be considered, including submission of a portion of the appropriate piping diagrams indicating the boundaries of the fuel gas stream/system;
   (ii) A statement that there are no crossover or entry points for sour gas (high H_2S content) to be introduced into the fuel gas stream/system (this should be shown in the piping diagrams);
   (iii) An explanation of the conditions that ensure low amounts of sulfur in the fuel gas stream at all times;
   (iv) The supporting test results from sampling the requested process gas stream demonstrating that the sulfur content has a potential SO_2 emission rate pursuant to 40 CFR 60.42b(k)(2). Sampling data must include, at minimum, 2 weeks of daily monitoring (14 grab samples) for frequently operated fuel gas streams/systems; for infrequently operated fuel gas streams/systems, seven grab samples must be collected unless other additional information would support reduced sampling;
   (v) A description of how the 2 weeks (or seven samples for infrequently operated fuel gas streams/systems) of monitoring results compares to the typical range of H_2S concentration expected for the process gas stream/system going to the heater.

g. Pursuant to 40 CFR 60.49b(j), the permittee subject to SO_2 standards under 40 CFR 60.42b shall submit reports containing the applicable information in 40 CFR 60.49b(1).

7. Specific Control Equipment Operating Conditions:
None

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

MTG (Methanol to Gasoline Plant)

Emission Unit:	Fuel Input:	Capacity:
E3 (RCH) MTG Fired Heater HGT Reactor Charge Heater	4 mmBtu/hr	13,514 scf/hr 85.41 mmscf/yr
Description:		
Primary Fuel	Syngas (296 Btu/scf)	
Secondary Fuel	MTG Tailgas (9,643 Btu/lb)	
Source of Emissions	Fuel Combustion	
Construction Date	2011	
Control Measures	Usage Limitations	

APPLICABLE REGULATIONS:

401 KAR 59:015 – *New indirect heat exchangers*. This regulation is applicable with respect to PM and SO_2 emissions from a source with a capacity 250 mmBtu/hr heat input or less that commenced after April 9, 1972.

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. The unit shall be limited to the combustion of syngas fuel only, except for 40 hours per year when the MTG tailgas (secondary fuel) is utilized.

Compliance Demonstration Method:
Refer to SECTION F.9.

b. The permittee shall limit the annual fuel input to the MTG Fired Heater (E3) to 85.41 mmscf/yr.

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements b.**

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

MTG (Methanol to Gasoline Plant)

2. Emission Limitations:

a. Pursuant to 401 KAR 59:015, Section 4 (1)(b), PM emissions shall not exceed 0.266 lb/MMBTU.

b. Pursuant to 401 KAR 59:015, Section 4 (2), opacity of emissions shall not exceed 20 percent.

c. Pursuant to 401 KAR 59:015, Section 5(1)(c), SO_2 emissions shall not exceed 0.819 lb/MMBTU.

d. Pursuant to 401 KAR 59:015 Section 4(2), emissions shall not exhibit greater than twenty (20) percent opacity except:
   (1) For indirect heat exchangers with heat input capacity of less than 250 mmBtu/hr for all affected facilities at the source, a maximum of forty (40) percent opacity shall be permissible for not more than one (1) six (6) minute period in any sixty consecutive minutes.
   (2) For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Compliance Demonstration Method:
Use only syngas gas fuel as specified in Operating Limitations.

e. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:
Refer to SECTION D.

3. Testing Requirements:

Pursuant to 401 KAR 52:030, Section 26 and 401 KAR 50:045, the permittee shall conduct the following fuel analysis testing for the syngas combusted in the E1 (SURGH) MTG Process Heater, E2 (SURH) MTG Process Heater and E3 (RCH) MTG Process Heater within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility. The performance test shall be conducted in accordance with the applicable methods described in paragraphs a and b below for mercury and hydrogen sulfide.

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

MTG (Methanol to Gasoline Plant)

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall measure the mercury concentration in a syngas fuel sample using ASTM D5954, ASTM D6350, ISO 6978-1:2003(E), or ISO 6978-22003(E), or equivalent. The permittee shall convert the concentration to units of micrograms/cubic meter.

b. Pursuant to 401 KAR 52:030, Section 26, the permittee shall measure total hydrogen sulfide in a syngas fuel sample using ASTM D4084 or equivalent. The permittee shall convert the concentration to ppm.

4. Specific Monitoring Requirements:

Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor the monthly syngas usage in Emission Unit E3.

5. Specific Recordkeeping Requirements:

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall maintain monthly records syngas usage in Emission Unit E3.

b. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
   (1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
   (2) Hours of operation; and
   (3) Fuel usage and fuel specifications from fuel supplier.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

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

MTG (Methanol to Gasoline Plant)

Emission Unit:
E4 MTG Regeneration Off-Gas
E5 Methanol to Gasoline Plant Flared Process Stream from MTG (see flare (FL) requirements)

Note: E4 MTG Regeneration Off-Gas Emissions included in C1 (CO2 Purification Unit)
E5 (FL) Flared Process Stream from MTG (see flare requirements)

APPLICABLE REGULATIONS:

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. **Operating Limitations:**
   Pursuant to 401 KAR 52:030, Section 26, the total amount of gas flared for Emission Unit E5, Methanol to Gasoline Plant shall not exceed 31,120 pounds per year.

   Compliance Demonstration Method:
   Refer to Specific Monitoring and Recordkeeping Requirements.

2. **Emission Limitations:**
   Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

   Compliance Demonstration Method:
   Refer to SECTION D.

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**

   a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall install, operate, calibrate, and maintain a continuous monitoring system (CMS) to measure and record the exhaust gas flow rate of Emission Unit E5. The CMS must be able to correct for temperature and

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

MTG (Methanol to Gasoline Plant)

pressure of the system and output flow in standard conditions as defined in 40 CFR 60.2. The permittee shall install, operate, and maintain each CMS according to manufacturer's specifications and requirements.

b. Pursuant to 401 KAR 52:030, Section 26, the permittee shall install a gas chromatograph (GC) analyzer to determine the sulfur, CO, and non-CO hydrocarbon content and heating value of gas vented to the flare. The gas chromatograph shall meet the following requirements:
   (1) The gas chromatograph shall meet the requirements of 40 CFR 60, Appendix B, Performance Specification 9—Specifications and Test Procedures for Gas Chromatographic Continuous Emission Monitoring Systems in Stationary Sources.
   (2) The gas chromatograph shall comply with the applicable quality assurance procedures in 40 CFR 60, Appendix F.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain annual records of the number of flaring events from Emission Unit E5, including the date and time of each flaring event.

b. The permittee shall maintain records of the volume and mass of off-gas discharged from Emission Unit E5 during each flaring event.

c. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
   (1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
   (2) Hours of operation; and
   (3) Fuel usage and fuel specifications from fuel supplier.

6. Specific Reporting Requirements:
Refer to Emission Unit FL Specific Reporting Requirements.

7. Specific Control Equipment Operating Conditions:
Refer to Emission Unit FL – Flare.

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

Emission Unit FL	**Flare**
Description: Type: Elevated Flare Manufacturer: Prematechnik or Equivalent Purge: Nitrogen, Methane, or LPG	
Construction Date	2011
Fuel Input	One startup/shutdown: 2887 mmBtu/hr
Primary Fuel	Syngas or Natural Gas
Source of Emissions	**B2/1 (FL ST) Gasifier Startup/shutdown** **B2/2 (FL ST) Gasifier Startup/shutdown** **E5 (FL) Flared Process Stream From MTG (Normal Operations)** **G Pilot Flame on Flare** **C2 Downstream Plant Start-up/Shutdown**
	Startup – one gasifier Shutdown of a gasifier (direct flaring) Shutdown of a gasifier (flaring via acid gas removal plant) Startup of gas/shutdown treatment MTG Tail Gas flaring Start-Up/Shutdown of Methanol and MTG Plant Emergency Relief Emergency Relief of Methanol from Process Plant Emergency Relief of Gasoline from Process Plant Emergency Relief of LPG from Process Plant or pressurized storage Emergency Relief of methanol from atmospheric storage tank Emergency Relief of gasoline from atmospheric storage
Control Measures	Good Combustion Practice (GCP), Flame Detection Monitoring, Automatic Pilot Re-ignition System, Wind Deflector, and Low Sulfur Coal used for Startup and shutdowns (when reasonable and possible).

APPLICABLE REGULATIONS:

401 KAR 63:015, *Flares*, is applicable to each affected facility which means a device at the tip of a stack or other opening used for the disposal of waste gas streams by combustion after April 9, 1972.

401 KAR 59:105, *New process gas streams*, applies to any process gas stream commenced after June 6, 1979, which is not elsewhere subject to a standard of performance within 401 KAR

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

Chapter 59 with respect to hydrogen sulfide (H_2S).

40 CFR 60 Subpart NNN, *Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.*

40 CFR 60 Subpart RRR, *Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.*

40 CFR 60 Subpart A, *General Provisions*, 60.18 *General control device and work practice requirements,* applies to the flare as referenced from 40 CFR 60 Subpart NNN and 40 CFR 60 Subpart RRR.

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030 Section 26, the gas production sent to the flare shall be limited to 100,000 m^3n/event (start-up + shutdown) per gasifier.

b. Pursuant to 401 KAR 52:030 Section 26, the gas production sent to the flare shall be limited to 6,000,000 m^3n/year (start-up + shutdown) from the gasifiers.

c. Pursuant to 40 CFR 60.700(c)(5), if the vent stream from an affected facility is routed to a distillation unit subject to subpart NNN and has no other releases to the air except for a pressure relief valve, the facility is exempt from all provisions of this subpart except for 40 CFR 60.705(r).

d. Pursuant to 40 CFR 60.662, the permittee shall comply with 40 CFR 60.662(b) for each vent stream on and after the date on which the initial performance test required by 40 CFR 60.8 and 40 CFR 60.664 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first.

Compliance Demonstration Method:

Compliance with Operating Limitations a through d shall be demonstrated through compliance with **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements.**

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

e. Pursuant to 40 CFR 60.702, the permittee shall comply with 40 CFR 60.702(b) for each vent stream on and after the date on which the initial performance test required by 40CFR 60.8 and 40 CFR 60.704 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first.

f. Pursuant to 40 CFR 60.662(b) and 40 CFR 60.702(b), the permittee shall, combust the emissions in a flare that meets the requirements of 40 CFR 60.18.

g. Pursuant to 401 KAR 52:030 Section 26, the flare shall be equipped with a wind deflector designed to stabilize the flare flame, positively influencing the flame and efficiency of combustion and pollution control efficiency of regulated air pollutants.

h. The permittee shall use, whenever the flare is in operation, natural gas fuel [401 KAR 52:030, Section 26].

Compliance Demonstration Method:
Compliance with Operating Limitations e through f. shall be demonstrated by complying with the provisions of 40 CFR 60.18 as specified in **2. Emission Limitations** and Compliance Demonstration Method.

2. Emission Limitations:

a. Pursuant to 401 KAR 59:105, the permittee shall not discharge into the atmosphere any gases from the flare that contain H_2S that exceed ten (10) gr/100 dscf (165 ppm by volume) at zero (0) percent O_2 or without reducing the concentration by 85 percent, based on a three (3) hour average.

b. Pursuant to 401 KAR 63:015 Section 3, visible emissions from the flare shall not exceed 20 percent for more than three (3) minutes in any one (1) day.

c. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:

a. Compliance with Emission Limitations a and b shall be demonstrated by fulfilling the following requirements:
   (1) Pursuant to 40 CFR 60.18(c)(3), the permittee has the choice of adhering to either:
      (i) The heat content specifications pursuant to 40 CFR 60.18(c)(3)(ii) and the maximum tip velocity specifications pursuant to 40 CFR 60.18(c)(4); or
      (ii) adhering to the requirements pursuant to 40 CFR 60.18(c)(3)(i);

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

(2) Pursuant to 40 CFR 60.18(c)(5), air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}, as determined by the following equation:

$V_{max} = 8.706 + 0.7084(H_T)$

V_{max} is the maximum permitted velocity, meters/second

H_T = The net heating value as determined in 40 CFR 60.18(f)(3)

(3) Operate the flare with a flame present at all times when process gas may be vented to it [40 CFR 60.18(c)(2)]; and

(4) Operate a flare designed for no visible emissions as determined by Method 22, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. [40 CFR 60.18(c)(1)]

b. Compliance with Emission Limitations c shall be demonstrated by fulfilling the requirements specified in Section D.

3. Testing Requirements:

a. Pursuant to 40 CFR 60.664(a) and 40 CFR 60.704(a), for the purpose of demonstrating compliance with 40 CFR 60.662 or 40 CFR 60.702 , all affected facilities shall be run at full operating conditions and flow rates during any performance test.

b. Opacity Performance Test: Within 60 days after achieving the maximum rate at which the production process will be operated but not later than 180 days after initial startup of the process, the permittee shall conduct observations for visible emissions from the flare in accordance with Method 22 to verify compliance with 401 KAR 63:015 and to demonstrate the flare has a smokeless design as specified by the manufacturer. The observation period is 2 hours and shall be performed according to Method 22.

c. In addition to initial performance testing, flare opacity performance testing by Method 22 shall also be conducted during any routine flaring event (i.e., during a cold plant startup, or a scheduled shutdown). [401 KAR 63:015, Opacity Limits]

d. Flare Compliance Assessment: Within 60 days after achieving the maximum rate at which the production process will be operated but not later than 180 days after initial startup of the process, the permittee shall conduct an initial compliance assessment to demonstrate the flare design complies with manufacturer's specifications and to validate the plant-wide heat and material balance data used as the basis for the emission limits applicable to the flare. The performance analysis of the flare shall demonstrate that the parameters of design analysis and the operating conditions of the flare are consistent and the flare is operating properly to achieve the required destruction removal efficiency.

e. Initial flare compliance assessments shall be conducted during a routine cold plant startup and a scheduled plant shutdown. If a routine cold plant startup or total plant shutdown does not occur within the shakedown period, the permittee shall conduct a

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

flare assessment during the next scheduled cold startup or total plant shutdown. Before conducting the flare compliance assessment, the permittee shall develop and submit a site-specific test protocol to the Division 60 days prior to the scheduled test date. The flare compliance assessment must meet the following requirements: [401 KAR 52:030, Section 10 and Section 26]

(1) The net heating value of the process gas being combusted in the flare shall be calculated using Equation 1:

$$H_T = K_1 \sum_{j=1}^{n} D_j H_j \qquad \text{[Equation 1]}$$

Where:

H_T = Net heating value of the sample, megajoules per standard cubic meter; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 millimeters of mercury (30 inches of mercury), but the standard temperature for determining the volume corresponding to one mole is 20 °C;

K_1 = 1.740×10^{-7} (parts per million by volume)$^{-1}$ (gram-mole per standard cubic meter) (megajoules per kilocalories), where the standard temperature for gram mole per standard cubic meter is 20 °C;

n = number of sample components;

D_j = Concentration of sample component j, in parts per million by volume on a wet basis, as measured by appropriate test methods; and

H_j = Net heat of combustion of sample component j, kilocalories per gram mole at 25 °C and 760 millimeters of mercury (30 inches of mercury).

(2) The CO and non-CO hydrocarbon content of the process gas shall be determined using appropriate test methods.

(3) The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR 60 Appendix A, as appropriate, by the unobstructed (free) cross sectional area of the flare tip.

(4) Flare flame or pilot monitors, as applicable, shall be operated at all times during the flare compliance assessment.

(5) The permittee shall perform a visual check of the flare and shall document the following:

(i) Flame stability;
(ii) Any evidence that might indicate burn-out or lift-off;
(iii) Separation(s) between the flare tip and any part of the flame; and
(iv) Flaring event opacity tests (refer to **3. Testing Requirements** b and c)

f. Continuous Monitoring System Performance Evaluation: Within 60 days after achieving

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

the maximum rate at which the production process will be operated but not later than 180 days after initial startup of the process during a flaring event, the permittee shall conduct an initial performance evaluation of the required flare continuous monitoring systems (CMS) in accordance with the applicable performance specifications specified by the CMS manufacturer. Subsequent CMS performance evaluations shall be conducted on an annual basis. Before conducting the CMS performance evaluation, the permittee shall develop a site-specific performance evaluation test plan and submit it to the Division 60 days prior to the scheduled test date. The CMS performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program.

4. Specific Monitoring Requirements:

a. Pursuant to 40 CFR 60.663(b), the owner or operator of an affected facility that uses a flare to seek to comply with 40 CFR 60.662(b) shall install, calibrate, maintain and operate according to manufacturer's specifications the following equipment:
(1) A heat sensing device, such as an ultra-violet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame; and
(2) A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the flare and before being joined with any other vent stream.

b. Pursuant to 40 CFR 60.703(b), the owner or operator of an affected facility that uses a flare to seek to comply with 40 CFR 60.702(b) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:
(1) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame.
(2) A flow indicator that provides a record of vent stream flow diverted from being routed to the flare at least once every 15 minutes for each affected facility, except as provided in 40 CFR 60.702(b)(2)(ii).
(i) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream from being routed to the flare, resulting in its emission to the atmosphere.[40 CFR 60.702(b)(2)(i)]
(ii) Where the bypass line valve is secured in the closed position with a car-seal or a lock-and-key type configuration, a flow indicator is not required. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line. [40 CFR 60.702(b)(2)(ii)]

c. The flare pilots shall be equipped with an automatic-reignition system to ensure the pilot

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

flame is relit as soon as is practicable after a pilot flame outage. [401 KAR 52:030, Section 10 and Section 26]

d. Continuous Pilot and Assist Gas Monitoring: The permittee shall install, operate, and maintain CMS to monitor and record the usage of pilot and assist (if required by the manufacturer's specifications) gas by the flare. [401 KAR 52:030, Section 10 and Section 26]

e. Continuous Process Gas Flow Rate and Sulfur Content Monitoring: The permittee shall install, operate, calibrate, and maintain CMS to measure and record the following flare operating parameters; [401 KAR 52:030, Section 10 and Section 26]
   (1) The total volumetric flow rate of process gas sent to the flare;
   (2) The sulfur, CO, and non-CO hydrocarbon content and heating value of the process gas sent to the flare; and
   (3) The exhaust gas flow rate.
      (i) The CPMS must be able to correct for the temperature and pressure of the system and output flow in standard conditions as defined in §60.2.
      (ii) The owner or operator shall install, operate, and maintain each CPMS according to the manufacturer's specifications and requirements.

f. The owner or operator shall install, operate, and maintain reduced sulfur CEMS according to Performance Specification 5 of appendix B to part 60.

g. The owner or operator shall conduct performance evaluations of each reduced sulfur monitor according to the requirements in 40 CFR 60.13(c) and Performance Specification 5 of appendix B to part 60. The owner or operator shall use Methods 15 or 15A of appendix A–5 to part 60 for conducting the relative accuracy evaluations. The method ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses," (incorporated by reference—see §60.17) is an acceptable alternative to EPA Method 15A of appendix A–5 to part 60.

h. The owner or operator shall comply with the quality assurance procedures in appendix F to part 60 for each reduced sulfur monitor.

i. Periodic Process Gas Sampling: At least once every two years during a routine cold plant startup and total plant shutdown, the permittee shall collect representative samples of the various process gas streams that could be vented to the flare which are not monitored continuously and analyze them using appropriate test methods for sulfur, CO, and non-CO hydrocarbon content and heating value. If a cold plant startup or total plant shutdown does not occur within two years of the previous measurement period, the permittee shall measure these parameters during the next cold startup or total plant shutdown. The permittee shall identify the minor process gas streams that may be vented to the flare and are not monitored on a continuous basis in the flare monitoring plan required under **4. Specific Monitoring Requirements** e., below. [401 KAR 52:030, Section 10 and Section 26]

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

j. Flare Monitoring Plan:
The permittee shall develop and maintain a written flare monitoring plan addressing the required flare monitoring systems and process gas sampling, which shall include the following information. A copy of this plan shall be submitted to the Division prior to initial startup. [401 KAR 52:030, Section 10 and Section 26]
(1) A process flow diagram (PFD) of the flare and associated equipment in the production process area. The PFD shall identify major components of the flare system, such as the header, stack, burner(s), purge gas system, pilot gas system, ignition system, assist system, and process gas lines.
(2) Drawing(s), with dimensions, showing the location(s) in the process at which sampling or monitoring is conducted, accompanied by an explanation of the methods used to select these locations.
(3) The type, make, and model of each monitoring device or instrument used for required monitoring, with a description of manufacturer's specifications for the device, including but not limited to range, precision, accuracy, calibration, and recommended procedures for quality control, quality assurance and maintenance.
(4) A description of the test methods used to analyze the monitored or sampled process gas.
(5) A description of the sampling program for each routine flaring event conducted in accordance with Subsection 4.d, Specific Monitoring Requirements, above.
(6) A description of the data collection and recording device(s) used to store data collected by required monitoring systems.
(7) A description of the data collection and recordkeeping for each periodic process gas sampling period.
(8) A description of the low flow flare operating conditions during which monitoring is not technically feasible.

k. Root Cause Analysis: After the initial shakedown of the plant, the permittee shall conduct an event-specific investigation or Root-Cause Analysis (RCA) into each Flaring Incident at the production process to determine the causes of the incident, to take reasonable steps to correct the conditions that caused or contributed to the incident, and to further minimize emissions from flaring, as follows. For this purpose, a Flaring Incident is defined as a non-routine flaring event that produces more than 500 lb SO_2/day above permit limits and accompanies the unscheduled shutdown of a gasifler or syngas processing train or a malfunction of a process unit generating process gas routed to the flare. A Root Cause Analysis for a Flaring Incident shall consist of: [401 KAR 52:030, Section 10 and Section 26]
(1) An incident investigation designed to identify and assess available corrective measures to prevent or reduce the likelihood of recurrence of a similar incident.
(2) A corrective action program, if necessary, that is consistent with good engineering practice to minimize the likelihood of a recurrence of the cause(s) of the incident with a schedule for implementation of any measures not completed during the incident.

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

l. A minimum of once per week when only the flare pilots are in operation, the permittee shall observe the visible emissions from flare, as follows: [401 KAR 52:030, Section 10 and Section 26]
   (1) An employee has been trained in the appearance and characteristics of normal visible emissions for the specified processes shall perform the observation.
   (2) The observation shall be taken during the part of the operation that would normally be expected to cause the greatest emissions.
   (3) The results of the observation shall be noted as normal or abnormal.
   (4) If visible emissions are observed, then Method 22 shall be used to determine if the flare is in compliance with the visible emission limitations.

5. Specific Recordkeeping Requirements:

a. Startup, Shutdown, and Malfunction Plan:
The permittee must develop a written startup, shutdown, and malfunction (SSM) plan that describes procedures for operating and maintaining the affected sources generating process gas routed to the flare during periods of SSM and a program of corrective action for malfunctioning process and monitoring equipment used to comply with the flare emission limitations. The permittee must maintain at the affected source a current SSM plan and must make the plan available upon request for inspection and copying by the Division. In addition, if the SSM plan is subsequently revised, the permittee must maintain at the affected source each previous (i.e., superseded) version of the SSM plan, and must make each such previous version available for inspection and copying by the Division for a period of 5 years after revision of the plan. If the permittee claims that any portion of such a SSM plan is confidential business information entitled to protection from disclosure under 401 KAR 1:060, the material which is claimed as confidential must be clearly designated in the submission. The purpose of the SSM plan is to:
   (1) Ensure that, at all times, the permittee operates and maintains each affected source, including monitoring equipment, in a manner which satisfies the general duty to minimize emissions in a manner consistent with safety and good air pollution control practices, and
   (2) Ensure that the permittee is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions. Excess emissions means any emissions generated during routine operation or malfunction that exceed either the short-term or annual flare emission limitations.

b. SSM Plan Revisions:
The permittee may periodically revise the SSM plan for the affected source as necessary to satisfy the above requirements or to reflect changes in equipment or procedures associated with the flare. The permittee may make such revisions to the SSM plan without prior approval by the Division. However, each such revision to a SSM plan must be reported in the semiannual report required by SECTION F.6. If the SSM plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the SSM plan at the time the permittee developed the current

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

plan, the permittee must revise the SSM plan to include procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or monitoring equipment.

c. Startup, Shutdown, and Malfunction Plan Records:
The permittee shall keep the following records of each SSM event:
(1) Date, time and duration of the event, and a description of the event;
(2) All information necessary, including actions taken, to demonstrate conformance with the affected source's SSM plan when all actions taken during periods of SSM are consistent with the procedures specified in such plan;
(3) A description of the actions taken during periods of startup or shutdown when the actions taken are different from the procedures specified in the affected SSM plan;
(4) A description of the actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different from the procedures specified in the affected source's SSM plan;
(5) Each period during which a flare continuous monitoring system is malfunctioning or inoperative;
(6) All required measurements needed to demonstrate compliance with the flare emissions limitations during startup events and planned shutdown events.
(7) Description of the amount and type of gas sent to the flare during startup and shutdown; and
(8) Date, time, and description of anytime sour (without sulfur removal) syngas is sent to the flare during startup and shutdown.

d. General Flaring Event Records:
The permittee shall keep the following operating records for each event when process gas is flared:
(1) Date, time, and duration of each flaring event;
(2) Description of the event, including a discussion of the cause(s) and probable cause(s) for unplanned events;
(3) Confirmation that established operating procedures were followed;
(4) Confirmation that the flare functioned properly including verification that a pilot flame was present at all times and that any visible emissions that occurred were in compliance with applicable opacity limits;
(5) The amount and source of the process gas sent to the flare, with an explanation of the amount and source for any sour process gas (i.e., any process gas vented upstream of the AGR unit or from the SRU/ATS unit) that was flared;
(6) The estimates for the amount of CO, non-CO hydrocarbons, and sulfur content and heating value of the process gas sent to the flare and the amount of CO, NO_X, and SO_2 emitted with supporting calculations; and
(7) A description of any corrective actions taken during the event to minimize emissions.

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

e. CMS Records:
The permittee shall maintain the following records for each required flare CMS:
(1) All required CMS measurements;
(2) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
(3) The date and time identifying each period during which the CMS was out of control;
(i) A CMS is out of control if
(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification, and
(B) The CMS fails a performance test audit, relative accuracy audit, relative accuracy test audit, or linearity test audit.
(ii) When the CMS is out of control, the permittee shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to calculate data availability.
(4) The date and time of commencement and completion of each period of excess emissions;
(5) The nature and cause of any malfunction (if known);
(6) The corrective action taken or preventive measures adopted;
(7) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;
(8) The total process operating time during the reporting period; and
(9) In order to satisfy Specific Recordkeeping Requirements (e)(6) through (8), the permittee may use the affected source's SSM plan, standard operating procedures, or records kept to satisfy the recordkeeping requirements of the SSM plan specified under **5. Specific Recordkeeping Requirements** c., provided that such plan and records adequately address the requirements of these conditions.

f. The permittee shall maintain the following records onsite:
(1) Emissions of NO_X, SO_2 and CO, calculated according to the averaging periods specified in the applicable emission limitations, including data from monitoring devices, calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations; and
(2) Fuel usage for pilot operation and fuel specifications from the fuel supplier.

g. The permittee shall maintain records onsite of flare observations required **by 4. Specific Monitoring Reguirements** h. and flare analysis required by **3. Testing Requirements** b.

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

h. The permittee shall maintain records onsite for compliance with **2. Emission Limitations** a.

i. Pursuant to 40 CFR 60.665(b) or 40 CFR 60.705(b), each owner or operator subject to the provisions 40 CFR 60 Subpart NNN or 40 CFR 60 Subpart RRR shall keep an up-to-date, readily accessible record of the following data measured during each performance test, and also include the following data in the report of the initial performance test required under 40 CFR 60.8.:
   (1) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the performance test, continuous records of the flare pilot flame monitoring, and records of all periods of operations during which the pilot flame is absent. [40 CFR 60.655(b)(3) or 40 CFR 60.705(b)(3)]

j. Pursuant to 40 CFR 60.655(d), each owner or operator subject to the provisions 40 CFR 60 Subpart NNN shall keep up to date, readily accessible continuous records of the flow indication specified under 40 CFR 60.663(b)(2), as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device or has no flow rate.

k. Pursuant to 40 CFR 60.665(f), each owner or operator subject to the provisions of 40 CFR 60 Subpart NNN shall keep up-to-date, readily accessible continuous records of the flare pilot flame monitoring specified under 40 CFR 60.663(b), as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent.

l. Pursuant to 40 CFR 60.705(d), each owner or operator subject to the provisions 40 CFR 60 Subpart RRRshall keep up to date, readily accessible continuous records of the flow indication specified under 40 CFR 60.703(b)(2)(i), as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device.

m. Pursuant to 40 CFR 60.705(e), each owner or operator subject to the provisions of 40 CFR 60 Subpart RRR shall keep up-to-date, readily accessible continuous records of the flare pilot flame monitoring specified under 40 CFR 60.703(b), as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent.

n. Pursuant to 40 CFR 60.705(s), each owner or operator who seeks to demonstrate compliance with 40 CFR 60.702 (a) or (b) using a control device must maintain on file a schematic diagram of the affected vent streams, collection system(s), fuel systems, control devices, and bypass systems as part of the initial report. This schematic diagram must be retained for the life of the system.

o. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:

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

(1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
(2) Hours of operation; and
(3) Fuel usage and fuel specifications from fuel supplier.

6. Specific Reporting Requirements:

a. Semiannual SSM Plan Reporting:
The permittee shall submit semiannual SSM reports according to the schedule in SECTION F.6. If actions taken by the permittee during all SSM events during the reporting period are consistent with the procedures specified in the source's SSM plan, the permittee shall state such information in the SSM report. The semiannual SSM report shall include:
(1) A description of actions taken to minimize emissions during SSM events;
(2) A summary of production process operations during the reporting period, including the total number of startups, gasifier rotations, and shutdowns, the amount of LPG and gasoline produced by the plant, and the emissions of CO, NO_X and SO_2 from the flare during these routine planned events;
(3) A listing of each flaring event during the reporting period, with the date and duration, a description of the event, including cause(s), and whether an event-specific Root Cause Analysis was performed for the event;
(4) For malfunctions requiring an immediate report under **6. Specific Reporting Requirement** (b), a copy of the immediate report;
(5) A description of the reasons for any SSM plan revisions completed during the reporting period;
(6) The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy; and
(7) The SSM reports may be submitted simultaneously with the excess emissions and continuous monitoring system performance reports.

b. Immediate Malfunction Reporting: Pursuant to 401 KAR 50:055 Section 1(3), when emissions due to malfunctions, unplanned shutdowns or ensuing start-ups are or may be in excess of the flare emission limitations, the permittee shall notify the director by telephone as promptly as possible, and shall cause written notice when requested by the director to be sent to the director. Such notice shall specify the name of the source, its location, the address and telephone number of the person responsible for the source, the nature and cause of the malfunctions, or unplanned shutdown, the date and time when the malfunction was first observed, the expected duration, the nature of the action to be taken to correct the malfunction, and an estimate of the physical and chemical composition, rate and concentration of the emission.

c. Flaring Event Annual Report: The permittee shall submit a report to the Division for flaring during the previous year which shall include:
(1) A summary of flaring activity and emissions during the previous year, including an

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

assessment of the cause(s) for such flaring as related to the number of events and share of emissions, a summary of each event-specific Root Cause Analysis performed, and calculated actual annual CO , NO_X, and SO_2 emissions from the flare for comparison against the annual emission limitations;

(2) Copies of the summaries for flaring activity for the preceding three years, as reported in previous flaring event annual reports;

(3) A summary of the actions or measures implemented as part of Root Cause Analyses or any other programs during the previous year to reduce flaring, including the observed effect of these actions;

(4) A summary of the actions or measures planned for implementation as part of any program during the current year to reduce flaring and the expected effect of these actions;

(5) A listing of significant changes, if any, made to the Flare Monitoring Plan, with a brief description of the change and associated justification for the change; and

(6) Confirmation that the required annual flare CMS performance evaluations were conducted, with a summary of results.

d. Root Cause Analysis (RCA) Reporting: The permittee shall submit a report to the Division for each RCA. Reports for Flaring Incidents and subsequent investigations shall be submitted to the Division according to the schedule in SECTION F.6. If an investigation is still underway at the end of the reporting period, the report shall include information for the investigation to that point and a statement of the anticipated date by which a complete follow-up report will be submitted. If the permittee claims that any portion of the RCA report is confidential business information entitled to protection from disclosure under 401 KAR 1:060, the material which is claimed as confidential must be clearly designated in the submission. Each report shall include the following information:

(1) Date, time and duration of the incident, and a description of the incident. To the extent that the incident involved multiple releases within a 24-hour period or within subsequent, contiguous non-overlapping periods, the report shall set forth the date, start time and duration of each release;

(2) The amount of process gas flared during the incident and the estimated actual emissions of CO, NO_X, and SO_2 from the incident, with supporting data and calculations;

(3) An analysis that sets forth the root cause of the incident as well as contributing causes of the incident, to the extent determinable;

(4) An analysis of the measures, if any, that are available to reduce the likelihood of a recurrence of an incident resulting from the same root cause or contributing causes in the future; and

(5) If the analysis concludes that corrective actions are required, a description of those actions and, if not already completed, a schedule for their implementation, with planned commencement and completion dates of various actions.

e. Excess Emissions and Continuous Monitoring System Reports: The permittee shall submit an excess emissions and continuous monitoring system performance report to the Division semiannually according the schedule in SECTION F.6 to provide data on

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

compliance with relevant flare emission limits, operating parameters, and the performance of flare CMS. This report shall include:
(1) An estimate for all excess emissions that occurred during the reporting period, and
(2) A summary of the CMS records required under **5. Specific Recordkeeping Requirements** e. above.

f. CMS Performance Test Reports: The permittee shall submit to the Division a copy of a written report of the results of the CMS performance evaluation within 60 days of completion of the performance evaluation.

g. Pursuant to 40 CR 60.665(b), the data specified in 40 CR 60.665 shall be submitted in the reports of all subsequently required performance tests.

h. Pursuant to 40 CFR60.665 (i) or 40 CFR 60.705(h), each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the flow rate cutoff in 40 CFR 60.660(c)(6) or 40 CFR 60.700(c)(4) shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.008 scm/min (0.3 scf/min) (for 40 CFR 60 Subpart NNN) or 0.011 scm/min (for 40 CFR 60 Subpart RRR) and of any change in equipment or process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate.

i. Pursuant to 40 CFR60.665(k), each owner and operator subject to the provisions of 40 CFR 60 Subpart NNN or 40 CFR 60 Subpart RRR , is exempt from the quarterly reporting requirements contained in 40 CFR 60.7(c) of the General Provisions.

j. Pursuant to 40 CFR 60.665(l), each owner or operator that seeks to comply with the requirements of this subpart by complying with the requirements of 40 CFR 60.662 shall submit to the Administrator semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.
(1) All periods recorded under 40 CFR 60.665(d) when the vent stream is diverted from the control device or has no flow rate. [40 CFR 60.665(l)(2)]
(2) All periods recorded under 40 CFR 60.665(f) in which the pilot flame of the flare was absent. [40 CFR 60.665(l)(4)]
(3) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.660(c)(6), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.665(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed with the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and E_{TOC}. The

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

performance test is subject to the requirements of 40 CFR 60.8 of the General Provisions. Unless the facility qualifies for an exemption under the low capacity exemption status in 40 CFR 60.660(c)(5), the facility must begin compliance with the requirements set forth in 40 CFR 60.662. [40 CFR 60.665(l)(5)]

(4) Any change in equipment or process operation, as recorded under paragraph (j) of this section, that increases the design production capacity above the low capacity exemption level in 40 CFR60.660(c)(5) and the new capacity resulting from the change for the distillation process unit containing the affected facility. These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed within the same time period to obtain the vent stream flow rate, heating value, and E_{TOC}. The performance test is subject to the requirements of 40 CFR 60.8. The facility must begin compliance with the requirements set forth in 40 CFR 60.660(d) or 40 CFR 60.662. If the facility chooses to comply with 40 CFR 60.662, the facility may qualify for an exemption in 40 CFR 60.660(c)(4) or (6). [40 CFR 60.665(l)(6)]

k. Pursuant to 40 CFR60.665(n), each owner or operator that seeks to demonstrate compliance with 40 CFR60.660(c)(5) must submit to the Administrator an initial report detailing the design production capacity of the process unit.

l. Pursuant to 40 CFR60.665(o), each owner or operator that seeks to demonstrate compliance with 40 CFR60.660(c)(6) must submit to the Administrator an initial report including a flow rate measurement using the test methods specified in 40 CFR60.664.

m. Pursuant to 40 CFR 60.705(l), each owner or operator that seeks to comply with the requirements of this subpart by complying with the requirements of 40 CFR 60.700 (c)(2), (c)(3), or (c)(4) or 40 CFR 60.702 shall submit to the Administrator semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.

(1) All periods and duration recorded under 40 CFR 60.705(d) when the vent stream is diverted from the control device to the atmosphere. [40 CFR 60.705(l)(2)]

(2) All periods recorded under 40 CFR 60.705(f) in which the pilot flame of the flare was absent. [40 CFR 60.705(l)(3)]

(3) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR60.700(c)(4), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.705(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed within the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and E_{TOC}. The performance test is subject to the requirements of 40 CFR 60.8 of the General Provisions. Unless

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

the facility qualifies for an exemption under any of the exemption provisions listed in 40 CFR 60.700(c), the facility must begin compliance with the requirements set forth in 40 CFR 60.702. [40 CFR 60.705(l)(4)]

(4) Any change in equipment or process operation, as recorded under 40 CFR 60.705 (i), that increases the design production capacity above the low capacity exemption level in 40 CFR 60.700(c)(3) and the new capacity resulting from the change for the reactor process unit containing the affected facility. These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed within the same time period to obtain the vent stream flow rate, heating value, and E_{TOC}. The performance test is subject to the requirements of 40 CFR 60.8. The facility must begin compliance with the requirements set forth in 40 CFR 60.702 or 40 CFR 60.700(d). If the facility chooses to comply with 40 CFR 60.702, the facility may qualify for an exemption under 40 CFR 60.700(c)(2), (4), or (8). [40 CFR 60.705(l)(5)]

(5) All periods recorded under 40 CFR 60.705(d) in which the seal mechanism is broken or the by-pass line valve position has changed. A record of the serial number of the car-seal or a record to show that the key to unlock the bypass line valve was checked out must be maintained to demonstrate the period, the duration, and frequency in which the bypass line was operated. [40 CFR 60.705(l)(7)]

(6) Any change in equipment or process operation that increases the vent stream concentration above the low concentration exemption level in 40 CFR 60.700(c)(8), including a measurement of the new vent stream concentration, as recorded under 40 CFR 60.705(j). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. If the vent stream concentration is above 300 ppmv as measured using Method 18 or above 150 ppmv as measured using Method 25A, a performance test must be completed within the same time period to obtain the vent stream flow rate, heating value, and E_{TOC}. The performance test is subject to the requirements of 40 CFR 60.8 of the General Provisions. Unless the facility qualifies for an exemption under any of the exemption provisions listed in 40 CFR 60.700(c), the facility must begin compliance with the requirements set forth in 40 CFR 60.702. [40 CFR 60.705(l)(8)]

n. Pursuant to 40 CFR 60.705(r), each owner or operator whose reactor process vent stream is routed to a distillation unit subject to subpart NNN and who seeks to demonstrate compliance with 40 CFR 60.700(c)(5) shall submit to the Administrator a process design description as part of the initial report. This process design description must be retained for the life of the process. No other records or reports would be required unless process changes are made.

7. Specific Control Equipment Operating Conditions:

None

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

Emission Unit:

CT Cooling Tower

Description:

Process Description:	Induced flow cooling tower
Operating Rate:	18.49 million gallons per hour
Construction Date:	2011
Controls:	None

APPLICABLE REGULATIONS:

401 KAR 63:010 – *Fugitive emissions*. This regulation is applicable with respect to particulate matter emissions.

NON-APPLICABLE REGULATIONS:

40 CFR Part 63 Subpart Q, *National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers*. This regulation is not applicable as long as the cooling towers are not operated with chromium-based water treatment chemicals.

1. Operating Limitations:

a. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the total dissolved solids (TDS) concentration in the circulation cooling water at or below 5,000 ppm.

b. To preclude applicability of 401 CFR 63 Subpart Q, the cooling tower shall not be operated with chromium-based water treatment chemicals, as defined in 40 CFR 63.401. [40 CFR Part 63 Subpart Q]

c. Pursuant to 401 KAR 63:010, Section 3(1), the permittee shall not cause, suffer, or allow material to be processed, without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. Emission Limitations:

Pursuant to 401 KAR 63:010, Section 3(2), the permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property in which the emissions originated.

3. Testing Requirements:

a. To demonstrate that the cooling tower is not an emission source of VOC and HAP emissions, the permittee shall perform an initial test on the Cooling Tower (CT), within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, according to one of the following methods:

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

(1) Test methods specified in Appendix P of the January 2003Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual;
(2) Test methods specified in 40 CFR Subpart 136, *Guidelines Establishing Test Procedures for The Analysis Of Pollutants;*
(3) Approved EPA test method(s) for VOC and HAP; or
(4) An alternative test method submitted to the Division and approved.

b. Subsequent testing shall be performed upon the request of the Division.

4. Specific Monitoring Requirements:

Pursuant to 401 KAR 52:030, Section 26, the permittee shall sample and analyze the cooling tower circulation water on a monthly basis for the TDS concentration. Measurements of the TDS concentration in the wastewater discharge associated with the affected unit, as required by a National Pollution Discharge Elimination System Permit, may be used to satisfy this requirement if the effluent has not been diluted or otherwise treated in a manner that would significantly reduce its TDS concentration.

5. Specific Recordkeeping Requirements:

a. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee must maintain records on site with totals calculated on a monthly basis and a twelve (12) month rolling total of the $PM/PM_{10}/PM_{2.5}$ emissions using emission factors, average monthly cooling tower water circulation rate, monthly TDS test results, or any other methods along with supporting calculations.

b. Pursuant to 401 KAR 52:030, Section 26, the permittee shall maintain the following records on site:
(1) All measurements, including monitoring device and performance test results; and all calibration checks;
(2) Manufacturer's maintenance and operating instructions for the pollution control devices and process equipment;
(3) Copies of the Material Safety Data Sheets for water treatment chemicals that are added to the cooling tower circulation water;
(4) Total volume of make-up water to the cooling tower; and
(5) Total cooling tower water circulated.

c. The permittee shall maintain records of test results from testing required in **3. Testing Requirements.**

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

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

Emission Unit:	Description	Capacity million gallons (mmgal)	Max. Annual Throughput (mmgal/yr)
Emission Unit TK6	**Methanol Tank**	**2.0**	**700.0**
Emission Unit TK1	**Gasoline Storage Tank No.1**	**2.0**	**91.98**
Emission Unit TK2	**Gasoline Storage Tank No.2**	**2.0**	**91.98**
Emission Unit TK3	**Gasoline Storage Tank No.3**	**2.0**	**91.98**
Construction Date: 2011			

APPLICABLE REGULATIONS:

40 CFR 60 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.* This regulation is applicable to storage tanks larger than 151 m^3 storing a (volatile organic liquid) VOL with a maximum true vapor pressure greater than 5.2 kiloPascal (kPa) but less than 76.6 kPa.

40 CFR 63 Subpart R, *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations),* is applicable to each bulk gasoline terminal and pipeline breakout station.

NON-APPLICABLE REGULATIONS:

401 KAR 59:050, *New storage vessels for petroleum liquids* does not apply too TK1-TK3 because construction did not commence construction prior to July 24, 1984.

40 CFR 63 Subpart R, National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations) is not applicable to the methanol Tank (TK6).

1. **Operating Limitations:**

   Pursuant to 40 CFR 60, Subpart Kb, the permittee must equip the methanol storage tank (TK6), and each gasoline storage tank: Tank 1 (TK1), Tank 2 (TK2), and Tank 3 (TK3), with the a fixed roof in combination with an internal floating roof meeting the following specifications as provided for in 40 CFR 60.112b(a)(1)(i) through (ix):

   a. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling,

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

emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

b. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
   (i) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
   (ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
   (iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

c. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

d. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

e. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

f. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

g. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

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

h. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

i. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

Compliance Demonstration Method:
Compliance with Operating limitations shall be demonstrated by Testing Requirements and Specific Recordkeeping Requirements a.

j. Pursuant to 40 CFR 63.420(g) each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart that is also subject to applicable provisions of 40 CFR part 60, subpart Kb or XX of this chapter shall comply only with the provisions in each subpart that contain the most stringent control requirements for that facility.

Compliance Demonstration Method:
Refer to SECTION F.9.

2. Emission Limitations:

a. The permittee shall comply with all applicable provisions of 40 CFR 63.422 for loading racks. (See Emission Units LR1 and LR2)

b. The permittee shall comply with all applicable provisions of 40 CFR 63.423 for storage vessels. (For TK1, TK2, and TK3)

c. The permittee shall comply with all applicable provisions of 40 CFR 63.424 for equipment leaks. (See Emission Units FUGL and GFUG)

Compliance Demonstration Method: Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

3. Testing Requirements:

Pursuant to 40 CFR 60.113b, after installing the control equipment required to meet 40 CFR 60.112b(a)(1) (permanently affixed roof and internal floating roof), the permittee shall:

a. Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the pemittee shall repair the items before filling the storage vessel.

b. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in

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

service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Division in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

c. For vessels equipped with a double-seal system as specified in 40 CFR 60.112b(a)(1)(ii)(B):
   (1) Visually inspect the vessel as specified in paragraph d of Testing Requirements at least every 5 years; or
   (2) Visually inspect the vessel as specified in paragraph b of Testing Requirements.

d. Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraph b and paragraph c(2) of Testing Requirements and at intervals no greater than 5 years in the case of vessels specified in paragraph c(1) of Testing Requirements.

e. Notify the Division in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraph a and d of Testing Requirements to afford the Division the opportunity to have an observer present. If the inspection required by paragraph a and d of Testing Requirements is not planned and the permittee could not have known about the inspection 30 days in advance or refilling the tank, the permittee shall notify the Division at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this

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

notification including the written documentation may be made in writing and sent by express mail so that it is received by the Division at least 7 days prior to the refilling.

f. The permittee shall comply with all applicable test methods and procedures in 40 CFR 63.425.

4. Specific Monitoring Requirements:

The permittee shall comply with all applicable continuous monitoring requirements in 40 CFR 63.427.

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60.115b, the permittee shall keep records and furnish reports as required by 40 CFR 60.115b(a). The permittee shall keep copies of all reports and records required by this section. After installing control equipment in accordance with 40 CFR 60.112b(a)(1) (fixed roof and internal floating roof), the permittee shall meet the following requirements.
   (1) Furnish the Division with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3).
   (2) Keep a record of each inspection performed as required by 40 CFR 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
   (3) If any of the conditions described in 40 CFR 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR 60.113b(a)(2), a report shall be furnished to the Division within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
   (4) After each inspection required by 40 CFR 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR 60.113b(a)(3)(ii), a report shall be furnished to the Division within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR 61.112b(a)(1) or 40 CFR 60.113b(a)(3) and list each repair made.

b. Pursuant to 40 CFR 60.116b the permittee shall keep copies of all records required by this section, except for the record required by paragraph b(1) of Specific Recordkeeping Requirements, for at least 2 years. The record required by paragraph (b)(1) of Specific Recordkeeping Requirements will be kept for the life of the source.

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

(1) 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.
(2) The permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
(3) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.
    (i) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.
    (ii) For refined petroleum products the vapor pressure may be obtained by available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see 40 CFR 60.17), unless the Division specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).
    (iii) For other liquids, the vapor pressure:
        (A) May be obtained from standard reference texts;
        (B) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see 40 CFR 60.17);
        (C) Measured by an appropriate method approved by the Division; or
        (D) Calculated by an appropriate method approved by the Division.

c. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee must maintain records on site with totals calculated on a monthly basis and a twelve (12) month rolling total of the Methanol and VOC emissions from Emission Unit TK6, TK1, TK2,and TK3 using process rates or other applicable data as input to the TANKS 4.0.9d program with supporting calculations.

d. The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 63.428(b), (c), (d), (e) and (k).

6. Specific Reporting Requirements:

The permittee shall comply with all applicable reporting requirements in 40 CFR 63.428

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

(f), (g) and (h).

7. Specific Control Equipment Operating Conditions:
None

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

Emission Unit:	Description	Capacity
TK7	**Sulfur (liquid) Storage Tank**	**3,416,400 gallons (gal)/year**
SVL	**Sulfur Vehicle Loading**	**51.6 million pounds (lb)/year**
Construction Date: 2011		

APPLICABLE REGULATIONS:

401 KAR 59:105, *New process gas streams*, applies to any process gas stream commenced after June 6, 1979, which is not elsewhere subject to a standard of performance within 401 KAR Chapter 59 with respect to hydrogen sulfide (H_2S).

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

1. Operating Limitations:

a. The maximum sulfur vehicle loading shall not exceed 51.6 million pounds (lb) per year. Compliance Demonstration Method: Refer to Specific Recordkeeping Requirements.

b. Degassing and/or sweep air from the sulfur storage tank shall be incinerated in the SRU furnace or vented to the flare.

c. The sulfur loading rack shall be equipped with a vapor recovery system and the unit shall be vented to the flare.

Compliance Demonstration Method:
Refer to Specific Recordkeeping Requirements and SECTION F.9

2. Emission Limitations:

a. Pursuant to 401 KAR 59:105, the permittee shall not discharge into the atmosphere any gases that contain H_2S that exceed ten (10) gr/100 dscf (165 ppm by volume) at zero (0) percent O_2 or without reducing the concentration by 85 percent, based on a three (3) hour average.

Compliance Demonstration Method:
Refer to 1. Operating Limitations b and c. and 3.Testing Requirements.

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

b. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.
Compliance Demonstration Method:
Refer to SECTION D.

3. Testing Requirements:
Pursuant to 401 KAR 52:030, Section 26 and 401 KAR 50:045, the permittee shall conduct the testing to determine the concentration of H_2S in the sulfur vehicle loading area during the operation of sulfur vehicle loading within sixty (60) days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup of such facility. The performance test shall be conducted in accordance with ASTM D4913-00 (2011) or equivalent.

4. Specific Monitoring Requirements:
The permittee shall conduct hydrogen sulfide testing according to 3. Testing Requirements once every 2½ years (32 calendar months).

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of hydrogen sulfide test results, including the date and time of the test.

b. The permittee shall maintain annual records of the pounds of sulfur loaded.

c. The permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
(1) Emissions H_2S with data from performance tests, monitoring devices or by calculations using emission factors, process rates or other applicable data along with supporting calculations; and
(2) The pounds of sulfur loaded.

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
Refer to Emission Unit FL.

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

Emission Unit:	Description	Capacity
LR1	**Loading Rack No.1**	**70,000 gallons (gal)**
LR2	**Loading Rack No.2**	
LPGL	**LPG Loading**	
Construction Date: 2011 Controls: Vapor Recovery (99.2%)		

APPLICABLE REGULATIONS:

40 CFR 60 Subpart XX, *Standard of Performance for Bulk Gasoline Terminals*, applies to the total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.

40 CFR 63 Subpart R, *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)* is applicable to each bulk gasoline terminal and pipeline breakout station.

NON-APPLICABLE REGULATIONS:

40 CFR 63 Subpart R, *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)* does not apply to LPG Loading.

1. Operating Limitations:

a. Pursuant to 40 CFR 60.502(a), each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.

b. Pursuant to 40 CFR 60.502(d), each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.

c. Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the procedures specified in 40 CFR 60.502(e).

d. Pursuant to 40 CFR 60.502(f), the owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

e. Pursuant to 40 CFR 60.502(g), the owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a

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

gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.

f. Pursuant to 40 CFR 60.502(h), the vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR 60.503(d).

g. Pursuant to 40 CFR 60.502(i), no pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).

h. Pursuant to 40 CFR 60.502(j), each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.

i. Pursuant to 40 CFR 63.420(g) each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart that is also subject to applicable provisions of 40 CFR part 60, subpart Kb or XX of this chapter shall comply only with the provisions in each subpart that contain the most stringent control requirements for that facility.

Compliance Demonstration Method: Refer to SECTION F.9.

2. Emission Limitations:

a. Pursuant to 40 CFR 60.502(b), the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in paragraph (c) of this section.

b. Pursuant to 40 CFR 60.502 (c), for each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.

c. The permittee shall comply with all applicable provisions of 40 CFR 63.422 for loading racks.

d. The permittee shall comply with all applicable provisions of 40 CFR 63.423 for storage vessels. (See Emission Unit TK1, TK2, and TK3).

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

e. The permittee shall comply with all applicable provisions of 40 CFR 63.424 for equipment leaks. (See Emission Unit FUGL and GFUG).

Compliance Demonstration Method: Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

3. Testing Requirements:

a. Pursuant to 40 CFR 60.503(a), in conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). The three-run requirement of 40 CFR 60.8(f) does not apply to 40 CFR 60 Subpart XX.

b. Pursuant to 40 CFR 60.503(b), immediately before the performance test required to determine compliance with 40 CFR 60.502(b), (c), and (h), the owner or operator shall use Method 21 to monitor for leakage of vapor all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The owner or operator shall repair all leaks with readings of 10,000 ppm (as methane) or greater before conducting the performance test.

c. Pursuant to 40 CFR 60.503(c), the owner or operator shall determine compliance with the standards in 40 CFR60.502(b) and (c) as follows:
   (1) The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.
   (2) If the vapor processing system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the vapor processor. If this does not occur under automatically controlled operations, the system shall be manually controlled.
   (3) The emission rate (E) of total organic compounds shall be computed using the following equation:

$$E = K\sum_{i=1}^{n}\left(V_{esi}C_{ei}\right) / \left(L\,10^{6}\right)$$

where:

E=emission rate of total organic compounds, mg/liter of gasoline loaded.

V_{esi}=volume of air-vapor mixture exhausted at each interval “i”, scm.

C_{ei}=concentration of total organic compounds at each interval “i”, ppm.

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

L=total volume of gasoline loaded, liters.

n=number of testing intervals.

i=emission testing interval of 5 minutes.

K=density of calibration gas, 1.83×10^6 for propane and 2.41×10^6 for butane, mg/scm.

(4) The performance test shall be conducted in intervals of 5 minutes. For each interval "i", readings from each measurement shall be recorded, and the volume exhausted (V_{esi}) and the corresponding average total organic compounds concentration (C_{ei}) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.

(5) The following methods shall be used to determine the volume (V_{esi}) air-vapor mixture exhausted at each interval:
(i) Method 2B shall be used for combustion vapor processing systems.
(ii) Method 2A shall be used for all other vapor processing systems.

(6) Method 25A or 25B shall be used for determining the total organic compounds concentration (C_{ei}) at each interval. The calibration gas shall be either propane or butane. The owner or operator may exclude the methane and ethane content in the exhaust vent by any method (e.g., Method 18) approved by the Administrator.

(7) To determine the volume (L) of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested, terminal records or readings from gasoline dispensing meters at each loading rack shall be used.

d. Pursuant to 40 CFR 60.503(d), the owner or operator shall determine compliance with the standard in 40 CFR 60.502(h) as follows:
(1) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ±2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.
(2) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.

e. Pursuant to 40 CFR 60.503(e), the performance test requirements of 40 CFR 60.503(c) do not apply to flares defined in 40 CFR 60.501 and meeting the requirements in 40 CFR 60.18(b) through (f). The owner or operator shall demonstrate that the flare and

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

associated vapor collection system is in compliance with the requirements in40 CFR 60.18(b) through (f) and 60.503(a), (b), and (d).

f. Pursuant to 40 CFR 60.503(f), the owner or operator shall use alternative test methods and procedures in accordance with the alternative test method provisions in 40 CFR 60.8(b) for flares that do not meet the requirements in 40 CFR 60.18(b).

g. The permittee shall comply with all applicable test methods and procedures in 40 CFR 63.425.

4. Specific Monitoring Requirements:

The permittee shall comply with all applicable continuous monitoring requirements in 40 CFR 63.427.

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60.505(a), the tank truck vapor tightness documentation required under 40 CFR60.502(e)(1) shall be kept on file at the terminal in a permanent form available for inspection.

b. Pursuant to 40 CFR 60.505(b), the documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:
(1) Test title: Gasoline Delivery Tank Pressure Test—EPA Reference Method 27.
(2) Tank owner and address.
(3) Tank identification number.
(4) Testing location.
(5) Date of test.
(6) Tester name and signature.
(7) Witnessing inspector, if any: Name, signature, and affiliation.
(8) Test results: Actual pressure change in 5 minutes, mm of water (average for 2 runs).

c. Pursuant to 40 CFR 60.505(c), a record of each monthly leak inspection required under 40 CFR 60.502(j) shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:
(1) Date of inspection.
(2) Findings (may indicate no leaks discovered; or location, nature, and severity of each leak).
(3) Leak determination method.

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

(4) Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 days).
(5) Inspector name and signature.

d. Pursuant to 40 CFR 60.505(d), the terminal owner or operator shall keep documentation of all notifications required under 40 CFR 60.502(e)(4) on file at the terminal for at least 2 years.

e. Pursuant to 40 CFR 60.505(e), as an alternative to keeping records at the terminal of each gasoline cargo tank test result as required in 40 CFR 60.505(a), (c), and (d), an owner or operator may comply with the requirements in either 40 CFR 60.505(e)(1) or 40 CFR 60.505(2).

f. Pursuant to 40 CFR 60.505(f), the owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.

g. The permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
(1) Emissions of H_2S with data from performance tests, monitoring devices or by calculations using emission factors, process rates or other applicable data along with supporting calculations; and
(2) The pounds of sulfur loaded.

h. The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 63.428(b), (c), (d), (e) and (k).

6. Specific Reporting Requirements:
The permittee shall comply with all applicable reporting requirements in 40 CFR 63.428 (f), (g) and (h).

7. Specific Control Equipment Operating Conditions:
None

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

Emission Unit:	**Description**
F (SUSB)	**Startup Boiler – Process Heater**
Construction Date	2011
Capacity	81.84 mmBtu/hr
Fuel Input (based on natural gas)	32.22 mmscf/yr 1020 Btu/scf
Primary Fuel	Natural Gas or LPG
Secondary Fuel	None
Source of Emissions	Fuel Combustion
Control Measures	Usage Limitations: 384 hours/year Limiting Fuel Sulfur Content: Combust only natural gas or LPG
Construction Date: 2011	

APPLICABLE REGULATIONS:

401 KAR 59:015 – *New indirect heat exchangers*. This regulation is applicable with respect to PM and SO_2 emissions from a source with a capacity 250 mmBtu/hr heat input or less that commenced after April 9, 1972.

40 CFR 60 Subpart Dc, *Standards Of Performance For Industrial-Commercial-Institutional Steam Generating Units*, applies to any affected facility (each steam generating unit) for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall:

b. (1) Combust natural gas or LPG only for control of CO, NO_X, SO_2, and $PM/PM_{10}/PM_{2.5}$; and

c. (2) Maximum operation at full capacity (81.84 mmBtu/hr) shall be limited to 384 hours per year based on a twelve (12) month rolling total.

Compliance Demonstration Method:
Refer to Specific Monitoring and Recordkeeping Requirements.

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

2. Emission Limitations:

a. Pursuant to 401 KAR 59:015, Section 4 (1)(b), PM emissions shall not exceed 0.266 lb/MMBTU.

b. Pursuant to 401 KAR 59:015, Section 4 (2), opacity of emissions shall not exceed 20 percent.

c. Pursuant to 401 KAR 59:015, Section 5(1)(c), SO_2 emissions shall not exceed 0.819 lb/MMBTU.

d. Pursuant to 401 KAR 59:015 Section 4(2), emissions shall not exhibit greater than twenty (20) percent opacity except:
   (1) For indirect heat exchangers with heat input capacity of less than 250 mmBtu/hr for all affected facilities at the source, a maximum of forty (40) percent opacity shall be permissible for not more than one (1) six (6) minute period in any sixty consecutive minutes.
   (2) For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

Compliance Demonstration Method:
Use only natural gas fuel as specified in Operating Limitation a (1).

3. Testing Requirements:
Pursuant to 401 KAR 59:005, Section 2 and 401 KAR 50:045, if requested by the Cabinet, the permittee shall sample emissions in accordance with methods approved by the Cabinet or the U.S. EPA.

4. Specific Monitoring Requirements:

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor the monthly natural gas usage in Emission Unit F.

b. Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor the monthly and annual hours of operation of the boiler.

5. Specific Recordkeeping Requirements:

a. Pursuant to 40 CFR 60.48c (g)(2) the permittee of an affected facility that combusts only natural gas shall record and maintain records of the amount of fuel combusted during each calendar month.

b. The permittee shall maintain monthly and annual records of the hours of operation of the boiler.

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

c. Refer to Section F.2 for record retention requirements.

d. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee shall maintain the following records on site with totals calculated on a monthly basis and a twelve (12) month rolling total:
   (1) Emissions of PM\$PM_{10}$\$PM_{2.5}$, NO_X, SO_2, CO and VOC with data from performance tests, monitoring devices or by calculations using emission factors, fuel usage, process rates or other applicable data along with supporting calculations;
   (2) Hours of operation; and
   (3) Fuel usage and fuel specifications from fuel supplier.

6. Specific Reporting Requirements:

a. Pursuant to 40 CFR 60.48c (a), the permittee shall submit notification of the date of construction and actual startup, as provided by 40 CFR 60.7. This notification shall include:
   (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
   (2) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

b. Refer to Section F.6 for semi-annual reporting requirements

7. Specific Control Equipment Operating Conditions:
None

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

(FUGL) Fugitive Equipment Leaks

(**GFUG) Gasoline System Fugitives**

(MFUG) Methanol System Fugitives

Description

Source of Emissions	Fugitive Equipment Leaks from Valves, Pumps, Compressors, Pressure Relief Valves (PRVs), Connectors, and Sample Connections from the following processes/areas: Gasification, CO Shift Upstream Including reactor, CO Shift Downstream of Reactor, CO_2/H_2S (Acid Gas Removal), Sour Water Stripper, Sour Gas, Methanol Synthesis Unit, Sulfur Recovery Unit, PSA System, Gasoline Storage Tank Components (GFUG), and Methanol Tank/System (MFUG)
Control Measures	Leak Detection and Repair (LDAR) Program.

Approximate Number of Components for each Area (Pollutant Emitted = CO)						
Component Type	Gasification	CO Shift Upstream Including Reactor	CO Shift Down-stream of Reactor	Acid Gas Removal	Methanol Synthesis Unit	PSA System
Valves (gas)[1]	200	50	50	200	100	200
Compressors (Gas)[2]	0	0	0	2	2	0
Pressure Relief Valves (PRVs) (gas)	4	1	1	5	5	0
Connectors (gas)	500	150	150	500	250	500
Open Ended Lines[3]	200	50	50	100	100	100
Sample Connections (all)[4]	10	0	1	5	2	1

[1] Sealless Design, (99% Control efficiency applied)

[2] Dual mechanical seal with barrier fluid maintained at a higher pressure than the compressed gas (99% Control efficiency applied)

[3] Properly installed blind, cap, plug, or second valve on the open end (99% Control efficiency applied)

[4] Closed-loop sampling system (99% Control efficiency applied).

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

	Approximate Number of Components for each Area (Pollutant Emitted = H_2S)				
Component Type	Gasification	CO Shift	All units with sour gas	Acid Gas Removal	Sulfur Recovery
Valves (gas)[1]	200	50	200	100	25
Compressors (Gas)[2]	0	0	0	2	0
Pressure Relief Valves (PRVs) (gas)	4	1	8	2	1
Connectors (gas)	500	150	600	250	75
Open Ended Lines[3]	200	50	200	50	25
Sample Connections (all)[4]	10	0	5	2	1

[1] Sealless Design, (99% Control efficiency applied)
[2] Dual mechanical seal with barrier fluid maintained at a higher pressure than the compressed gas (99% Control efficiency applied)
[3] Properly installed blind, cap, plug, or second valve on the open end (99% Control efficiency applied)
[4] Closed-loop sampling system (99% Control efficiency applied).

	Approximate Number of Components for each Area (Pollutant Emitted = VOC, Methanol)		
Component Type	**Acid Gas Removal**	**Methanol Synthesis**	**Methanol to Gasoline (MTG)**
Valves (gas)[1]	25.00	25.00	250.00
Valves (light liquids)[1]	250.00	40.00	40.00
Compressors (Gas)[2]	0.00	0.00	0.00
Pumps (light liquids)[5]	10.00	1.00	1.00
Pressure Relief Valves (PRVs) (gas)	2.00	1.00	1.00
Connectors (gas) – non-welded	20.00	20.00	70.00
Connectors (gas) – welded[6]	55.00	55.00	680.00
Connectors (light liquids) – non-welded	100.00	30.00	10.00
Connectors (light liquids) - welded	600.00	90.00	90.00
Open Ended Lines (light liquid)[3]	25.00	25.00	150.00

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

Sample Connections (gas)[4]	150.00	40.00	40.00
Sample Connections (light liquid)[4]	4.00	1.00	0.00

[1] Sealless Design, (99% Control efficiency applied)
[2] Dual mechanical seal with barrier fluid maintained at a higher pressure than the compressed gas (99% Control efficiency applied)
[3] Properly installed blind, cap, plug, or second valve on the open end (99% Control efficiency applied)
[4] Closed-loop sampling system (99% Control efficiency applied).
[5] Dual mechanical seal with barrier fluid maintained at a higher pressure than the pumped fluid (99% Control efficiency applied).
[6] Welded Connection (100% Control efficiency applied).

	Approximate Number of Components for each Area (Pollutant Emitted = VOC, Methanol-Free)
Component Type	**Methanol to Gasoline (MTG)**
Valves (gas)[1]	200.00
Valves (light liquids)[1]	650.00
Compressors (Gas)[2]	2.00
Pumps (light liquids)[5]	7.00
Pressure Relief Valves (PRVs) (gas)	20.00
Connectors (gas) – non-welded	500.00
Connectors (gas) – welded[6]	1500.00
Connectors (light liquids) – non-welded	100.00
Connectors (light liquids) - welded	250.00
Open Ended Lines (light liquid)[3]	4.00
Sample Connections (gas)[4]	15.00
Sample Connections (light liquid)[4]	200.00

[1] Sealless Design, (99% Control efficiency applied)
[2] Dual mechanical seal with barrier fluid maintained at a higher pressure than the compressed gas (99% Control efficiency applied)
[3] Properly installed blind, cap, plug, or second valve on the open end (99% Control efficiency applied)
[4] Closed-loop sampling system (99% Control efficiency applied).
[5] Sealless design or dual mechanical seal with barrier fluid maintained at a higher pressure than the pumped fluid (99% Control efficiency applied).
[6] Welded Connection (100% Control efficiency applied).

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

(GFUG) Gasoline System Fugitives and (MFUG) Methanol System Fugitives

Component Type	(GFUG) Fugitive Equipment Leaks	(MFUG) Fugitive Equipment Leaks
	Approximate Number of Components (No.)	
Valves[1]	12	20
Pumps[2]	3	0
Connectors[3]	200	20
Pressure Relief Valves (PRVs)[1]	0	5
Compressors[4]	0	4

[1] 88% Control Efficiency applied for LDAR program implementation.
[2] Sealless Design (99% Control Efficiency applied).
[3] 93% Control Efficiency applied for LDAR program implementation.
[4] 90% Closed Vent System (Control Efficiency applied).

NOTE - The equipment count listed above reflects an approximate count of the equipment as of the date of issuance of this permit but is not intended to limit the permittee to the exact numbers specified. The permittee may add or remove pipeline equipment without a permit revision as long as the equipment continues to comply with the applicable requirements listed below and the changes do not have a significant impact on emissions or potential to emit.

APPLICABLE REGULATIONS:

40 CFR 60 Subpart VVa, *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.*

40 CFR 63 Subpart R, *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations), applies to* (GFUG) Gasoline System Fugitives. The permittee comply with all the applicable requirements in 40 CFR 63 Subpart R, including the standard for equipment leaks in 40 CFR 63.424.

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to an emissions unit which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division for Air Quality.

NON-APPLICABLE REGULATIONS:

40 CFR 61 Subpart J, *National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene*, applies pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart to, operating " in benzene service". *In benzene service* means that a piece of equipment either contains or contacts a fluid (Liquid or gas) that is at least 10 percent benzene by weight as determined

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

according to the provisions of 40 CFR 61.245(d). The provisions of 40 CFR 61.245(d) also specify how to determine that a piece of equipment is not in benzene service.

40 CFR 61 Subpart V, *National Emission Standard for Equipment Leaks (Fugitive Emission Sources*, as referenced from 40 CFR 61.112(a).

40 CFR 63 Subpart R, *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations),* does not apply to Fugitive leaks outside of the Gasoline System Fugitives (GFUG).

1. Operating Limitations:

a. Pursuant to 401 KAR 52:030, Section 26, the permittee shall implement a Leak Detection and Repair (LDAR program) for VOC as an indicator of leaks.

b. All valves, compressors, open ended lines, and sampling connections for which a control efficiency of 99% has been applied (as indicated above) shall have the following modifications/design:
   (1) Valves must be designed to be sealless;
   (2) Compressors shall have dual mechanical seal with barrier fluid maintained at a higher pressure than the compressed gas;
   (3) Open ended lines must have a properly installed blind, cap, plug, or second valve on the open end;
   (4) Sampling connections, a closed-loop sampling system must be used.
   (5) Pumps must have a sealless design or dual mechanical seal with barrier fluid maintained at a higher pressure than the pumped fluid.

c. All connectors for which a control efficiency of 100% has been applied (as indicated above) shall be properly welded to eliminate emissions.

d. All compressors for which a control efficiency of 90% has been applied (as indicated above) shall utilize a closed vent system routed to a control device.

e. Each piece of equipment within a process unit that can conceivably contain equipment in volatile hazardous air pollutant (VHAP) service is presumed to be in VHAP service unless the permittee demonstrates that the piece of equipment is not in VHAP service. For a piece of equipment to be considered not in VHAP service, it must be determined that the percent VHAP content can be reasonably expected never to exceed 10 percent by weight. [40 CFR 61.245(d)] To preclude the applicability of 40 CFR 61 Subpart J and 40 CFR 61 Subpart V, the permittee must verify that the process unit does not contain benzene in a concentration that exceeds 10 percent concentration by weight.

Compliance Demonstration Method:
The permittee shall demonstrate that equipment is not in benzene service (as defined in 40 CFR 61.111) according to the provisions of 40 CFR 61.245(d).

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

2. Emission Limitations:

a. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:
Refer to SECTION D.

b. 40 CFR 60.482-1a – Standards General
(1) The permittee subject shall demonstrate compliance with the requirements of 40 CFR 60.482–1a through 60.482–10a or 40 CFR 60.480a(e) for all equipment within 180 days of initial startup. [40 CFR 60.482-1a(a)]
(2) Compliance with 40 CFR 40 CFR 60.482–1a to 60.482–10a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR 60.485a. [40 CFR 60.482-1a(b)]
(3) The permittee shall also comply with the applicable regulations provided for in 40 CFR 40 CFR 60.482(c) through (g)

c. 40 CFR 60.482-2a – Pumps in light liquid service
(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485a(b), except as provided in 40 CFR 60.482–1a(c) and (f) and 40 CFR 60.482–2a (d), (e) and (f). A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in 40 CFR 60.482–1a(c) and 40 CFR 60.482-2a(d), (e) and (f). [40 CFR 60.482-2a(a)(1)]
(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in 40 CFR 60.482–1a(f). [40 CFR60.482-2a(a)(2)]
(3) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, as provided for in 40 CFR60.482-2a(c)(1) and (2)]. [40 CFR60.482-2a(c)]
(4) Any pump that is designated, as described in 40 CFR 60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482–2a(a) and (d)(4) through (6) as provided for in 40 CFR 60.482–2a(g)(1) and (2). [40 CFR 60.482–2a(g)]
(5) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of 40 CFR 60.482–2a(a)(2) and (d)(4), and the daily requirements of paragraph 40 CFR 60.482–2a(d)(5), provided that each pump is visually inspected as often as practicable and at least monthly. [40 CFR 60.482–2a(h)]

d. 40 CFR 60.482-3a – Compressors

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

(1) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, as provided for in 40 CFR 60.482–3a(b), (c), (d) and (e), except as provided in 40 CFR 60.482–1a(c) and 40 CFR 60.482–3a(h), (i) and (j).

(2) 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 60.482–9a. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

e. 40 CFR 60.482-4a – Pressure relief device in gas/vapor service.

(1) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485a(c). [40 CFR 60.482-4a(a)]

(2) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482–9a. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485a(c).

(3) The permittee shall also comply with the applicable requirements as provided for in 40 CFR 60.482-4a(c) through (d).

f. 40 CFR 60.482-5a – Sampling connection systems.

(1) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482–1a(c) and 40 CFR 60.482–5a(c). [40 CFR 60.482-5a(a)]

(2) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in 40 CFR 60.482-5a (b)(1) through (4). [40 CFR 60.482-5a(b)]

g. 40 CFR 60.482-6a – Open-ended valves or lines.

(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve as provided for in 40 CFR 60.482-6a(2) (b) and (c), except as provided in 40 CFR 60.482–1a(c) and 40 CFR 60.482-6a(d) and (e). [40 CFR 60.482-6a(a)(1)]

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. [40 CFR 60.482-6a(a)(2)]

h. 40 CFR 60.482-7a – Valves in gas/vapor service and light liquid service.

(1) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485a(b) and shall comply with 40 CFR 60.482-7a(b) through (e), except

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

as provided in 40 CFR 60.482-7a(f), (g), and (h), 40 CFR 60.482–1a(c) and (f), and 40 CFR 60.483–1a and 40 CFR 60.483–2a. [40 CFR 60.482-7a(a)(1)]

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to 40 CFR 60.482-7a(a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in 40 CFR 60.482-7a(f), (g), and (h), 40 CFR 60.482–1a(c), and 40 CFR 60.483–1a and 60.483–2a. [40 CFR 60.482-7a(a)(2)]

i. 40 CFR 60.482-8a – Standards: Pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service.
If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps, valves, and connectors in heavy liquid service and pressure relief devices in light liquid or heavy liquid service, the permittee shall follow one of the following procedures and the procedures as provided for in 40 CFR 60.482-8a(a):

(1) The permittee shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485a(b) and shall comply with the requirements of 40 CFR 60.482-8a(b) through (d); or

(2) The permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection

j 40 CFR 60.482-9a – Standards: Delay of repair.

(1) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit. [40 CFR 60.482-9a(a)]

(2) The permittee shall also comply with the applicable requirements as provided for in 40 CFR 60.482-9a(b) through (f).

k. 40 CFR 60.482-10a – Standards: Closed vent systems and control devices.
If the permittee uses closed vent systems and control devices used to comply with provisions of 40 CFR 60 Subpart VVa, the permittee shall comply with the applicable provisions 40 CFR 60.482-10a(b) through (m).

l. 40 CFR 60.482-11a – Standards: Connectors in gas/vapor service and in light liquid service.

(1) The permittee shall initially monitor all connectors in the process unit for leaks by the later of either 12 months after the compliance date or 12 months after initial startup. If all connectors in the process unit have been monitored for leaks prior to the compliance date, no initial monitoring is required provided either no process changes have been made since the monitoring or the permittee can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the permittee is required to monitor only those connectors involved in the process change. [40 CFR 60.482-11a(a)]

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

(2) The permittee shall also comply with the applicable requirements as provided for in 40 CFR 60.482-11a(b) through (g).

m. 40 CFR 60.483-1a – Alternative standards for valves—allowable percentage of valves leaking.
   (1) A permittee may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent if the permittee follows the requirements of 40 CFR 60.483-11a(b)(1) through (3) and conducts performance test pursuant to 40 CFR 60.483-11a(c)(1) through (3). [40 CFR 60.483-11a(a)]
   (2) A permittee who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in 40 CFR 60.485a(h). [40 CFR 60.483-11a(d)]

n. 40 CFR 60.483-2a – Alternative standards for valves—skip period leak detection and repair.
   (1) A permittee may elect to comply with one of the alternative work practices as provided for 40 CFR 60.483-2a(b)(1) through (7)..
   (2) An permittee must notify the Division before implementing one of the alternative work practices, as specified in 40 CFR 60.487(d)a.

o. 40 CFR 60.484a – Equivalence of means of emission limitation.
   A permittee subject to the provisions of this subpart may apply to the Division for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in 40 CFR 60 Subpart VVa as provided for in 40 CFR 60.484a(b) through (f).

p. 40 CFR 60.484a – Test methods and procedures
   (1) In conducting the performance tests required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). [40 CFR 60.485a(a)]
   (2) The permittee shall determine compliance with the standards in 40 CFR 60.482–1a through 60.482–11a, 40 CFR 60.483a, and 40 CFR 60.484a as specified in 40 CFR 60.485a(b)(1) and (2). [40 CFR 60.485a(b)]
   (3) The permittee shall determine compliance with the no-detectable-emission standards in 40 CFR 60.482–2a(e), 40 CFR 60.482–3a(i), 40 CFR 60.482–4a, 40 CFR 60.482–7a(f), and 40 CFR 60.482–10a(e) as 40 CFR 60.485a(c)(1) and (2). [40 CFR 60.485a(c)]
   (4) The permittee shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures described in 40 CFR 60.485a(d)(1) through (3). [40 CFR 60.485a(d)]

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

(5) The permittee shall demonstrate that a piece of equipment is in light liquid service by complying will all the conditions listed in 40 CFR 60.485a(e)(1) through (3). [40 CFR 60.485a(e)]
(6) Samples used in conjunction with 40 CFR 60.485a(d), (e) and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [40 CFR 60.485a(f)]
(7) The permittee shall determine compliance with the standards of flares by complying with all the conditions listed in 40 CFR 60.485a(g)(1) through (7). [40 CFR 60.485a(g)]
(8) The permittee shall determine compliance with 40 CFR 60.483–1a or 40 CFR 60.483–2a by complying will all the conditions listed in 40 CFR 60.485a(h)(1) through (6). [40 CFR 60.485a(h)]

q. Pursuant to 401 KAR 63:020 Section 3, no permittee shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

Compliance Demonstration Method:

a. Compliance with Emission Limitations b through p shall be demonstrated by fulfilling the following requirements:
(1) Testing Requirements;
(2) Specific Monitoring Requirements
(3) Specific Recordkeeping Requirements; and
(4) Specific Reporting Requirements.

b. The permittee may choose to comply with an alternate method of compliance as provided for in 40 CFR 60.480a(e)(1) through (2) as applicable. [40 CFR 60.480a(e)]

r. For Gasoline System Fugitives (GFUG), the permittee shall comply with the operating limitations in 40 CFR 63.424(g).

Compliance Demonstration Method:
Refer to Testing Requirements, Specific Monitoring Requirements and Specific Recordkeeping Requirements.

3. Testing Requirements:

a. For Gasoline System Fugitives (GFUG), the permittee shall comply with all applicable test methods and procedures in 40 CFR 63.425.

b. See Emission Limitations.

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

4. Specific Monitoring Requirements:

a. For Gasoline System Fugitives (GFUG), the permittee shall implement a leak detection and repair program (LDAR) and comply with 40 CFR 60 Subpart VVa as specified for all equipment leaks in Section B of this permit, as an alternative to compliance with the provisions in 40 CFR 63.424 (a) through (d). [40 CFR 63.424(f)]

b. See **2. Emission Limitations.**

5. Specific Recordkeeping Requirements:

a. Each permittee subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section and shall record the information specified in 40 CFR 60.486a(a)(3)(i) through (v) for each monitoring event required by 40 CFR 60.482–2a, 40 CFR 60.482–3a, 40 CFR 60.482–7a, 40 CFR 60.482–8a, 40 CFR 60.482–11a and 40 CFR 60.483–2a. [40 CFR 60.486a(a)]

b. When each leak is detected as specified in 40 CFR 60.482–2a, 40 CFR 60.482–3a, 40 CFR 60.482–7a, 40 CFR 60.482–8a, 40 CFR 60.482–11a and 60.483–2a, the permittee must comply with the requirements of 40 CFR 60.486a(b)(1) through (4). [40 CFR 60.486a(b)]

c. When each leak is detected as specified in 40 CFR 60.482–2a, 40 CFR 60.482–3a, 40 CFR 60.482–7a, 40 CFR 60.482–8a, 40 CFR 60.482–11a, and 40 CFR 60.483–2a, the information listed in 40 CFR 60.486a(c)(1) through (9) shall be recorded in a log and shall be kept for 2 years in a readily accessible location. [40 CFR 60.486a(c)]

d. The information listed in 40 CFR 60.486a(d)(1) through (5) pertaining to the design requirements for closed vent systems and control devices described in §60.482–10a shall be recorded and kept in a readily accessible location. [40 CFR 60.486a(c)]

e. The information listed in 40 CFR 60.486a(e)(1) through (10) pertaining to all equipment subject to the requirements in 40 CFR 60.482–1a through 11a shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486a(e)]

f. The information listed in 40 CFR 60.486a(f)(1) and (2) pertaining to all valves subject to the requirements of 40 CFR 60.482–7a(g) and (h), all pumps subject to the requirements of 40 CFR 60.482–2a(g), and all connectors subject to the requirements of 40 CFR 60.482–11a(e) shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486a(f)]

g. The information listed in 40 CFR 60.486a(g)(1) and (2) shall be recorded for valves complying with 40 CFR 60.483–2a. [40 CFR 60.486a(g)]

h. The information listed in 40 CFR 60.486a(h)(1) through (2) shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486a(h)]

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

i. The information listed in 40 CFR 60.486a(i)(1) through (3) shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480a(d). [40 CFR 60.486a(i)]

j. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486a(j)]

k. The provisions of 40 CFR 60.7(b) and (d) do not apply to affected facilities subject to this subpart. [40 CFR 60.486a(k)]

l. To preclude applicability of 401 KAR 52:020 and 401 KAR 51:017, the permittee must maintain records on site with totals calculated on a monthly basis and a twelve (12) month rolling total of SO_2, CO, VOC, and H_2S using emission factors, results of testing a monitoring results from the Leak Detection and Repair program, or any other methods along with supporting calculations. No LDAR Control efficiency shall be applied to components which are not monitored under the LDAR program. Control efficiencies from equipment modifications may be applied as described in **1. Operating Limitations.**

m. For Gasoline System Fugitives (GFUG), the permittee shall comply with all applicable recordkeeping requirements in 40 CFR 63.428(b), (c), (d), (e) and (k).

6. Specific Reporting Requirements:

a. Each permittee subject to the provisions of this subpart shall submit semiannual reports to the Division beginning 6 months after the initial startup date. [40 CFR 60.487a(a)]

b. The initial semiannual report to the Division shall include the information listed in 40 CFR 60.487a(1) through (5). [40 CFR 60.487a(b)]

c. All semiannual reports to the Division shall include the information listed in 40 CFR 60.487a(1) through (4), summarized from the information in 40 CFR 60.486a. [40 CFR 60.487a(c)]

d. A permittee electing to comply with the provisions of 40 CFR 60.483–1a or 40 CFR 60.483–2a shall notify the Division of the alternative standard selected 90 days before implementing either of the provisions. [40 CFR 60.487a(d)]

e. A permittee shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that a permittee must notify the Division of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487a(e)]

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

f. The requirements of 40 CFR 60.487a(a) through (c) remain in force until and unless EPA, in delegating enforcement authority to a state under section 111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of 40 CFR 60.487a(a) through (c), provided that they comply with the requirements established by the state. [40 CFR 60.487a(f)]

g. For Gasoline System Fugitives (GFUG), the permittee shall comply with all applicable reporting requirements in 40 CFR 63.428 (f), (g) and (h).

7. Specific Control Equipment Operating Conditions:

None

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:030, 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.

Description	Generally Applicable Regulation
1. Air Separation Unit	None

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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. $PM/PM_{10}/PM_{2.5}$, SO_2, NO_X, CO, H_2S, Volatile Organic Compounds (VOC), Total Combined Hazardous Air Pollutants (HAPS), and single HAPS, 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. Source Wide Emission Limitations:
   a. To preclude the applicability of 401 KAR 52:020, *Title V permits*, and 401 KAR 51:017, *Prevention of significant deterioration of air quality*, the source wide emissions shall not equal or exceed the following limits on a consecutive twelve (12)-month basis:
      (1) $PM_{10}/PM_{2.5}$ emission of 90 tons per year;
      (2) NO_X emission of 90 tons per year;
      (3) SO_2 emission of 94 tons per year;
      (4) CO emission of 90 tons per year;
      (5) VOC emission of 90 tons per year;
      (6) COS emissions of 9.0 tons per year;
      (7) CH_3OH emissions of 9.0 tons per year;
      (8) Single HAPS of 9.0 tons per year; and
      (9) Combined HAP emission of 22.5 tons per year.

   b. Pursuant to 401 KAR 63:020, Section 3, the permittee shall not allow the facility to emit potential hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

4. The source is in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source. If the source alters processes, process rates, material formulations, or any other factor that would result in increased emissions of these previously evaluated airborne toxics, or the emission of airborne toxics not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:030, Section 3(1)(a).

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

5. Compliance Demonstration Methods for Fugitive Equipment Leaks.

CO and H_2S Fugitive Equipment Leaks (Stream Type - Gas/Vapor)

Area/Process (CO) Methanol Synthesis PSA Gasification CO-Shift Upstream and Including Reactors CO-Shift Downstream from Reactors Acid Gas Removal	**Area/Process (H_2S)** Gasification including scrubbing CO-Shift Sour Gas Acid Gas Removal Acid Gas in Sulfur Recovery Train

	Valves	**Compressors**	**Pressure Relief Valves**	**Connectors**	**Open Ended Lines**	**Sampling Connections**
EF (lb/hr-component)	0.0132	0.5027	0.2293	0.0040	0.0037	0.0331
CE	99 %	99%	90 %	69 %	99 %	99 %

VOC Fugitive Equipment Leaks

Area/Process VOC (Methanol) Acid Gas Removal MeOH Synthesis (Light Liquid) MeOH Synthesis (gas/vapor) MTG	**Area/Process VOC (Non-Methanol)** MTG (light Liquid) MTG (gas/vapor)

	Stream Type	**Valves**	**Compressors**	**Pumps**	**PRV**	**Connectors**	**Open ended lines**	**Sampling Connection**
EF	Light Liquid	0.0089	--	0.0439	--	0.0040	0.0037	0.0331
	Gas/ Vapor	0.0132	0.5027	--	0.2293	0.0040	0.0037	0.0331
CE %		99 %	99 %	99 %	90%	100% (welded) 69% (non-welded)	99 %	99 %

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

VOC/Methanol Fugitive Leaks from Methanol System Vapor Sources (MFUG) and Gasoline System Fugitives (GFUG)

Component	CE	EF (MFUG)	EF (GFUG)
Valves	88 %	0.0132	0.0591
PRVS	88 %	0.2293	--
Connectors	93 %	0.0040	0.0006
Compressors	90 %	0.0040	--
Pumps	99 %	--	0.2513

Compliance Demonstration Equation:

$E = N \times EF \times W \times H \times (1 - CE)$

Where:

E = Emission rate, lb/month
N = Number of components
EF = Stream type, component specific, emission factor (lb/hr-component)
W = lb pollutant (i.e., VOC, H_2S) per pound of emission
H = Monthly hours of operation = 730
CE = Stream type, component specific, control efficiency (%)

The permittee shall maintain a list of all fugitive leak components which are exempt from monitoring as part of a Leak Detection and Repair (LDAR) program required by this permit. No control efficiency shall be claimed for any fugitive leak component which is exempt from monitoring under an LDAR program unless that component meets the criteria of being a sealless/leakless component which is exempt from monitoring in 40 CFR 60 Subpart VVa. The list of fugitive leak components shall identify the type of component, reason for exemption from monitoring (e.g., non-accessible, sealless/leakless) and the criteria used to determine that the component is exempt from monitoring.

The exempted components and documentation for exemption from monitoring shall be identified by the following methods:
(1) Piping and instrumentation diagram (PID); and
(2) A written or electronic database.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030 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 [401 KAR 52:030, Section 3(1)(f)1a, and Section 1a-7 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, Section 26].

3. In accordance with the requirements of 401 KAR 52:030, Section 3(1)f, 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 Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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 52:030, Section 22. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7 above) to the Regional Office listed on the front of this permit within 30 days. Deviations from permit requirements, including those previously reported under F.7 above, shall be included in the semiannual report required by F.6 [Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, Section 26].

9. Pursuant to 401 KAR 52:030, 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 in accordance with the following requirements:
   a. Identification of each term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
   f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications shall be mailed to the Division for Air Quality, Hazard Regional Office, 233 Birch Street Suite 2, Hazard, KY 41701.

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

10. In accordance with 401KAR 52:030, Section 3(1)(d), 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. If a KYEIS emissions survey is not mailed to the permittee, then the permittee shall comply with all other emissions reporting requirements in this permit.

11. The Cabinet may authorize the temporary use of an emission unit to replace a similar unit that is taken off-line for maintenance, if the following conditions are met:
    a. The owner or operator shall submit to the Cabinet, at least ten (10) days in advance of replacing a unit, the appropriate Forms DEP7007AI to DD that show:
        (1) The size and location of both the original and replacement units; and
        (2) Any resulting change in emissions;
    b. The potential to emit (PTE) of the replacement unit shall not exceed that of the original unit by more than twenty-five (25) percent of a major source threshold, and the emissions from the unit shall not cause the source to exceed the emissions allowable under the permit;
    c. The PTE of the replacement unit or the resulting PTE of the source shall not subject the source to a new applicable requirement;
    d. The replacement unit shall comply with all applicable requirements; and
    e. The source shall notify Regional office of all shutdowns and start-ups.
    f. Within six (6) months after installing the replacement unit, the owner or operator shall:
        (1) Re-install the original unit and remove or dismantle the replacement unit; or
        (2) Submit an application to permit the replacement unit as a permanent change.

SECTION G - GENERAL PROVISIONS

1. General Compliance Requirements

   a. The permittee shall comply with all conditions of this permit. A noncompliance shall be a violation of 401 KAR 52:030, 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 the termination, revocation and reissuance, revision, or denial of a permit [Section 1a-2 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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-5 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, Section 26].

   c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:030, Section 18. 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 52:030, 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.

      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- 6 and 7 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, Section 26].

   e. Emission units described in this permit shall demonstrate compliance with applicable

SECTION G - GENERAL PROVISIONS (CONTINUED)

requirements if requested by the Division [401 KAR 52:030, 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 52:030, 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-11 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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-3 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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-12 of the Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources incorporated by reference in 401 KAR 52:030, 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-9 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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 52:030, Section 11(3)].

l. This permit does not convey property rights or exclusive privileges [Section 1a-8 of the *Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Non-Major Sources* incorporated by reference in 401 KAR 52:030, 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.

SECTION G - GENERAL PROVISIONS (CONTINUED)

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.

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.

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 52:030, 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 52:030, Section 12].

b. The authority to operate granted through this permit 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 52:030, Section 8(2)].

3. Permit Revisions

a. Minor permit revision procedures specified in 401 KAR 52:030, Section 14(3), 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 52:030, 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

SECTION G - GENERAL PROVISIONS (CONTINUED)

that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

4. Construction, Start-Up, and Initial Compliance Demonstration Requirements

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, emission units B1-B6 (TPC1-12), CR1, CS, PR, FH1-FH10, BC7-8 (TPA1-5), SSP, B, BC10 (TPFC1 & TPFC2), FCS1, TPL1-5, CR7, LS, A1/1-A1/5, A2/1, A2/2, B1/1, B1/2, C1, C2, E1. E2, E3, E4, E5, FL, F(SUSB), FUGL, TK4, TK5, CT, TK6, TK1, TK2, TK3, TK7, SVL, LR1, LR2, air separation unit (insignificant activity), B2/1, B2/2, G, CO Shift, Methanol Synthesis, Sulfur Recovery, PSA System, and Sour Water Stripper in accordance with the terms and conditions of this permit.

a. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

b. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the Division's Frankfort Central Office, notification of the following:
   (1) The date when construction commenced.
   (2) The date of start-up of the affected facilities listed in this permit.
   (3) The date when the maximum production rate specified in the permit application was achieved.

c. Pursuant to 401 KAR 52:030, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.

d. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the final permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the Cabinet.

e. This permit shall allow time for the initial start-up, operation, and compliance

SECTION G - GENERAL PROVISIONS (CONTINUED)

demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. Testing must also be conducted in accordance with General Provisions G.5 of this permit.

f. Terms and conditions in this permit established pursuant to the construction authority of401 KAR 51:017 or 401 KAR 51:052 shall not expire.

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 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

7. Emergency Provisions

a. Pursuant to 401 KAR 52:030, Section 23(1), an emergency shall constitute an affirmative

SECTION G - GENERAL PROVISIONS (CONTINUED)

defense to an action brought for noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or other 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) The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two (2) working days of the time when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and the corrective actions taken.
(5) Notification of the Division does not relieve the source of any other local, state or federal notification requirements.

b. Emergency conditions listed in General Provision G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:030, Section 23(3)].

c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:030, Section 23(2)].

8. Ozone depleting substances

a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
(1) Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
(2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
(3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166.
(5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as

SECTION G - GENERAL PROVISIONS (CONTINUED)

specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

9. Risk Management Provisions

   a. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

      RMP Reporting Center
      P.O. Box 1515
      Lanham-Seabrook, MD 20703-1515.

   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