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SENT VIA KENTUCKY ONE STOP BUSINESS PORTAL

April 1, 2020

Mr. Zachary Bittner
Supervisor, Combustion Section
Energy & Environmental Cabinet
Department for Environmental Protection
Division for Air Quality
Permit Review Branch
300 Sower Boulevard
Frankfort, KY 40601

**RE: Title V Air Permit Renewal Application
Louisville Gas & Electric Company – Trimble County Generating Station (AI#4054)**

Dear Mr. Bittner:

Louisville Gas & Electric Company (LG&E) owns and operates the Trimble County Generating Station located in Trimble County, KY. This electric generating facility is classified as a major source under the Title V operating permit program and it currently operated under permit V-14-017 R3. As required by 401 KAR 52:020, Section 12 and noted in Section G (2) (a) of the current Title V permit; LG&E is submitting an electronic copy of the Trimble County Generating Station Title V renewal application via the KY One Stop Business Portal. The current permit was issued October 16, 2015 and it expires October 16, 2020.

The renewal application has been signed by Steven Turner, the Responsible Official (designated representative) for LG&E's Trimble County Generating Station. If you have any questions, please feel free to call (502) 627-2343.

Sincerely,

A handwritten signature in blue ink that reads "Marlene Zeckner Pardee". The signature is fluid and cursive, with a long horizontal line extending to the right.

Marlene Zeckner Pardee
Senior Environmental Scientist

Cc: U.S. EPA Region 4
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St. SW
Atlanta, GA 30303-8960

TITLE V PERMIT RENEWAL APPLICATION



**LG&E Trimble County Generating Station
Bedford, Kentucky**

April 2020

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1. APPLICATION SUMMARY

1.1. PURPOSE OF APPLICATION

Louisville Gas & Electric Company (LG&E) owns and operates the Trimble Station in Trimble County near Bedford, Kentucky. This electrical generating facility is classified as a major source under the Title V operating permit program and currently operates in accordance with permit V-14-017 R3, issued by the Kentucky Division for Air Quality (KDAQ) on October 16, 2015 and last revised on January 18, 2020. This is the third Title V permit that has been in place for this facility, replacing the initial Title V permit (V-02-043) originally issued on June 20, 2003. As the current permit expires on October 16, 2020, a renewal application for the permit must be submitted at least six months prior to the permit expiration date, or by April 16, 2020. This application report and associated appendices constitutes the renewal application for the Trimble Station required under Condition G.2.a. of the existing permit.

1.2. SUMMARY OF APPLICATION CONTENTS

Following this introduction, a description of the operations at the Trimble Station is provided in Section 2. In Section 3, a discussion of changes being requested for the renewed Title V permit either due to permit actions and regulatory changes that occurred during the last permit term or to facilitate improvements in the organization and contents of the permit is provided. In Section 4, a summary of defined emission units and emissions totals on an emission unit-by-emission unit basis is provided. Finally, in Section 5, an analysis of requirements under the Compliance Assurance Monitoring (CAM) program (40 CFR Part 64) is provided. Revised and existing CAM plans are provided in Appendix E.

A complete set of DEP7007 series application forms is provided in Appendix A. Supporting the application forms, an area map and aerial site plan are provided in Appendix B, and process flow diagrams are provided in Appendix C. The basis of the emission factors and emission rates represented on the 7007N forms are documented where necessary in Appendix D. In Appendix F, a copy of the existing Title V permit is provided with markups showing revisions and/or additions to permit language being sought through this renewal action.

2. FACILITY AND OPERATIONS DESCRIPTION

2.1. FACILITY LOCATION

Trimble Station is located approximately 30 miles northeast of Louisville and 5 miles west of Bedford, Kentucky (Trimble County) on a strip of land between the Ohio River and KY Highway 1838. The property encompasses an area of approximately 2,584 acres. An area map in Appendix B shows the facility location and the surrounding area on a topographical map. The Universal Transverse Mercator (UTM) coordinates of the facility are (approximately) 638.3 kilometers (km) East and 4,271.7 km North (Zone 16, NAD83). In addition, an aerial site plan for Trimble Station is included that illustrates the locations of the major emission units.

2.2. FACILITY OPERATIONS SUMMARY

Trimble Station is an electrical generating power plant that began construction in 1977. The primary emission units at the plant are two coal-fired utility boilers, Units 1 and 2, with a nominal net generating capacity of 514 and 750 MW respectively.

A set of process flow diagrams depicting the defined emission units and air pollution control equipment is provided in Appendix C, which accompanies the emission unit descriptions provided in the following sections.

2.2.1. Utility Boilers

2.2.1.1. *Generating Unit 1 (“TC1”)*

The Unit 1 Boiler (also referred to as “TC1”) is a pulverized coal-fired utility boiler that commenced construction in April 1977 and had an initial start-up date of May 1990. It is a dry bottom, tangentially fired boiler with a heat input capacity of 5,333 MMBtu/hr and is designated as emission unit 01 (EU01) in the current permit.

For pollution control, the exhaust gas from TC1 first passes through a selective catalytic reduction (SCR) unit. Hydrated lime is capable of being injected into the exhaust gas both upstream and immediately downstream of a dry electrostatic precipitator (ESP). Powdered activated carbon (PAC) can be injected into the exhaust stream, which is ducted to a pulse-jet fabric filter (PJFF). PAC injection, if needed, and the PJFF further reduce emission of particulate matter and mercury to achieve compliance with the emission limits that took effect on April 16, 2015 under the *National Emission Standards for Hazardous Air Pollutants (NESHAP): Coal- and Oil-Fired Electric Utility Steam Generating Units* (40 CFR 63 Subpart UUUUU), also referred to in this application as the Mercury and Air Toxics Standards (MATS). Downstream of the PJFF, the exhaust gas passes through a wet spray scrubber with limestone/lime injection (wet flue-gas desulfurization unit). The treated exhaust gas is then directed to the atmosphere through a dedicated flue in a single stack serving both Unit 1 and Unit 2. The flue serving TC1 is equipped with continuous emission monitoring systems (CEMs) for SO₂, NO_x, PM, CO₂ and a Mercury Sorbent Trap System for Hg,

2.2.1.2. Generating Unit 2 (“TC2”), The Unit 2 Boiler (also referred to as “TC2”) is a 750 MW supercritical pressure coal-fired electric generator that began construction in July 2006 and began commercial operation in January 2011. The boiler has a rated heat input capacity of 6,942 MMBtu/hr and is designated as EU31 in the current permit.

The pollution control train for TC2 is similar to TC1 but with the addition of a wet electrostatic precipitator at the end. The exhaust gas first passes through an SCR unit. Hydrated lime is capable of being injected into the

exhaust stream upstream and downstream of the dry ESP. Powdered activated carbon, if needed, can be injected into the exhaust stream before it passes through a pulse-jet fabric filter. Finally, the exhaust passes through a wet FGD system and a wet ESP. The treated exhaust gas is then directed to the atmosphere through two flues in a single stack serving both Unit 1 and Unit 2. The flues serving TC2 are equipped with continuous emission monitoring systems for SO₂, NO_x, PM, CO, CO₂, and a Hg Sorbent Trap System for Hg.

2.2.2. Utility Boiler Supporting Operations

The supporting operations for the utility boilers at Trimble Station include (1) coal receiving, storage, conveying, and crushing operations, (2) a limestone receiving, storage, and processing system, (3) fly ash handling systems, (4) hydrated lime and activated carbon storage system, (5) an auxiliary boiler, and (6) one mechanical and one natural draft cooling tower. Additional details of each of these systems is provided in the following sections.

2.2.2.1. Coal Handling and Processing System

Coal used as fuel in the Trimble Station utility boilers is received at the site via 1,500-ton capacity barges. The path of the coal from the barge to the utility boilers is best understood by reviewing process flow diagrams in Appendix C.

Coal from the barges is unloaded using bucket receivers and is placed on partially enclosed conveyor belts that carry the material up from the barge unloading station through a transfer house to a sample house. From there, the coal is typically routed to conveyor E1, which either carries the coal through the coal pile area directly to the coal crusher house, or the coal can be diverted to the coal pile areas via a stacker/reclaimer device. Coal can also be directed from the Sample House to conveyor S, which conveys the coal directly to the pile storage area. Due to the relatively high moisture in the coal received, there is minimal dust generated from the coal conveying process, which is further mitigated by the partial conveyor enclosures. Dust inside the Sample House is also routed through a small rotoclone wet scrubber unit to minimize emissions. All the coal conveying operations are covered under EU07.

Coal deposited from the stacker/reclaimer on conveyor E1 or from the end of conveyor S are moved around and placed in the storage area using dozers and loaders. The entire coal storage area encompasses approximately 33 acres, split down the middle by conveyor E1 (refer to the Aerial Site Plan in Appendix B). However, only a small portion of this storage area is active at a time (active meaning that new coal is being placed or existing coal is being reclaimed in the space). The pile area is equipped with a wet suppression system that can be used when needed to mitigate the potential for fugitive emissions.

Because TC2 combusts a blend of high sulfur eastern bituminous coal as well as powder river basin coal, two separate pile areas southwest and southeast of the E1 conveyor are designated as Coal Pile A (typically PRB coal) and Coal Pile B (eastern bituminous coal), respectively. The active pile area north of the E1 conveyor is ID as "Fossil fuel storage pile - pile encompasses area north of E1 conveyor" under EU05; while Fossil Fuel Pile A and B are ID as EU34 and EU35.

Coal from the Fossil Fuel Pile area north of conveyor E1 or from Fossil Fuel Pile A or B can be reclaimed via the stacker/reclaimer device and be put back onto conveyor E1 to be carried into the Crusher House. Alternatively, coal can be reclaimed via front-end loaders that place the coal in a reclaim hopper in the coal yard. The hopper transfers the coal to conveyor R1 that in turn carries the coal directly into the Crusher House. Coal in Fossil Fuel Pile A and B is normally reclaimed via coal feeders located under these piles that load the coal onto conveyor E2. Conveyor E2 carries the coal from under Piles A and B up to and onto conveyor E3, which conveys the coal back to conveyor E1 and onto the Crusher House. Potential dust generated from the blending of coals from Piles A and B and the transfers to the E2 conveyor are captured and routed to a small baghouse system (EU37).

In the Crusher House, coal is sized in one of two crushing units which are designated under EU08.¹ Dust generated in the coal crushers is controlled in a rotoclone wet scrubber. The pulverized coal is fed onto one of two enclosed conveyors (F1 and F2) that carry the coal up into the boiler building. There, the coal is transferred onto one of two tripper conveyors (G1 and G2) that transfer the coal into one of twelve 800-ton storage bins (six associated with Unit 1 and six associated with Unit 2). Dust generated in the tripper house is captured and routed to one of two baghouses, one primarily serving the south end of the building and the six Unit 1 silos, which is designated EU09 and the other primarily serving the north end of the building and the six Unit 2 silos, which is designated as EU39.

2.2.2.2. Limestone Handling and Preparation

Forced oxidation wet FGD systems are used to reduce SO₂ emissions from each of the boilers. Limestone slurry is used as the reagent in the FGD systems for each boiler.

Limestone is received at the plant by barges and is unloaded in a limestone receiving bin using a clamshell unloader. The limestone is moved via enclosed conveyors from the receiving bin through a transfer house and then to either an indoor pile or outdoor storage pile.

Limestone is reclaimed from the indoor and outdoor storage piles via screen openings located on the bottom of the piles that feed the limestone onto one of two enclosed conveyors. The reclaim conveyors transport the limestone to the top of the limestone processing building. Once transferred from the reclaim conveyors, the limestone is screened and crushed in an enclosed wet grinding process and is mixed to the desired slurry consistency. The processing of the limestone occurs entirely under roof and is a wet process. Therefore, the actual crushing and grinding operations are not a source of quantifiable emissions. The slurry is stored in one of two tanks before being pumped as needed to the FGD systems.

2.2.2.3. Fly Ash Storage and Handling System

Fly ash is collected from the TC1 and TC2 dry electrostatic precipitator units and is pneumatically blown to a 1,200-ton fly ash silo (EU42) equipped with an integrated bin vent filter. From this silo, the fly ash can be directed to one of three locations as shown on the process flow diagram in Appendix C. The fly ash can be loaded into trucks via a chute drop with a pickup hood that directs dust picked up back to the bin vent filter. Or, the fly ash can be directed to a wet mixing tank via screw conveyors to be sluiced to the fly ash pond. Or, the fly ash can be pneumatically conveyed to a nearby 5,000-ton silo and then farther out to a 100-ton barge silo at a barge loading station on the Ohio River. Flyash from TC1 and TC2 may also be sent to the CCR Handling or Transport facilities (i.e., IA 33) and eventually the CCR landfill (i.e., EU 54).

Both the 5,000-ton silo and 100-ton barge loading silos are equipped with integrated bin vent filter systems that minimize the release of PM emissions from the pneumatic conveying process.

2.2.2.4. Lime and PAC Storage and Handling System

Lime Storage and Injection Systems utilize hydrated lime as an SO₃ sorbent to scrub acid gases from the TC1 and TC2 boiler exhaust. The hydrated lime is delivered via bulk solid tanker trucks and is pneumatically blown to a

storage silo serving TC1 and two silos for TC2. The sorbent from silos is injected directly into the TC1 and TC2 exhaust streams.

PAC is used to capture and control mercury emissions in the TC1 and TC2 boiler exhaust. Similar to the hydrated lime, PAC is delivered via truck and is pneumatically blown to storage silos, one set for TC1 and one for TC2. The PAC is pneumatically conveyed from the silos into the exhaust duct upstream of the PJFF in both TC1 and TC2.

Both the PAC and lime silos are equipped with integrated bin vent systems to minimize the release of PM emissions when the silos are being loaded from tanker trucks. The silos are only a source of emissions (from displacement air) during loading events. The emissions levels are such that all the lime and PAC silos would qualify to be classified as insignificant activities. However, since the older hydrated lime silo and PAC silo installed as part of the TC2 project are covered by a Best Available Control Technology (BACT) work practice standard, they are included in Section B of the Title V permit under EU45 and EU44, respectively. All the other lime and PAC silos are included in Section C of the permit.

2.2.2.5. Limited Use Auxiliary Boiler

The limited use auxiliary boiler (EU32) is a front-walled burner with a rated heat input capacity of 100 MMBtu/hr.; however, it currently operates on NG and has a federally enforceable limit of 10% of its maximum potential. Construction for EU32 commenced in 2007 and operation began in 2009. The boiler's primary purpose is to provide steam required during startup and shutdown of TC1 and TC2. The boiler also supplies steam for on-site building heat and other services when the TC2 boiler is not in operation.

2.2.2.6. Cooling Towers

Two cooling towers, one mechanical and one natural draft, are used to dissipate heat to the atmosphere and recycle cooling water to each of the utility boilers. The heat is dissipated when the circulating water is sprayed into the cooling tower as a coarse mist, which then cascades down a fill material contacting the air passing up through the tower cells. As the circulating water falls, there is a transfer of heat from the water to the cooler atmospheric air. The mechanical draft cooling tower (EU41) serves TC1 while the natural draft cooling tower (EU20) serves TC2.

As the water flows down through each cooling tower, the draft air picks up water droplets that can be emitted from the top of the tower (i.e., "drift loss"). Particulate matter emissions can result due to the presence of dissolved solids in the cooling tower water droplets that are released from the tower. As the cooling tower droplets disperse in the atmosphere, the liquid water evaporates, leaving behind solid particles in the form of particulate matter. Each cooling tower is equipped with a set of drift eliminators to minimize the amount of PM released.

2.2.3. Combustion Turbines

Trimble station installed six (6) 160 MW (nominal) simple cycle natural gas combustion turbines between 2002 and 2004. These combustion turbines operate primarily as peaking units. Each turbine is equipped with dry low NO_x burners to minimize NO_x emissions. The stack for each turbine is equipped with a CEM for NO_x, CO, and O₂.

2.2.4. Emergency Use Engines and Backup Generators

The Trimble Station currently has eight diesel fired emergency generators. A 227 hp generator engine (EU18) installed in 1994 serves TC1; a 2,206 hp generator engine (EU33) installed in 2010 serves TC2; a firewater pump engine (EU53) installed in 1982; three diesel fired emergency generators (EU50 -EU52) installed in 2014; and two 5051 hp emergency blackstart diesel engines (Units 55-56) installed in 2017.

2.2.5. NG Process Heaters/Preheaters

In May of 2019, a minor permit change request was submitted to move three process heaters (IA 11-13), to Section B as emission units (EU57 – EU59). This was completed under Revision 3 of the V-14-017 Title V Permit which was issued January 18, 2020. EU57 is a 8.8 MMBtu/hr., NG process heater/preheater for CT 25 & 26 (LG&E 5 & 6); EU58 is a 8.0 MMBtu/hr., NG process heater/preheater for CT 27 & 28 (LG&E 7 & 8); EU59 is a 8.0 MMBtu/hr., NG process heater/preheater for CT 29 & 30 (LG&E 9 & 10).

2.2.6. CCR Landfill Operations and Haul Trucks

Permit revisions were submitted in October of 2015 for the addition of a coal combustion residuals (CCR) transportation and storage/material transport operations to the 189-acre CCR landfill (Unit 54). Construction commenced in September of 2016 for the CCR transport and storage operations and September 2017, for the CCR landfill. A truck loading station will be installed with the landfill. It will receive material conveyed from the ash and gypsum handling systems, via a pipe conveyor and then to haul trucks, which will in turn, carry the CCR material to the active site of the landfill. Best practices, watering, cleaning and road maintenance will be used to control dust.

3. UPDATES FOR RENEWAL AIR PERMIT

The most recent permit revision was issued January 18, 2020; hence, most permit actions have already been updated in the three revisions since permit V-14-017 was issued October 16, 2015. There are however a few language clarification changes noted in Appendix F.

Requested changes, redline/strikeout edits and comments which explains the reasons for the changes, are included in Appendix F and are based on the Revision 2 and 3 permits. A summary of the major change requests and a summary of the major requested changes, in the marked-up permit, are noted below.

3.1. AIR PERMIT ACTIONS DURING PERMIT TERM

The following changes/revisions took place during the existing term of Title V permit V-14-017.

3.1.1. Minor Revision Under Revision 1 -CCR Landfill Operation, Haul Trucks & IA Related Activities

On October 9, 2015, LG&E submitted a permit application for a minor and an off-permit change request for the construction/operation of a 189-acre dry landfill (Unit 54) to store the bottom ash, fly ash and gypsum; byproducts of coal combustion. This permit request was incorporated in Revision 1.

LG&E also notified the Division of a typo in the permit. The **1.e Operating Limitation** for Emission Unit 32 had replaced “or” with “and”. The language was reverted back to the original, correct language in Revision 1.

3.1.2. Off Permit Changes Added Under Revision 1

APE20150001: LG&E submitted an off-permit change for the addition of three insignificant activities for the construction of a fuel additive facility, which encompassed conveyors, two (2) silos, mixing/feed tanks to supply the additive to coal, a one-thousand (1000) gallon propane tank, and four (4) 0.25 MMBtu/hr. propane water heaters.

APE20150002: LG&E submitted an off-permit change for the addition of flyash, bottom ash, and gypsum materials handling equipment in order to transport the ash/gypsum material to the proposed dry landfill. V-14-017 R1.

APE20150003: LG&E submitted an off-permit change to construct storage silos and material transport equipment for a multiple fuel additive (liquid calcium bromide and others) in order to reduce mercury emissions.

3.1.3. Off Permit Changes Added Under Revision 2

APE20160002: LG&E submitted an off-permit change March 28, 2016 to add two 5051 hp (3500 kW) diesel emergency black start engines and three #2 fuel oil tanks ((2) 300 and (1) 4000 gallon) . This project was approved by letter dated June 30, 2016 as an off-permit change and these engines were added to the permit as Emission Unit 55 and 56.

APE20160005: There were two applications filed under this activity. The first was submitted October 12, 2016 and involved adding natural gas as alternative startup fuels for Emission Units 1 and 31 and adding natural gas as an alternative fuel for Emission Unit 32.

The second application filed under this activity was submitted December 7, 2016, to add a natural gas-fired preheater system and an odorant tank to the insignificant activities list.

APE20170006: LG&E submitted an off-permit change request August 14, 2017, to modify an existing insignificant activity, IA#29, a fuel additive facility.

APE20180002: LG&E submitted an off-permit change request February 21, 2019, to add Material Handling & Transport Operation for a Process Water System in the IA list.

APE20180008: LG&E submitted an off-permit change request October 12, 2019, for IA#22, Gypsum Barge Load-out Facility, an existing IA, to update the potential emission calculations.

3.1.4. MINOR REVISION Issued Under V-14-017 R3:

APE20190001: On May 1, 2019, LG&E submitted a minor permit request to move three process heaters from Section C - Insignificant Activities to Section B, and to update the ratings of the 3 process heaters. The three natural gas process heaters are all above 1 MMBtu/hr., which makes them fall outside of insignificant activity range. They are identified as Emission Units 57-59.

3.1.5. Permit Markup Changes - Summary:

LG&E is requesting deletion of out of date verbiage/conditions. Adding clarification language where needed and correcting a few typos.

LG&E is requesting that the frequency of the qualitative visuals for EU32, the aux boiler, be changed to an annual qualitative visual. When EU32 was initially permitted, the boiler operated on oil and the permit was based on a synthetic MACT (MACT was only proposed). Since 2006, the MACT has been finalized, and the boiler is now classified as a limited use boiler. The federal enforceable limits are 10% of the potential originally permitted limit. The unit currently operates on NG instead of fuel oil. Since many other units are assumed to be in compliance for opacity, if they operate on NG, LG&E is requesting that this be changed to an annual qualitative visual observation and a Method 9 if triggered OR an Annual Method 9 if the unit operates for events, others than testing during the calendar year and that the unit does not need to be brought on-line if it does not operate during the calendar year.

LG&E is requesting that "the auxiliary steam boiler, except for testing purposes, shall only operate during periods when Emission Unit 01 or Emission Unit 31 are operating at less than 50% load" be deleted. This was added when the Aux Boiler was initially added and before the DDDDD MACT was final. Since the original permitting, LG&E has taken limits to operate Unit 32 as a limited use boiler. We now have a federally enforceable limit that the fuel consumed for Unit 32 be limited to 87,595 MMBtu/yr., based on a twelve (12)-month rolling total. This limit is less than 10% of the maximum potential heat input. (permit condition 1a). The unit currently operates on NG instead of fuel oil.

For E25-30, LG&E requests that the every 6-month monitoring requirement for sulfur be changed to annual OR, if this is not acceptable, twice per years with at least 4-months separation. These samples are very difficult to

collect and costly. For the last almost 20 years, LG&E's samples have been well below the sulfur limit. These units utilize NG. The regulations do not specify a sampling frequency.

4. COMPLIANCE ASSURANCE MONITORING ANALYSIS

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emission units with a Title V application. The CAM plans are intended to document methods that will provide on-going and reasonable assurance of compliance with emission limits. Pursuant to §64.2(a), the CAM regulations apply to a pollutant-specific emissions unit (PSEU), as defined in §64.1, at a major Title V source if the following criteria are met:

1. the PSEU is subject to an emission limitation or standard for the regulated pollutant, other than an emission limitation or standard that is exempt under §64.2(b),
2. the PSEU uses a control device as defined in §64.1 to achieve compliance with the emission limitation, and
3. the PSEU has potential pre-controlled emissions of the applicable regulated air pollutant that are equal to or greater than Title V major source thresholds.

CAM applicability and required CAM plans have previously been prepared and provided in prior Title V permit renewal applications. However, a summary of applicability to CAM for each group of emission units at the Trimble County Station is provided in the following sections. CAM plans are provided in Appendix E.

4.1. UTILITY BOILERS CAM APPLICABILITY

4.1.1. CAM Applicability for PM, PM₁₀, and PM_{2.5}

TC1 employs a dry ESP and PJFF to control emissions of PM, PM₁₀ and PM_{2.5} and is subject to a 0.10 lb/MMBtu PM emission limit under NSPS Subpart D. TC2 uses a dry ESP, PJFF, and a WESP to control PM, PM₁₀ and PM_{2.5} emissions and is subject to a 0.015 lb/MMBtu emission standard for PM (24-hour average) under NSPS Subpart Da as well as a PSD limit of 0.018 lb/MMBtu for PM₁₀ (3-hour average).

Pursuant to 40 CFR 64.2(a), because the control equipment in each of these cases is used to achieve compliance with the PM emission limits and potential pre-controlled PM emissions exceed 100 tpy, CAM applies to TC1 and TC2 for PM. See Appendix E for the CAM PM and PM₁₀ plans for TC1 and TC2.

Currently, there are no PM_{2.5} emission standards that apply to either of the utility boilers. Thus, no CAM plans for PM_{2.5} are required.

4.1.2. CAM Applicability for SO₂

Each of the utility boilers employs a wet FGD system for SO₂ control. TC1 is subject to a PSD emission limit of 0.84 lb/MMBtu for SO₂ (3-hour average). TC1 is also subject to a self-imposed SO₂ limit of 4,822 tons per 12 consecutive months. TC2 is subject to a 1.4 lb/MWh gross energy output SO₂ emission standard under NSPS Subpart Da as well as a PSD SO₂ limit of 8.94 tons per calendar day and 3,263.1 tons per 12 consecutive months total. Pursuant to 40 CFR 64.2(a), because the wet FGDs are used to achieve compliance with the SO₂ emission limits and potential pre-controlled SO₂ emissions exceed 100 tpy, CAM applies to both TC1 and TC2 for SO₂. A CAM Plan for SO₂ covering both boilers is provided in Appendix E.

4.1.3. CAM Applicability for NO_x

Each of the utility boilers is equipped with low-NO_x burners to minimize NO_x formation. However, low-NO_x burners are not classified as a control device as defined in §64.1 and thus they are not relevant for CAM applicability.

Both TC1 and TC2 are also equipped with an SCR system located upstream of the dry ESP for control of NO_x. TC1 is subject to a 0.45 lb/MMBtu NO_x emission standard under 40 CFR Part 76 and a 0.7 lb/MMBtu NO_x emission standard under NSPS Subpart D. TC1 is also subject to a self-imposed NO_x limit of 5,556 tpy NO_x per 12 consecutive months. TC2 is subject to a 1.0 lb/MWh gross energy output NO_x emission standard under NSPS Subpart Da and a 4.17 tons per calendar day (except during startup and shutdown) and 1,506.72 tons per 12 consecutive months total PSD NO_x limit.

Since potential pre-controlled NO_x emissions exceed 100 tpy, LG&E has provided a CAM plan for NO_x in Appendix E reflecting the use of the existing NO_x CEMS.

4.1.4. CAM Applicability for Sulfuric Acid Mist

TC1 is equipped with dry sorbent injection system, PJFF, and Wet FGD systems that all work in tandem to control sulfuric acid mist (SAM). However, there are currently no SAM emissions limits applicable to TC1. Therefore, no SAM CAM plan is required.

SAM emissions for TC2 are controlled with a dry sorbent injection system, PJFF, Wet FGD, and WESP system. TC2 is also subject to a PSD emission limit of 26.6 lbs/hr SAM. Pursuant to 40 CFR 64.2(a), because the control equipment is used to achieve compliance with the SAM emission limit and potential pre-controlled SAM emissions exceed 100 tpy, CAM applies to TC2 for SAM. A CAM plan for SAM consistent with that incorporated into the existing Title V permit (V-14-017 R3) is provided in Appendix E.

4.1.5. CAM Applicability for Fluorides

TC1 Boiler is equipped with a dry sorbent injection system, PJFF, and Wet FGD systems that all in part help to control fluorides. However, there are currently no limits on fluorides for TC1. Therefore, no CAM plan is required.

Fluoride emissions for TC2 are also controlled with a dry sorbent injection system, PJFF, and Wet FGD systems. TC2 is subject to a PSD emission limit of 1.55 lbs/hr (3-hour average) for fluorides. Pursuant to 40 CFR 64.2(a), because the control equipment is used to achieve compliance with the fluorides emission limit and potential pre-controlled fluoride emissions may exceed the Title V major source threshold, CAM applies to TC2 for fluorides. A CAM plan for Fluoride consistent with that incorporated into the existing Title V permit (V-14-017 R3) is provided in Appendix E.

4.1.6. CAM Applicability for Other Pollutants

For all other pollutants emitted by the utility boilers, there are either no applicable emission limits, no control devices in place, or the pre-controlled emissions are less than Title V major source thresholds, and thus no other CAM plans are required.

4.2. COAL HANDLING AND PROCESSING OPERATIONS

As shown in the process flow diagram provided in Appendix C and described in Section 2.2.2, the receiving, conveying and processing of coal prior to its delivery to the utility boilers is encompassed under emission units EU07, EU08, EU09, EU37, and EU39. Coal storage piles and roadways are covered by emission units EU05, EU06, EU34, and EU35. The storage pile operations are subject only to 401 KAR 63:010 and, in the case of EU34 and EU35 other work practice standards. As there is no applicable PM emission standard, CAM does not apply to these emission units. The coal conveying, handling, and crushing equipment installed after the October 27, 1974 applicability date for NSPS Subpart Y (Coal Preparation and Processing Plants) are subject to an opacity standard of 20% pursuant to 40 CFR 60.254(a). No other emission standards apply under Subpart Y. CAM plans are not required for opacity since it is not a mass-based emission standard. Therefore, these emissions units are not subject to CAM.

4.3. LIMESTONE HANDLING AND PREPARATION

The limestone handling and processing operations covered by emission units EU10, EU13, and EU14 are subject only to opacity standards under NSPS Subpart 000 or general prohibitions on fugitive PM under 401 KAR 63:010. Therefore, CAM does not apply to any of these emission units.

4.4. FLY ASH STORAGE AND HANDLING SYSTEM

The fly ash storage and handling system covered under EU42 is subject to PM emission limits under 401 KAR 59:010. However, the integrated bin vent filter system is a part of the pneumatic conveying process and would not be classified as a control device under CAM. Regardless, the pre-controlled PM emissions are estimated to be less than the Title V major source thresholds, and thus CAM does not apply.

4.5. LIME AND POWDERED ACTIVATED CARBON STORAGE

The powdered activated carbon and hydrated lime storage silos covered under emission units EU44 and EU45 respectively are subject to PM emission limits under 401 KAR 59:010. However, the integrated bin vent filter system is part of the pneumatic conveying process and would not be classified as a control device under CAM. Regardless, the pre-controlled PM emissions are significantly less than Title V major source thresholds, and thus CAM does not apply.

4.6. LIMITED USE AUXILIARY BOILER

The limited use auxiliary boiler (EU32), currently complies with PSD mass-based emission limits and a federally enforceable limit of less than 10% of the maximum potential heat input. No control device is used to control emissions. Therefore, CAM does not apply to this emission unit.

4.7. COOLING TOWERS

The cooling towers at the station are equipped with drift eliminators. Drift eliminators can be treated as an integral part of the cooling tower system. In addition, the cooling towers are not subject to any PM emission standards. Therefore, CAM does not apply to the cooling towers.

4.8. COMBUSTION TURBINES

Each of the six (6) combustion turbines employs low-NO_x burners to minimize NO_x formation. However, low-NO_x burners are not classified as a control device as defined in §64.1 and thus they are not relevant for CAM applicability. Because no other control devices are utilized to minimize NO_x emissions (or any other pollutant), CAM does not apply to the combustion turbines.

4.9. EMERGENCY USE ENGINES AND FIRE PUMP ENGINE

None of the engines at the facility use a control device to achieve compliance with an applicable standard. In addition, the emission standards applicable to the NSPS Subpart IIII-subject engines would be exempt from CAM pursuant to 40 CFR 64.2(b)(1)(i), since this regulation was promulgated after November 15, 1990. Therefore, CAM does not apply to the engines.

4.10. SUMMARY OF CAM APPLICABILITY DETERMINATIONS

Based on the CAM analysis presented, the following emission units at Trimble Station are subject to the CAM rule:

- Unit 1 Boiler for PM, SO₂, and NO_x
- Unit 2 Boiler for PM/PM₁₀, SO₂, and NO_x, SAM, and Fluorides

The CAM Plans are included in Appendix E of this application package.

APPENDIX A: DEP7007 APPLICATION FORMS

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007AI

Administrative Information

- Section AI.1: Source Information
- Section AI.2: Applicant Information
- Section AI.3: Owner Information
- Section AI.4: Type of Application
- Section AI.5: Other Required Information
- Section AI.6: Signature Block
- Section AI.7: Notes, Comments, and Explanations

Additional Documentation

Additional Documentation attached

Source Name: Louisville Gas & Electric Company (Trimble County Generating Station)

KY EIS (AFS) #: Source ID 21-223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: AI#4054

Date: 4/2020

Section AI.1: Source Information

Physical Location	Street:	<u>487 Corn Creek Road</u>		
Address:	City:	<u>Bedford</u>	County:	<u>Trimble</u>
	Street or	<u>32010</u>	Zip Code:	<u>40006</u>
Mailing Address:	P.O. Box:	<u>32010</u>		
	City:	<u>Louisville</u>	State:	<u>KY</u>
			Zip Code:	<u>40232</u>

Standard Coordinates for Source Physical Location

Longitude: -85.411944 (decimal degrees) **Latitude:** 38.584722 (decimal degrees)

Primary (NAICS) Category: Fossil Fuel Electric Power **Primary NAICS #:** 221112

11/2018

Classification (SIC) Category:

Electric Services

Primary SIC #:

4911

Imber

Briefly discuss the type of business conducted at this site:

Electric Services

Description of Area Surrounding Source:

Rural Area

Industrial Park

Residential Area

Urban Area

Industrial Area

Commercial Area

Is any part of the source located on federal land?

Yes

No

Number of Employees:

approx. 180

Approximate distance to nearest residence or commercial property:

< 1 mile

Property Area:

2,583.7 acres

Is this source portable? Yes No

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

NPDES/KPDES:

Currently Hold (see notes)

Need

N/A

Solid Waste:

Currently Hold (see notes)

Need

N/A

RCRA:

Currently Hold (see notes)

Need

N/A

UST:

Currently Hold

Need

N/A

Type of Regulated Waste Activity:

Mixed Waste Generator

Generator

Recycler

Other: _____

U.S. Importer of Hazardous Waste

Transporter

Treatment/Storage/Disposal Facility

N/A

Section AI.3: Owner Information

__ Owner same as applicant

Name: Louisville Gas & Electric Company, Kentucky Utilities Company, Indiana Municipal Power Agency, Illinois Municipal Power Agency

Title: _____

Mailing Address: **Street or P.O. Box:** P.O. Box 32010
City: Louisville **State:** KY **Zip Code:** 40232

Email: _____

Phone: _____

List names of owners and officers of the company who have an interest in the company of 5% or more.

Name

Position

LG&E and KU Energy LLC owns 100% common stock of Louisville Gas & Electric Company and Kentucky Utilities Company. Illinois Municipal Electric Agency is a municipal corporation and unit of local government of the State of Illinois.

Section AI.4: Type of Application **Imber**

Current Status: Title V Conditional Major State-Origin General Permit Registration None

Name Change Initial Registration Significant Revision Administrative Permit Amendment

Requested Action: Renewal Permit Revised Registration Minor Revision Initial Source-wide Operating Permit
(check all that apply) 502(b)(10) Change Extension Request Addition of New Facility Portable Plant Relocation Notice

Revision Off Permit Change Landfill Alternate Compliance Submittal Modification of Existing Facilities

Ownership Change Closure

Requested Status: Title V Conditional Major State-Origin PSD NSR Other: _____

Is the source requesting a limitation of potential emissions? Yes No

Pollutant:	Requested Limit:	Pollutant:	Requested Limit:
<input type="checkbox"/> Particulate Matter	_____	<input type="checkbox"/> Single HAP	_____
<input type="checkbox"/> Volatile Organic Compounds (VOC)	_____	<input type="checkbox"/> Combined HAPs	_____
<input type="checkbox"/> Carbon Monoxide	_____	<input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F)	_____
<input type="checkbox"/> Nitrogen Oxides	_____	<input type="checkbox"/> Carbon Dioxide	_____
<input type="checkbox"/> Sulfur Dioxide	_____	<input type="checkbox"/> Greenhouse Gases (GHG)	_____
<input type="checkbox"/> Lead	_____	<input type="checkbox"/> Other	_____

For New Construction:

Proposed Start Date of Construction: **Proposed Operation Start-Up Date:** *(MM/YYYY)*

(MM/YYYY) _____

For Modifications:

Proposed Start Date of Modification: **Proposed Operation Start-Up Date:** *(MM/YYYY)*

(MM/YYYY) _____

Applicant is seeking coverage under a permit shield. Yes No **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

Section AI.7: Notes, Comments, and Explanations

Unable to edit rows (row height). Used the attached sheet for comments. Company IT Security removes some of the macros from forms.

DEP7007A

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007A</h2> <h3 style="margin: 0;">Indirect Heat Exchangers and Turbines</h3> <p style="margin: 5px 0 0 20px;">___ Section A.1: General Information</p> <p style="margin: 5px 0 0 20px;">___ Section A.2: Operating and Fuel Information</p> <p style="margin: 5px 0 0 20px;">___ Section A.3: Notes, Comments, and Explanations</p>	<p style="text-align: center; margin: 0;">Imber</p> <p style="text-align: center; margin: 0;">Additional Documentation</p> <hr/> <p style="margin: 5px 0 0 20px;">___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.</p> <p style="margin: 5px 0 0 20px;">___ Manufacturer's specifications</p>
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Source Name: Louisville Gas & Electric Company (Trimble County Generating Station)

KY EIS (AFS) #: 21-223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: AI#4054

Date: April 2020

Section A.1: General Information

Emission Unit #	Emission Unit Name	Process ID	Process Name	Identify General Type: <small>Indirect Heat Exchanger, Gas Turbine, or Combustion Turbine</small>	Indirect Heat Exchanger Configuration	Manufacturer	Model No./ Serial No.	Proposed/Actual Date of Construction Commencement <small>(MM/YYYY)</small>	SCC Code	SCC Units	Control Device ID	Stack ID
1	TC1 Indirect Heat Exchanger	1	Unit 1 Boiler/ 5333 MMBTU	Indirect heat exchanger	Tangentially Fired Boiler	General Electric (Turbine), Combustion Engineering (Boiler)	Custom Built/Contract No. 7377	1978 <small>(Initial Startup, May 1990)</small>	10100202	Tons, Bituminous Coal Burn	SCR DSI ESP PJFF PAC WFGD	01
31	TC2 Indirect Heat Exchanger	1	Unit 2 Boiler/ 6942 MMBTU	Indirect heat exchanger	Supercritical	Doosan Babcock Energy Supercritical Pulverized Coal Boiler	Serial Number T06162-01	3rd Quarter 2006	10100202	Tons, Bituminous Coal Burn	SCR DSI DESP WESP PJFF PAC WFGD	31
32	"Limited Use" Auxiliary Steam Boiler	1	Aux Boiler NG or ULSD 100 MMBTU/HR	Indirect heat exchanger	Water tubes	Cleaver Brooks	Serial # N11013 Model P-101-LOG-26-1319	2007 <small>(Operational 2009)</small>	10100501 (this is for fuel oil) 10100601 (NG)	1000 gallons (#2 fuel oil) or MMSCF (NG)	NA	32
25	TC5 Combustion Turbine	1	Gas Turbine	Gas Turbine for Electricity Generation	Simple Cycle	General Electric	PG7241(FA) Simple Cycle Turbine	05/2002	20100201	MMSCF NG Burned	Dry Low NOx Burners	25
26	TC6 Combustion Turbine	1	Gas Turbine	Gas Turbine for Electricity Generation	Simple Cycle	General Electric	PG7241(FA) Simple Cycle Turbine	05/2002	20100201	MMSCF NG Burned	Dry Low NOx Burners	26

11/2018 Emission Unit #	Emission Unit Name	Process ID	Process Name	Identify General Type: Indirect Heat Exchanger, Gas Turbine, or Combustion Turbine	Indirect Heat Exchanger Configuration	Manufacturer	Model No./ Serial No.	Date of Construction Commencement (MM/YYYY)	SCC Code	SCC Units	Control Device ID	Stack ID
27	TC7 Combustion Turbine	1	Gas Turbine	Gas Turbine for Electricity Generation	Simple Cycle	General Electric	PG7241(FA) Simple Cycle Turbine	06/2004	20100201	MMSCF NG Burned	Dry Low NOx Burners	27
28	TC8 Combustion Turbine	1	Gas Turbine	Gas Turbine for Electricity Generation	Simple Cycle	General Electric	PG7241(FA) Simple Cycle Turbine	06/2004	20100201	MMSCF NG Burned	Dry Low NOx Burners	28
29	TC9 Combustion Turbine	1	Gas Turbine	Gas Turbine for Electricity Generation	Simple Cycle	General Electric	PG7241(FA) Simple Cycle Turbine	06/2004	20100201	MMSCF NG Burned	Dry Low NOx Burners	29
30	TC10 Combustion Turbine	1	Gas Turbine	Gas Turbine for Electricity Generation	Simple Cycle	General Electric	PG7241(FA) Simple Cycle Turbine	06/2004	20100201	MMSCF NG Burned	Dry Low NOx Burners	30
57	Unit 57 NG Preheater (for CT Units 25 & 26)	1	Process Heater	Indirect heat exchanger/Process Heater	A liquid bath heated by two 'U' tube type fireboxes (10") to supply heat to a process coil carrying natural gas, which is also submerged in the bath. The process coil consists of what looks like 18 'U' tube type 2" pipes.	Gas Tech Engineering Corp	2139-02(Serial #)	2001	10200603	MMSCF NG Burned	NA	57
58	Unit 58 NG Preheater (for CT Units 25 & 26)	1	Process Heater	Indirect heat exchanger/Process Heater	A liquid bath heated by two 'U' tube type fireboxes (10") to supply heat to a process coil carrying natural gas, which is also submerged in the bath. The process coil consists of what looks like 18 'U' tube type 2" pipes.	Gas Tech Engineering Corp	2167-02B(Serial #)	2003	10200603	MMSCF NG Burned	NA	58
59	Unit 59 NG Preheater (for CT Units 25 & 26)	1	Process Heater	Indirect heat exchanger/Process Heater	A liquid bath heated by two 'U' tube type fireboxes (10") to supply heat to a process coil carrying natural gas, which is also submerged in the bath. The process coil consists of what looks like 18 'U' tube type 2" pipes.	Gas Tech Engineering Corp	2167-02A(Serial #)	2003	10200603	MMSCF NG Burned	NA	59

Section A.2: Operating and Fuel Information											Imber		
Emission Unit #	If multipurpose unit, identify the percentage of use by purpose				Rated Capacity Heat Input (MMBTU/hr)	Rated Capacity Power Output (Specify units: hp, MW, or lb steam/hr)	Describe Operating Scenario (only if this unit will be used in different configurations)	Classify Fuel as Primary or Secondary	Identify Fuel Type: Coal, Natural Gas, Wood, Biomass, Landfill/Digester Gas, Fuel Oil # (specify 1-6), or Other	Heat Content (HHV) (Specify units: Btu/lb, Btu/gal, or Btu/scf)	Maximum Operating Hours	Ash Content (%)	Sulfur Content (%)
	Space Heat	Process Heat	Power	Emergency									
1					5333 (design capacity)	566 MW		Primary Secondary	Coal Ultra low-sulfur diesel & natural gas (startups & stabilization)	11374 BTU/lb 138 MMBtu/Mgal	8760	8.89 NA NA	3.09 0.0015 0.02 gr/scf
31					6942 (design capacity)	750 MW (Net Nominal)		Primary Secondary	Coal Ultra low-sulfur diesel & natural gas (startups & stabilization)	9559 BTU/lb 138 MMBtu/Mgal	8760	7.13 0.0001 NA	2.06 0.0015 0.02 gr/scf
32					100	29.3 MW (calculated)		Primary Secondary	Ultra Low Sulfur Diesel or Natural Gas	138 MMBtu/Mgal	Limited Used/10% of max. potential heat input	NA	0.0015 0.02 gr/scf
25					1763 (at minus 10 degrees F)	160 MW (nominal rated output capacity)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf
26					1763 (at minus 10 degrees F)	160 MW (nominal rated output capacity)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf
27					1763 (at minus 10 degrees F)	160 MW (nominal rated output capacity)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf
28					1763 (at minus 10 degrees F)	160 MW (nominal rated output capacity)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf
29		April 2020			1763 (at minus 10 degrees F)	160 MW (nominal rated output capacity)		Primary	Natural Gas	1020 MMBtu/MMSCF	April 1923	NA	0.02 gr/scf
30					1763 (at minus 10 degrees F)	160 MW (nominal rated output capacity)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf

11/2018	If multipurpose unit, identify the percentage of use by purpose				8.8	Rated Capacity Power Output			Attachment 2 to Response to JI-1	Heat Content (HHV)	Question No. 1.102(i)	Page 32 of 516	Imber	DEP7007A
57					8.8	<3 MW (calculated)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf	
58					8.0	<3 MW (calculated)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf	
59					8.0	<3 MW (calculated)		Primary	Natural Gas	1020 MMBtu/MMSCF	8760	NA	0.02 gr/scf	

DEP7007B

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007B</h2> <h3 style="margin: 0;">Manufacturing or Processing Operations</h3> <p>___ Section B.1: Process Information ___ Section B.2: Materials and Fuel Information ___ Section B.3: Notes, Comments, and Explanations</p>	<div style="text-align: right; font-weight: bold; font-size: small;">Imber</div> <h4 style="text-align: center; margin: 0;">Additional Documentation</h4> <p>___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. ___ Attach a flow diagram ___ Attach SDS</p>
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Source Name:	Louisville Gas & Electric Company (Trimble County Generating Station)
KY EIS (AFS) #:	21- 223-00002
Permit #:	V-14-017 R2
Agency Interest (AI) ID:	4054
Date:	April-2020

Section B.1: Process Information

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
20	Natural Draft Cooling Tower for EU 31	Cooling Tower (Natural Draft)	1	Cooling Tower (Natural Draft)	Zurn	Z-8300	September 1990; Modified 2009	Continuous	NA	NA
41	Mechanical Draft Cooling Tower (For Unit 1)	Cooling Tower (Linear Mechanical Draft)	1	Cooling Tower (Linear Mechanical Draft)	International Cooling Tower	CF9934-5-10m-12	July 2006 (installed)	Continuous	NA	NA

lumber

Section B.2: Materials and Fuel Information

**Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.*

Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
			(Specify Units/hr)					(Specify Units/hr)		(Specify Units)	(Specify Units)				
20	Natural Draft Cooling Tower for EU 31	Circulating Water & Treatment Chemicals	20.4 MMgal/hr		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
41	Mechanical Draft Cooling Tower (For Unit 1)	Circulating Water & Treatment Chemicals	17.7 MMgal/hr		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEP7007L

Division for Air Quality

 300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007L

Mineral Processes

- __ Section L.1: Source Operating Information
- __ Section L.2: Concrete Operations
- __ Section L.3: Asphalt Operations
- __ Section L.4: Coal Operations
- __ Section L.5: Aggregate Processing Operations
- __ Section L.6: Feed, Corn, and Flour Operations
- __ Section L.7: Grain Elevators
- __ Section L.8: Fertilizer Operations
- __ Section L.9: Notes, Comments, and Explanations

Imber
Additional Documentation

__ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.

__ Attach flow diagram

Source Name: Louisville Gas & Electric - Trimble County Generating Station

KY EIS (AFS) #: 21- 223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: 4054

Date: April-2020

Section L.1: Source Operating Information

Type of Plant: Concrete Asphalt Coal Fertilizer Feed Corn Flour Grain Elevators Aggregate Processing

Operating Schedule: Hours/Day: Days/Week: Weeks/Year:

Percent Annual Throughput:

Dec.-Feb.: 25 % Mar.-May: 25 % Jun.-Aug.: 25 % Sep.-Nov.: 25 %

Maximum Rated Source Capacity: 598* tons/hour 5,234,586* tons/year See DEP7007N Forms for potential coal and aggregate material usage

* Tons/yr based on assumed max coal usage. Unit 1, 234.44 tons/hr *8760 = 2,053,694 tons/year. Unit 2, 363.12 ton/hr *8760 = 3,180,892 tons/year. Total 5,234,586

Combustion Equipment:		Imber
Is there a generator located on site?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, but not directly related to material handling operation	
Is it possible for the generator to remain at one site longer than twelve months?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is there a hot water heater located on site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Use for bathrooms and kitchen	
Is there a dryer located on site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is there a hot oil heater (asphalt heater) located on site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe briefly the disposal of particulates collected in the baghouse and/or other waste generated at the site:	CCR material can be placed in on-site landfill (when landfill is in operation) or off site landfill.	
Is there additional information attached to support the data required in this form?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Brief description of additional information included: _____		
Total number of additional pages, including drawings, maps, and diagrams: _____		

Imber

Section L.4: Coal Operations

New Source Performance Standards Applicability:

Are any emission units for the operation subject to: NSPS, Subpart Y None Other: 401 KAR 51:017

Fugitive Coal Dust Emissions Control Plan

Describe the control measures used to minimize fugitive coal dust:

Enclosures, water/chemical suppression agents, compaction

One or more of the following control measures must be used to minimize fugitive coal dust:

Check all that apply: Partial Enclosure Water Spray or Fogging System Compaction
 Wind Barrier Chemical Dust Suppression Agents Vegetative Cover

Complete the Table:

Emission Unit #	Affected Facility	Maximum Rated Capacity		Control Method or Device	Control Efficiency (% removal)	SCC Code	Pollutant	Emission Factor (lb/SCC unit)	Source of Emission Factor	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Installation Date of Unit	Is the Unit Subject to NSPS? (Yes or No)
		(tons/hr)	(tons/yr) *									
07	Barge Unloading	5500	*	Enclosure	90	30510403	See Attachment N Supplemental			1990	1990	Yes
07	Conveyor Belt A	5500	*	Enclosure	90	30510103				1990	1990	Yes
07	Conveyor Belt B	5500	*	Enclosure/Hood	90	30510103				1990	1990	Yes
07	Conveyor Belt C	5500	*	Enclosure/Hood/Rotocloner	90	30510103				1990	1990	Yes
07	Conveyor Belt D	3000	*	Enclosure	90	30510103				1990	1990	Yes

Emission Unit #	Affected Facility	Maximum Rated Capacity		Control Method or Device	Control Efficiency (% removal)	SCC Code	Pollutant	Emission Factor (lb/SCC unit)	Source of Emission Factor	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Imber Installation Date of Unit	Is the Unit Subject to NSPS? (Yes or No)
		(tons/hr)	(tons/yr) *									
07	Reclaim Hopper & Conveyor Belt R1	1320	*	Enclosure	90	30510103	See Attachment N Supplemental			1990	1990	Yes
07	Conveyor Belt S	1650	*	Enclosure	90	30510103	See Attachment N Supplemental			1990	1990	Yes
07	Conveyor Belt E1	2640	*	Hood	90	30510103	See Attachment N Supplemental			1990	1990	Yes
07	Conveyor Belt F1 & F2	1320	*	Dust Collector	90	30510103	See Attachment N Supplemental			1990	1990	Yes
07	Conveyor Belt G1 & G2	1320	*	Dust Collector	90	30510103	See Attachment N Supplemental			1990	1990	Yes
08	Crusher House	3600	*	Rotoclone	97	30501010	See Attachment N Supplemental			1990	1990	Yes
09	Six Unit 1 Silos	800	*	Dust Collector	99	30510203	See Attachment N Supplemental			1990	1990	Yes
37	Conveyor Belt E2	2640	*	Dust Collectors	99	30599999	See Attachment N Supplemental			2008	2008	Yes
37	Conveyor Belt E3	2640	*	Hood	99	30599999	See Attachment N Supplemental			2008	2008	Yes
39	Six Unit 2 Silos	800	*	Dust Collector	99	30510203	See Attachment N Supplemental			2008	2008	Yes

* Tons/yr based on assumed max coal usage. Unit 1, 234.44 tons/hr *8760 = 2,053,694 tons/year. Unit 2, 363.12 ton/hr *8760 = 3,180.892 tons/year. Total 5,234,586

Section L.5: Aggregate Processing Operations Imber

New Source Performance Standard Applicability
 Are any emission units for the operation subject to: NSPS, Subpart OOO None Other: 401 KAR 63:010, 401 KAR 51:017

Complete the Table:

Emission Unit #	Affected Facility	Maximum Rated Capacity		Control Method or Equipment	Control Efficiency (% removal)	SCC Code	Pollutant	Emission Factor (lb/SCC unit)	Source of Emission Factor	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Installation Date of Each Unit	Is the Unit Subject to NSPS? (Yes or No)
		(tons/hr)	(tons/yr)									
10	Lime/Limestone Crushing & Milling (Receiving)	1650	14,454,000	Dust Suppression	95%	30510405	See Attachment N Supplemental			Before 1990	1990	No
10	Lime/Limestone Crushing & Milling (Stockpile)	1500	13,140,000	Dust Suppression	95%	30510305	See Attachment N Supplemental			Before 1990	1990	No
13	Lime/Limestone Receiving & Storage (2 Ball Mills)	260 each	3,504,000	Process Enclosed	90%	30588801	See Attachment N Supplemental			1989	1990	Yes
14	Limestone Conveyor A	1500	13,140,000	Process Enclosed	90%	30510405	See Attachment N Supplemental			1990	1990	Yes
14	Transfer Bin	1500	13,140,000	Process Enclosed	90%	305101405	See Attachment N Supplemental			1990	1990	Yes
14	Limestone Conveyor B	1500	13,140,000	Process Enclosed	90%	30510405	See Attachment N Supplemental			1990	1990	Yes
14	Reclaim Hopper	1500	13,140,000	Process Enclosed	90%	30510405	See Attachment N Supplemental			1990	1990	Yes
14	Limestone Conveyor C	1500	13,140,000	Process Enclosed	90%	30510405	See Attachment N Supplemental			1990	1990	Yes
14	C2 Emergency Limestone Conveyor	130	1,138,800	Process Enclosed	90%	30510405	See Attachment N Supplemental			1990	1990	Yes
14	C3 Emergency Limestone Conveyor	130	1,138,800	Process Enclosed	90%	30510405	See Attachment N Supplemental			1990	1990	Yes

DEP7007N

Division for Air Quality

300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007N

Source Emissions Profile

- Section N.1: Emission Summary
- Section N.2: Stack Information
- Section N.3: Fugitive Information
- Section N.4: Notes, Comments, and Explanations

Additional Documentation

Complete DEP7007AI

Source Name: [Louisville Gas & Electric - Trimble County Generating Station](#)

KY EIS (AFS) #: 21- 223-00002

Permit #: [V-14-017 R3](#)

Agency Interest (AI) ID: [4054](#)

Date: [April 2020](#)

N.1: Emission Summary

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions			
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)		
01	TC1 Indirect Heat Exchanger	1	Unit 1 Boiler/ 5333 MMBTU															
31	TC2 Indirect Heat Exchanger	1	Unit 2 Boiler/ 6942 MMBTU															
32	"Limited Use" Auxiliary Steam Boiler	1	Aux Boiler NG or ULSD 100 MMBTU/HR															
25	TC5 Combustion Turbine	1	Gas Turbine															
26	TC6 Combustion Turbine	1	Gas Turbine															
27	TC7 Combustion Turbine	1	Gas Turbine															

11/2018

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Imber Annual Emissions		
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	
28	TC8 Combustion Turbine	1	Gas Turbine														
29	TC9 Combustion Turbine	1	Gas Turbine														
30	TC10 Combustion Turbine	1	Gas Turbine														
18	Emergency Diesel Generator Engine Tier III	1	Emergency Generator														
33	Emergency Generator Engine (Tier II Certified)	1	Emergency Generator														
50	Emergency Generator Engine (Tier II Certified)	1	Emergency Generator														
51	Emergency Generator Engine (Tier II Certified)	1	Emergency Generator														
52	Emergency Generator Engine (Tier II Certified)	1	Emergency Generator														
53	Emergency Fire Pump Engine	1	Emergency Fire Pump														
55	Emergency Blackstart Diesel Engine (Tier II Certified)	1	Emergency Generator														
56	Emergency Blackstart Diesel Engine (Tier II Certified)	1	Emergency Generator														

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Imber Annual Emissions		
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	
57	Unit 57 NG Preheater (for CT Units 25 & 26)	1	Process Heater														
58	Unit 58 NG Preheater (for CT Units 25 & 26)	1	Process Heater														
59	Unit 59 NG Preheater (for CT Units 25 & 26)	1	Process Heater														
5	Fossil Fuel Storage Operations (Fossil Fuel Storage Pile - North of E1)	1	Storage Pile														
6	Storage Operations (Paved plant roadways used)	1	Paved Roadways														
34	Storage Operations (Fossil Fuel pile "A")	1	Coal Pile A														
35	Fossil Fuel Storage Operations (Fossil Fuel pile "B")	1	Coal Pile A														
39	Fossil Fuel Handling Operations (Six Unit 2 Silos)	1	Coal Silos														
07	Fossil Fuel Handling Operations (Barge Unloading & Conveyors)	1 & 2	Barger Unloading & Conveying														
08	Fossil Fuel Handling Operations (Crushers)	1	Crushers														

11/2018

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Imber Annual Emissions		
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	
09	Fossil Fuel Handling Operations (Six Unit 1 Silos)	1	Coal Silos														
										(See Attached N Supplemental Emissions Calculations)							
37	Fossil Fuel Handling Operations (Conveyor Belts E2 & E3)	1	Conveyor Belts														
										(See Attached N Supplemental Emissions Calculations)							
39	Fossil Fuel Handling Operations (Six Unit 1 Silos)	1	Silos														
										(See Attached N Supplemental Emissions Calculations)							
10	Lime/Limestone Receiving & Storage	1-2	See Attached N supplemental spreadsheet														
										(See Attached N Supplemental Emissions Calculations)							
13	Lime/Limestone Crushing & Milling	2	See Attached N supplemental spreadsheet														
										(See Attached N Supplemental Emissions Calculations)							
14	Lime/Limestone Handling & Processing	1-3	See Attached N supplemental spreadsheet														
										(See Attached N Supplemental Emissions Calculations)							
42	Fly Ash Storage Silo and Dust Control Devices	1	Fly Ash Silo														
										(See Attached N Supplemental Emissions Calculations)							
44	Powered Activated Carbon Silo & Dust Control Devices	1	PAC Silo														
										(See Attached N Supplemental Emissions Calculations)							
45a	Sorbent Storage Silos	1	Sorbent Silo														
										(See Attached N Supplemental Emissions Calculations)							
45b	Sorbent Storage Silos	2	Sorbent Silo														
										(See Attached N Supplemental Emissions Calculations)							

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Imber Annual Emissions		
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	
20	Natural Draft Cooling Tower for EU 31	1	Cooling Tower (Natural Draft)														
41	Mechanical Draft Cooling Tower	1	Cooling Tower (Linear Mechanical Draft)														
54	Landfill Operations and Haul Trucks	1	Haul Trucks														

ATTACHMENT N SUPPLEMENTAL EMISSIONS CALCULATIONS

KyEIS Source ID	Process ID	Emission Factors		Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Basis	Control Equipment			Hourly Rate (SCC Units/hr)	Hourly (lb/hr) Emissions			Hours Per Year	Annual (tons/yr) Emissions				
		Pollutant	CAS#			Control Equip. #	Control Device	Control Efficiency		Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable		Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable		
001	1	Unit 1 Boiler (TC1) - 5333 MMBtu/hr																
		CO	00630-08	0.5 lb/ton	AP42 1.1-3, 9/98	na	na	na	234.44	117.22	na	na	8760	513.4236	na	na		
		NOX	10102-44	10 lb/ton	AP42 1.1-3, 9/98	na	SCR	0.69062959	234.44	2344.4	725.288	3733	8760	10268.472	3176.76144	5556		
		PM	na	88.9 lb/ton	AP42 1.1-4, 9/98	na	Dry ESP, PJFF	0.99283533	234.44	20841.716	149.324	533.3	8760	91286.71608	654.03912	na		
		PM10	na	20.726 lb/ton	AP42 1.1-4 and 1.1-5, 9/98	na	Dry ESP, PJFF	0.99283533	234.44	4859.00344	34.8131521	na	8760	21282.43507	152.4816063	na		
		PM2.5	na	5.613 lb/ton	AP42 1.1-4 and 1.1-5, 9/98	na	Dry ESP, PJFF	0.98824198	234.44	1315.91172	15.4725121	na	8760	5763.693334	67.76960281	na		
		SO2	07446-09	117.42 lb/ton	AP42 1.1-3, 9/98	na	Wet FGD	0.9748	234.44	27527.9448	693.704209	4480	8760	120572.3982	3038.424435	4822		
		VOC (TNMOC)	na	0.06 lb/ton	AP42 1.1-19, 9/98	na	na	na	234.44	14.0664	na	na	8760	61.610832	na	na		
		H2SO4	07664-93	0.681343854 lb/ton	1% conversion to SO3	na	DSI, PJFF, Wet FGD	0.55	234.44	159.7342531	71.8804139	na	8760	699.6360285	314.8362128	na		
		HCl	07647-01	1.2 lb/ton	AP42 1.1-15	na	DSI, PJFF, Wet FGD	0.96208696	234.44	281.328	10.666	na	8760	1232.21664	46.71708	na		
		HF	07664-39	0.15 lb/ton	AP42 1.1-15	na	DSI, PJFF, Wet FGD	0.84789288	234.44	35.166	5.348999	na	8760	154.02708	23.42861562	na		
		Antimony	07440-36	0.000308698 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.9554576	234.44	0.072371152	0.00322358	na	8760	0.316985644	0.0141193	na		
		Arsenic	07740-38	0.016873158 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.98497146	234.44	3.95574307	0.05944903	na	8760	17.32615465	0.260386765	na		
		Beryllium	07440-41	0.00249663 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.99562764	234.44	0.58531003	0.00255919	na	8760	2.563657934	0.011209231	na		
		Cadmium	07440-43	0.000533744 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.91535563	234.44	0.125130883	0.01059162	na	8760	0.548073266	0.046391316	na		
		Chromium	07440-47	0.004282568 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.94298177	234.44	1.004005279	0.05724661	na	8760	4.397543122	0.250740143	na		
		Cobalt	07440-48	0.002070003 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.96688038	234.44	0.485291457	0.01607267	na	8760	2.12557658	0.070398287	na		
		Lead	07439-92	0.011956505 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.98076213	234.44	2.803082965	0.05392534	na	8760	12.27750339	0.236192975	na		
		Manganese	07439-96	0.006408248 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.94834437	234.44	1.502349628	0.07760482	na	8760	6.580291371	0.339909114	na		
		Mercury	07439-97	0.0004 lb/ton	PISCES database for KY and WV	na	Dry ESP, PAC, PJFF	0.93175653	234.44	0.093776	0.0063996	0.006	8760	0.41073888	0.028030248	na		
		Nickel	07440-02	0.002696213 lb/ton	AP42 1.1-16, 9/98	na	Dry ESP, PJFF	0.90656832	234.44	0.632100067	0.05905817	na	8760	2.768598292	0.258674784	na		
		CO2	00124-38	4790.314066 lb/ton	40CFR98 Subpart C, Table C-1	na	na	na	234.44	1123041.23	na	na	8760	4918920.585	na	na		

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
		CH4	00074-82	0.551648395	lb/ton	40CFR98 Subpart C, Table C-2	na	na	na	234.44	129.3284498	na	na	8760	566.4586101	na	na
		N2O	10024-97	0.080239767	lb/ton	40CFR98 Subpart C, Table C-2	na	na	na	234.44	18.81141088	na	na	8760	82.39397965	na	na
		CO2e	na	4790.314066	lb/ton	40CFR98 Subpart A	na	na	na	234.44	1123041.23	na	na	8760	4918920.585	na	na
031	1	Unit 2 Boiler (TC2) - 6942 MMBtu/hr															
		CO	00630-08	0.5	lb/ton	AP42 1.1-3, 9/98	na	na	na	363.1155	181.55775	na	3471	8760	795.222945	na	na
		NOX	10102-44	10	lb/ton	AP42 1.1-3, 9/98	na	SCR	0.88911627	363.1155	3631.155	402.636	na	8760	15904.4589	1763.54568	1507
		PM	na	71.3	lb/ton	AP42 1.1-4, 9/98	na	ESP, PJFF, WESP	0.99785494	363.1155	25890.13515	55.536	125	8760	113398.792	243.24768	na
		PM10	na	16.575	lb/ton	AP42 1.1-4 and 1.1-5, 9/98	na	ESP, PJFF, WESP	0.99785494	363.1155	6018.639413	12.9103675	na	8760	26361.64063	56.54740948	na
		PM2.5	na	4.454	lb/ton	AP42 1.1-4 and 1.1-5, 9/98	na	ESP, PJFF, WESP	0.99645218	363.1155	1617.316437	5.73794109	na	8760	7083.845994	25.13218199	na
		SO2	07446-09	117.42	lb/ton	AP42 1.1-3, 9/98	na	Wet FGD	0.9822	363.1155	42637.02201	758.938992	na	8760	186750.1564	3324.152784	3263
		VOC	na	0.021029672	lb/ton	October 2013 Stack Test	na	na	na	363.1155	7.6362	na	na	8760	33.446556	na	na
		H2SO4	07664-93	0.681343854	lb/ton	1% conversion to SO3	na	DSI, PJFF, Wet FGD, WESP	0.89241849	363.1155	247.4065141	26.6163662	na	8760	1083.640532	116.5796837	na
		HCl	07647-01	1.2	lb/ton	AP42 1.1-15	na	DSI, PJFF, Wet FGD	0.98844346	363.1155	435.7386	5.03563048	na	8760	1908.535068	22.05606152	na
		HF	07664-39	0.15	lb/ton	AP42 1.1-15	na	DSI, PJFF, Wet FGD	0.99386015	363.1155	54.467325	0.33442147	na	8760	238.5668835	1.464766049	na
		Antimony	07440-36	0.000221616	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.97916433	363.1155	0.080472177	0.00167669	na	8760	0.352468134	0.007343908	na
		Arsenic	07740-38	0.012055683	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.99460832	363.1155	4.377605533	0.02360266	na	8760	19.17391224	0.10337963	na
		Beryllium	07440-41	0.003061122	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.99883966	363.1155	1.111540945	0.00128976	na	8760	4.86854934	0.00564916	na
		Cadmium	07440-43	0.000475485	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.95368516	363.1155	0.17265586	0.00799653	na	8760	0.756232665	0.035024793	na
		Chromium	07440-47	0.004125015	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.97167073	363.1155	1.497856844	0.04243319	na	8760	6.560612977	0.185857367	na
		Cobalt	07440-48	0.001257018	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.98558901	363.1155	0.456442584	0.00657779	na	8760	1.999218519	0.028810716	na
		Lead	07439-92	0.000661522	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.99266919	363.1155	0.240208783	0.00176093	na	8760	1.052114468	0.007712856	na
		Manganese	07439-96	0.006734331	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.97494674	363.1155	2.445339788	0.06126372	na	8760	10.71058827	0.268335104	na
		Mercury	07439-97	0.0004	lb/ton	PISCES database for KY & W	na	Dry ESP, PAC, PJFF, WESP	0.94264635	363.1155	0.1452462	0.0083304	0.008	8760	0.636178356	0.036487152	na
		Nickel	07440-02	0.000725701	lb/ton	AP42 1.1-16, 9/98	na	ESP, PJFF, WESP	0.94762894	363.1155	0.263513103	0.01380046	na	8760	1.154187393	0.060446013	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
		CO2	00124-38	4790.314066	lb/ton				363.1155	1739437.287	na	na	8760	7618735.317	na	na
		CH4	00074-82	0.551648395	lb/ton				363.1155	200.3120829	na	na	8760	877.3669231	na	na
		N2O	10024-97	0.080239767	lb/ton				363.1155	29.13630297	na	na	8760	127.617007	na	na
		CO2e	na	4790.314066	lb/ton				363.1155	1739437.287	na	na	8760	7618735.317	na	na
032	1	Aux Boiler (Limited Use") - 100 MMBtu/hr														
		CO	00630-08	5	lbMgal				0.72463768	3.623188406	na	7.793	2000	3.623188406	na	na
		NOX	10102-44	20	lbMgal				0.72463768	14.49275362	na	na	2000	14.49275362	na	na
		PM	na	2	lbMgal				0.72463768	1.449275362	na	na	2000	1.449275362	na	na
		PM10	na	2.3	lbMgal				0.72463768	1.666666667	na	na	2000	1.666666667	na	na
		PM2.5	na	1.55	lbMgal				0.72463768	1.123188406	na	na	2000	1.123188406	na	na
		SO2	07446-09	0.213	lbMgal				0.72463768	0.154347826	na	na	2000	0.154347826	na	na
		VOC (TNMOC)	na	0.2	lbMgal				0.72463768	0.144927536	na	na	2000	0.144927536	na	na
		Benzene	00071-43	0.000214	lbMgal				0.72463768	0.000155072	na	na	2000	0.000155072	na	na
		Ethylbenzene	00100-41	0.0000636	lbMgal				0.72463768	4.6087E-05	na	na	2000	4.6087E-05	na	na
		HCl	07647-01	0.069	lbMgal				0.72463768	0.05	na	na	2000	0.05	na	na
		Lead	07439-92	0.001242	lbMgal				0.72463768	0.0009	na	na	2000	0.0009	na	na
		Mercury	07439-97	0.000414	lbMgal				0.72463768	0.0003	na	na	2000	0.0003	na	na
		Toluene	00108-88	0.0062	lbMgal				0.72463768	0.004492754	na	na	2000	0.004492754	na	na
		Xylene	#N/A	0.000109	lbMgal				0.72463768	7.89855E-05	na	na	2000	7.89855E-05	na	na
		CO2	00124-38	22501.20581	lbMgal				0.72463768	16305.2216	na	na	2000	16305.2216	na	na
		CH4	00074-82	0.9127044	lbMgal				0.72463768	0.66138	na	na	2000	0.66138	na	na
		N2O	10024-97	0.18254088	lbMgal				0.72463768	0.132276	na	na	2000	0.132276	na	na
		CO2e	na	22578.4206	lbMgal				0.72463768	16361.17435	na	na	2000	16361.17435	na	na
025	1	Gas Turbine (TC5) - 1763 MMBtu/hr, 160 MW														
		CO	00630-08	20.57014679	lb/MMscf				1.72843137	35.55408705	na	35.55	8760	155.7269013	na	na
		NOx	10102-44	33.79381258	lb/MMscf				1.72843137	58.41028587	na	77.88	8760	255.8370521	na	na
		PM	na	6.732	lb/MMscf				1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM10	na	6.732	lb/MMscf				1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM2.5	na	6.732	lb/MMscf				1.72843137	11.6358	na	na	8760	50.964804	na	na
		SO2	07446-09	0.6968	lb/MMscf				1.72843137	1.20437098	na	na	8760	5.275144894	na	na
		VOC	na	1.619965967	lb/MMscf				1.72843137	2.8	na	na	8760	12.264	na	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
		Formaldehyd	00050-00	0.216	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.373341176	na	na	8760	1.635234353	na	na
		Lead	07439-92	0.0127	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.021951078	na	na	8760	0.096145724	na	na
		CO2	00124-38	119315.5975	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	1.72843137	206228.822	na	na	8760	903282.2403	na	na
		CH4	00074-82	2.248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	3.8867098	na	na	8760	17.02378892	na	na
		N2O	10024-97	0.2248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	0.38867098	na	na	8760	1.702378892	na	na
		CO2e	na	119438.8258	lb/MMscf	40CFR98 Subpart A	na	na	na	1.72843137	206441.8137	na	na	8760	904215.1439	na	na
026	1	Gas Turbine (TC6) - 1763 MMBtu/hr, 160 MW															
		CO	00630-08	20.57014679	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	1.72843137	35.55408705	na	35.55	8760	155.7269013	na	na
		NOx	10102-44	33.79381258	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	1.72843137	58.41028587	na	77.88	8760	255.8370521	na	na
		PM	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM10	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM2.5	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	na	8760	50.964804	na	na
		SO2	07446-09	0.6968	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	1.72843137	1.20437098	na	na	8760	5.275144894	na	na
		VOC	na	1.619965967	lb/MMscf	Manufacturer Spec. @90%	na	na	na	1.72843137	2.8	na	na	8760	12.264	na	na
		Formaldehyd	00050-00	0.216	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.373341176	na	na	8760	1.635234353	na	na
		Lead	07439-92	0.0127	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.021951078	na	na	8760	0.096145724	na	na
		CO2	00124-38	119315.5975	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	1.72843137	206228.822	na	na	8760	903282.2403	na	na
		CH4	00074-82	2.248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	3.8867098	na	na	8760	17.02378892	na	na
		N2O	10024-97	0.2248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	0.38867098	na	na	8760	1.702378892	na	na
		CO2e	na	119438.8258	lb/MMscf	40CFR98 Subpart A	na	na	na	1.72843137	206441.8137	na	na	8760	904215.1439	na	na
027	1	Gas Turbine (TC7) - 1763 MMBtu/hr, 160 MW															
		CO	00630-08	20.57014679	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	1.72843137	35.55408705	na	35.55	8760	155.7269013	na	na
		NOx	10102-44	33.79381258	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	1.72843137	58.41028587	na	77.88	8760	255.8370521	na	na
		PM	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM10	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM2.5	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	na	8760	50.964804	na	na
		SO2	07446-09	0.6968	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	1.72843137	1.20437098	na	na	8760	5.275144894	na	na
		VOC	na	1.619965967	lb/MMscf	Manufacturer Spec. @90%	na	na	na	1.72843137	2.8	na	na	8760	12.264	na	na
		Formaldehyd	00050-00	0.216	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.373341176	na	na	8760	1.635234353	na	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allow able	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allow able
		Lead	07439-92	0.0127	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.021951078	na	na	8760	0.096145724	na	na
		CO2	00124-38	119315.5975	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	1.72843137	206228.822	na	na	8760	903282.2403	na	na
		CH4	00074-82	2.248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	3.8867098	na	na	8760	17.02378892	na	na
		N2O	10024-97	0.2248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	0.38867098	na	na	8760	1.702378892	na	na
		CO2e	na	119438.8258	lb/MMscf	40CFR98 Subpart A	na	na	na	1.72843137	206441.8137	na	na	8760	904215.1439	na	na
028	1	Gas Turbine (TC8) - 1763 MMBtu/hr, 160 MW															
		CO	00630-08	20.57014679	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	1.72843137	35.55408705	na	35.55	8760	155.7269013	na	na
		NOx	10102-44	33.79381258	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	1.72843137	58.41028587	na	77.88	8760	255.8370521	na	na
		PM	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM10	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM2.5	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	na	8760	50.964804	na	na
		SO2	07446-09	0.6968	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	1.72843137	1.20437098	na	na	8760	5.275144894	na	na
		VOC	na	1.619965967	lb/MMscf	Manufacturer Spec. @90%	na	na	na	1.72843137	2.8	na	na	8760	12.264	na	na
		Formaldehyd	00050-00	0.216	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.373341176	na	na	8760	1.635234353	na	na
		Lead	07439-92	0.0127	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.021951078	na	na	8760	0.096145724	na	na
		CO2	00124-38	119315.5975	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	1.72843137	206228.822	na	na	8760	903282.2403	na	na
		CH4	00074-82	2.248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	3.8867098	na	na	8760	17.02378892	na	na
		N2O	10024-97	0.2248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	0.38867098	na	na	8760	1.702378892	na	na
		CO2e	na	119438.8258	lb/MMscf	40CFR98 Subpart A	na	na	na	1.72843137	206441.8137	na	na	8760	904215.1439	na	na
029	1	Gas Turbine (TC9) - 1763 MMBtu/hr, 160 MW															
		CO	00630-08	20.57014679	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	1.72843137	35.55408705	na	35.55	8760	155.7269013	na	na
		NOx	10102-44	33.79381258	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	1.72843137	58.41028587	na	77.88	8760	255.8370521	na	na
		PM	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM10	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM2.5	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	na	8760	50.964804	na	na
		SO2	07446-09	0.6968	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	1.72843137	1.20437098	na	na	8760	5.275144894	na	na
		VOC	na	1.619965967	lb/MMscf	Manufacturer Spec. @90%	na	na	na	1.72843137	2.8	na	na	8760	12.264	na	na
		Formaldehyd	00050-00	0.216	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.373341176	na	na	8760	1.635234353	na	na
		Lead	07439-92	0.0127	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.021951078	na	na	8760	0.096145724	na	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
		CO2	00124-38	119315.5975	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	1.72843137	206228.822	na	na	8760	903282.2403	na	na
		CH4	00074-82	2.248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	3.8867098	na	na	8760	17.02378892	na	na
		N2O	10024-97	0.2248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	0.38867098	na	na	8760	1.702378892	na	na
		CO2e	na	119438.8258	lb/MMscf	40CFR98 Subpart A	na	na	na	1.72843137	206441.8137	na	na	8760	904215.1439	na	na
030	1	Gas Turbine (TC10) - 1763 MMBtu/hr, 160 MW															
		CO	00630-08	20.57014679	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	1.72843137	35.55408705	na	35.55	8760	155.7269013	na	na
		NOx	10102-44	33.79381258	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	1.72843137	58.41028587	na	77.88	8760	255.8370521	na	na
		PM	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM10	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	19	8760	50.964804	na	na
		PM2.5	na	6.732	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	1.72843137	11.6358	na	na	8760	50.964804	na	na
		SO2	07446-09	0.6968	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	1.72843137	1.20437098	na	na	8760	5.275144894	na	na
		VOC	na	1.619965967	lb/MMscf	Manufacturer Spec. @90%	na	na	na	1.72843137	2.8	na	na	8760	12.264	na	na
		Formaldehyd	00050-00	0.216	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.373341176	na	na	8760	1.635234353	na	na
		Lead	07439-92	0.0127	lb/MMscf	Existing KyEIS Factor	na	na	na	1.72843137	0.021951078	na	na	8760	0.096145724	na	na
		CO2	00124-38	119315.5975	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	1.72843137	206228.822	na	na	8760	903282.2403	na	na
		CH4	00074-82	2.248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	3.8867098	na	na	8760	17.02378892	na	na
		N2O	10024-97	0.2248692	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	1.72843137	0.38867098	na	na	8760	1.702378892	na	na
		CO2e	na	119438.8258	lb/MMscf	40CFR98 Subpart A	na	na	na	1.72843137	206441.8137	na	na	8760	904215.1439	na	na
018	1	TC1 Emergency Generator Engine (Diesel) - 150 Kw, 200 HP															
		CO	00630-08	131.6914286	lb/Mgal	AP-42, Tbl 3.3-1	na	na	na	0.0161	2.120232	na	na	500	0.530058	na	na
		NOx	10102-44	611.1428571	lb/Mgal	AP-42, Tbl 3.3-1	na	na	na	0.0161	9.8394	na	na	500	2.45985	na	na
		PM	na	43.37142857	lb/Mgal	AP-42, Tbl 3.3-1, PM10	na	na	na	0.0161	0.69828	na	na	500	0.17457	na	na
		PM10	na	43.37142857	lb/Mgal	AP-42, Tbl 3.3-1, PM10	na	na	na	0.0161	0.69828	na	na	500	0.17457	na	na
		PM2.5	na	43.37142857	lb/Mgal	AP-42, Tbl 3.3-1, PM10	na	na	na	0.0161	0.69828	na	na	500	0.17457	na	na
		SO2	07446-09	0.239232857	lb/Mgal	AP-42, Tbl 3.4-1	na	na	na	0.0161	0.003851649	na	na	500	0.000962912	na	na
		VOC	na	49.56368571	lb/Mgal	AP-42, Tbl 3.3-1, TOC	na	na	na	0.0161	0.79797534	na	na	500	0.199493835	na	na
		CO2	00124-38	22501.20581	lb/Mgal	40CFR98 Subpart C, Table C-1	na	na	na	0.0161	362.2694135	na	na	500	90.56735338	na	na
		CH4	00074-82	0.9127044	lb/Mgal	40CFR98 Subpart C, Table C-2	na	na	na	0.0161	0.014694541	na	na	500	0.003673635	na	na
		N2O	10024-97	0.18254088	lb/Mgal	40CFR98 Subpart C, Table C-2	na	na	na	0.0161	0.002938908	na	na	500	0.000734727	na	na
		CO2e	na	22578.4206	lb/Mgal	40CFR98 Subpart A	na	na	na	0.0161	363.5125717	na	na	500	90.87814292	na	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	
033	1	TC2 Emergency Generator Engine (Diesel) - 2206 HP (Tier 2 Certified)																
		CO	00630-08	113.4349516	lb/Mgal	40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.1048	11.88798293	na	11.89	500	2.971995732	na	na	
		NOx	10102-44	201.5047106	lb/Mgal	40 CFR 89.112 (NSPS IIII Limit)	na	NSCR	na	0.1048	21.11769367	na	21.12	500	5.279423418	na	na	
		PM	na	6.481997234	lb/Mgal	40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.1048	0.67931331	na	0.679	500	0.169828328	na	na	
		PM10	na	6.481997234	lb/Mgal	40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.1048	0.67931331	na	na	500	0.169828328	na	na	
		PM2.5	na	6.481997234	lb/Mgal	40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.1048	0.67931331	na	na	500	0.169828328	na	na	
		SO2	07446-09	0.239232857	lb/Mgal	AP-42, Tbl 3.4-1	na	na	na	0.1048	0.025071603	na	na	500	0.006267901	na	na	
		VOC	na	5.919200874	lb/Mgal	40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.1048	0.620332252	na	0.62	500	0.155083063	na	na	
		H2SO4	07664-93	0.35	lb/Mgal	Existing KyEIS Factor	na	na	na	0.1048	0.03668	na	na	500	0.00917	na	na	
		Lead	07439-92	0.00125	lb/Mgal	Existing KyEIS Factor	na	na	na	0.1048	0.000131	na	na	500	0.00003275	na	na	
		Mercury	07439-97	0.00042	lb/Mgal	Existing KyEIS Factor	na	na	na	0.1048	0.000044016	na	na	500	0.000011004	na	na	
		CO2	00124-38	22501.20581	lb/Mgal	40CFR98 Subpart C, Table C-1	na	na	na	0.1048	2358.126369	na	na	500	589.5315922	na	na	
		CH4	00074-82	0.9127044	lb/Mgal	40CFR98 Subpart C, Table C-2	na	na	na	0.1048	0.095651421	na	na	500	0.023912855	na	na	
		N2O	10024-97	0.18254088	lb/Mgal	40CFR98 Subpart C, Table C-2	na	na	na	0.1048	0.019130284	na	na	500	0.004782571	na	na	
		CO2e	na	22578.4206	lb/Mgal	40CFR98 Subpart A	na	na	na	0.1048	2366.218479	na	na	500	591.5546197	na	na	

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)	Emission Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
		CO	00630-08	113.4349516	lb/Mgal 40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.0513	5.819213017	na	5.819	500	1.454803254	na	na
		NOx	10102-44	201.5047106	lb/Mgal 40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.0513	10.33719165	na	10.34	500	2.584297914	na	na
		PM	na	6.481997234	lb/Mgal 40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.0513	0.332526458	na	0.333	500	0.083131615	na	na
		PM10	na	6.481997234	lb/Mgal 40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.0513	0.332526458	na	na	500	0.083131615	na	na
		PM2.5	na	6.481997234	lb/Mgal 40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.0513	0.332526458	na	na	500	0.083131615	na	na
		SO2	07446-09	0.239232857	lb/Mgal AP-42, Tbl 3.4-1	na	na	na	0.0513	0.012272646	na	na	500	0.003068161	na	na
		VOC	na	5.919200874	lb/Mgal 40 CFR 89.112 (NSPS IIII Limit)	na	na	na	0.0513	0.303655005	na	0.304	500	0.075913751	na	na
		CO2	00124-38	22501.20581	lb/Mgal 40CFR98 Subpart C, Table C-1	na	na	na	0.0513	1154.311858	na	na	500	288.5779645	na	na
		CH4	00074-82	0.9127044	lb/Mgal 40CFR98 Subpart C, Table C-2	na	na	na	0.0513	0.046821736	na	na	500	0.011705434	na	na
		N2O	10024-97	0.18254088	lb/Mgal 40CFR98 Subpart C, Table C-2	na	na	na	0.0513	0.009364347	na	na	500	0.002341087	na	na
		CO2e	na	22578.4206	lb/Mgal 40CFR98 Subpart A	na	na	na	0.0513	1158.272977	na	na	500	289.5682442	na	na
053	1	Diesel Fire Pump Engine - 380 HP														
		CO	00630-08	131.6914286	lb/Mgal AP-42, Tbl 3.3-1	na	na	na	0.0191	2.515306286	na	na	500	0.628826571	na	na
		NOx	10102-44	611.1428571	lb/Mgal AP-42, Tbl 3.3-1	na	na	na	0.0191	11.67282857	na	na	500	2.918207143	na	na
		PM	na	43.37142857	lb/Mgal AP-42, Tbl 3.3-1, PM10	na	na	na	0.0191	0.828394286	na	na	500	0.207098571	na	na
		PM10	na	43.37142857	lb/Mgal AP-42, Tbl 3.3-1, PM10	na	na	na	0.0191	0.828394286	na	na	500	0.207098571	na	na
		PM2.5	na	43.37142857	lb/Mgal AP-42, Tbl 3.3-1, PM10	na	na	na	0.0191	0.828394286	na	na	500	0.207098571	na	na
		SO2	07446-09	0.59976	lb/Mgal AP-42, Tbl 3.4-1	na	na	na	0.0191	0.011455416	na	na	500	0.002863854	na	na
		VOC	na	49.56368571	lb/Mgal AP-42, Tbl 3.3-1, TOC	na	na	na	0.0191	0.946666397	na	na	500	0.236666599	na	na
		CO2	00124-38	22501.20581	lb/Mgal 40CFR98 Subpart C, Table C-1	na	na	na	0.0191	429.7730309	na	na	500	107.4432577	na	na
		CH4	00074-82	0.9127044	lb/Mgal 40CFR98 Subpart C, Table C-2	na	na	na	0.0191	0.017432654	na	na	500	0.004358164	na	na
		N2O	10024-97	0.18254088	lb/Mgal 40CFR98 Subpart C, Table C-2	na	na	na	0.0191	0.003486531	na	na	500	0.000871633	na	na
		CO2e	na	22578.4206	lb/Mgal 40CFR98 Subpart A	na	na	na	0.0191	431.2478335	na	na	500	107.8119584	na	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)	Emission Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable		
55	1	Emergency Blackstart Diesel Engine - 5051 HP, 3500 kWe (Tier II Certified)																
		CO	00630-08	17.26	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	4.07336	na	5.819	500	1.018	na	na	
		NOx	10102-44	262.77	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	62.01372	na	10.34	500	15.503	na	na	
		PM	na	0.78	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	0.18408	na	0.333	500	0.046	na	na	
		PM10	na	0.78	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	0.18408	na	na	500	0.046	na	na	
		PM2.5	na	0.78	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	0.18408	na	na	500	0.046	na	na	
		SO2	07446-09	4.31	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	1.01716	na	na	500	0.254	na	na	
		VOC	na	4.31	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	1.01716	na	0.304	500	0.254	na	na	
		CO2	00124-38	163	lb/MMBtu	40CFR98 Subpart C, Table C-1	na	na	na	32.33	5269.79	na	na	500	1317.4475	na	na	
		CH4	00074-82	6.61E-03	lb/MMBtu	40CFR98 Subpart C, Table C-2	na	na	na	32.33	0.2137013	na	na	500	0.053425325	na	na	
		N2O	10024-97	1.32E-03	lb/MMBtu	40CFR98 Subpart C, Table C-2	na	na	na	32.33	0.0426756	na	na	500	0.0106689	na	na	
		CO2e	na	164	lb/MMBtu	40CFR98 Subpart A	na	na	na	32.33	5302.12	na	na	500	1325.53	na	na	
56	1	Emergency Blackstart Diesel Engine - 5051 HP, 3500 kWe (Tier II Certified)																
		CO	00630-08	17.26	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	4.07336	na	5.819	500	1.018	na	na	
		NOx	10102-44	262.77	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	62.01372	na	10.34	500	15.503	na	na	
		PM	na	0.78	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	0.18408	na	0.333	500	0.046	na	na	
		PM10	na	0.78	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	0.18408	na	na	500	0.046	na	na	
		PM2.5	na	0.78	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	0.18408	na	na	500	0.046	na	na	
		SO2	07446-09	4.31	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	1.01716	na	na	500	0.254	na	na	
		VOC	na	4.31	lb/Mgal	Cal from Vendor g/hp-hr	na	na	na	0.236	1.01716	na	0.304	500	0.254	na	na	
		CO2	00124-38	163	lb/MMBtu	40CFR98 Subpart C, Table C-1	na	na	na	32.33	5269.79	na	na	500	1317.4475	na	na	
		CH4	00074-82	6.61E-03	lb/MMBtu	40CFR98 Subpart C, Table C-2	na	na	na	32.33	0.2137013	na	na	500	0.053425325	na	na	
		N2O	10024-97	1.32E-03	lb/MMBtu	40CFR98 Subpart C, Table C-2	na	na	na	32.33	0.0426756	na	na	500	0.0106689	na	na	
		CO2e	na	164	lb/MMBtu	40CFR98 Subpart A	na	na	na	32.33	5302.12	na	na	500	1325.53	na	na	

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable		
57	1	NG Process Heater/Preheater for CT 25 & 26 (LG&E 5 & 6) - 8.8 MMBtu/hr																	
		CO	00630-08	84	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	0.00862745	0.724705882	na	35.55	8760	3.17	na	na		
		NOx	10102-44	100	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	0.00862745	0.862745098	na	77.88	8760	3.78	na	na		
		PM	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00862745	0.065568627	na	19	8760	0.29	na	na		
		PM10	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00862745	0.065568627	na	19	8760	0.29	na	na		
		PM2.5	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00862745	0.065568627	na	na	8760	0.29	na	na		
		SO2	07446-09	0.6	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	0.00862745	0.005176471	na	na	8760	0.02	na	na		
		VOC	na	5.5	lb/MMscf	Manufacturer Spec. @90%	na	na	na	0.00862745	0.04745098	na	na	8760	0.21	na	na		
										0.00862745									
		Formaldehyd	00050-00	7.50E-03	lb/MMscf	Existing KyEIS Factor	na	na	na	0.00862745	6.47059E-05	na	na	8760	0.00	na	na		
		CO2	00124-38	120,000	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	0.00862745	1035.294118	na	na	8760	4534.59	na	na		
		CH4	00074-82	2.3	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	0.00862745	0.019843137	na	na	8760	0.09	na	na		
		N2O	10024-97	0.0002204	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	0.00862745	1.90149E-06	na	na	8760	0.00	na	na		
		CO2e	na	120,358.30	lb/MMscf	40CFR98 Subpart A	na	na	na	0.00862745	1038.385335	na	na	8760	4548.13	na	na		
58	1	NG Process Heater/Preheater for CT 27 & 28 (LG&E 7 & 8) - 8.0 MMBtu/hr																	
		CO	00630-08	84	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	0.00784314	0.658823529	na	35.55	8760	2.89	na	na		
		NOx	10102-44	100	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	0.00784314	0.784313725	na	77.88	8760	3.44	na	na		
		PM	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00784314	0.059607843	na	19	8760	0.26	na	na		
		PM10	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00784314	0.059607843	na	19	8760	0.26	na	na		
		PM2.5	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00784314	0.059607843	na	na	8760	0.26	na	na		
		SO2	07446-09	0.6	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	0.00784314	0.004705882	na	na	8760	0.02	na	na		
		VOC	na	5.5	lb/MMscf	Manufacturer Spec. @90%	na	na	na	0.00784314	0.043137255	na	na	8760	0.19	na	na		
										0.00784314									
		Formaldehyd	00050-00	7.50E-03	lb/MMscf	Existing KyEIS Factor	na	na	na	0.00784314	5.88235E-05	na	na	8760	0.00	na	na		
		CO2	00124-38	120,000	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	0.00784314	941.1764706	na	na	8760	4122.35	na	na		
		CH4	00074-82	2.3	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	0.00784314	0.018039216	na	na	8760	0.08	na	na		
		N2O	10024-97	0.0002204	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	0.00784314	1.72863E-06	na	na	8760	0.00	na	na		
		CO2e	na	120,358.30	lb/MMscf	40CFR98 Subpart A	na	na	na	0.00784314	943.9866684	na	na	8760	4134.66	na	na		

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable			
59	1	NG Process Heater/Preheater for CT 29 & 30 (LG&E 9 & 10) - 8.0 MMBtu/hr																		
		CO	00630-08	84	lb/MMscf	9 ppm @ 15% O2 (3-hr average)	na	na	na	0.00784314	0.658823529	na	35.55	8760	2.89	na	na			
		NOx	10102-44	100	lb/MMscf	9 ppm @ 15% O2 (annual average)	na	SNCR	na	0.00784314	0.784313725	na	77.88	8760	3.44	na	na			
		PM	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00784314	0.059607843	na	19	8760	0.26	na	na			
		PM10	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00784314	0.059607843	na	19	8760	0.26	na	na			
		PM2.5	na	7.6	lb/MMscf	AP42, Tbl 3.1-2a (PM Total)	na	na	na	0.00784314	0.059607843	na	na	8760	0.26	na	na			
		SO2	07446-09	0.6	lb/MMscf	SO2 CEMS Data from 2013	na	na	na	0.00784314	0.004705882	na	na	8760	0.02	na	na			
		VOC	na	5.5	lb/MMscf	Manufacturer Spec. @90%	na	na	na	0.00784314	0.043137255	na	na	8760	0.19	na	na			
										0.00784314										
		Formaldehyd	00050-00	7.50E-03	lb/MMscf	Existing KyEIS Factor	na	na	na	0.00784314	5.88235E-05	na	na	8760	0.00	na	na			
		CO2	00124-38	120,000	lb/MMscf	40CFR98 Subpart C, Table C-1	na	na	na	0.00784314	941.1764706	na	na	8760	4122.35	na	na			
		CH4	00074-82	2.3	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	0.00784314	0.018039216	na	na	8760	0.08	na	na			
		N2O	10024-97	0.0002204	lb/MMscf	40CFR98 Subpart C, Table C-2	na	na	na	0.00784314	1.72863E-06	na	na	8760	0.00	na	na			
		CO2e	na	120,358.30	lb/MMscf	40CFR98 Subpart A	na	na	na	0.00784314	943.9866684	na	na	8760	4134.66	na	na			
005	Fossil Fuel Storage Pile																			
	1	Pile Area North of E1																		
		PM	na	2515.160928	lb/acre-yr	See Appendix D, Section 11	na	Wet Suppression	0.9	0.00034247	0.861356482	0.08613565	na	8760	3.772741392	0.377274139	na			
		PM10	na	1257.580464	lb/acre-yr	See Appendix D, Section 11	na	Wet Suppression	0.9	0.00034247	0.430678241	0.04306782	na	8760	1.886370696	0.18863707	na			
		PM2.5	na	188.6370696	lb/acre-yr	See Appendix D, Section 11	na	Wet Suppression	0.9	0.00034247	0.064601736	0.00646017	na	8760	0.282955604	0.02829556	na			
006	1	Paved Plant Roadways																		
		PM	na	0.144022548	lb/VMT	AP42 13.2	na	Road Cleaning/Watering	*	1.27726738	0.183955302	na	na	8760	0.805724224	na	na			
		PM10	na	0.02880451	lb/VMT	AP42 13.2	na	Road Cleaning/Watering	*	1.27726738	0.03679106	na	na	8760	0.161144845	na	na			
		PM2.5	na	0.007070198	lb/VMT	AP42 13.2	na	Road Cleaning/Watering	*	1.27726738	0.009030533	na	na	8760	0.039553735	na	na			
		* Control efficiency for road cleaning/watering is embedded in the emission factor presented.																		

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	
034	1	Fossil Fuel Pile A																
		PM	na	2515.160928	lb/acre-yr	Calculated on a pounds per day per acre basis using the method from the EPA Document "Control of Open Fugitive Dust Sources" (EPA-450/3-88-008).	na	Wet Suppression	0.9	0.00017922	0.450776559	0.04507766	na	8760	1.974401329	0.197440133	na	
		PM10	na	1257.580464	lb/acre-yr	See Above	na	Wet Suppression	0.9	0.00017922	0.22538828	0.02253883	na	8760	0.987200664	0.098720066	na	
		PM2.5	na	188.6370696	lb/acre-yr	See Above	na	Wet Suppression	0.9	0.00017922	0.033808242	0.00338082	na	8760	0.1480801	0.01480801	na	
035	1	Fossil Fuel Pile B																
		PM	na	2515.160928	lb/acre-yr	Calculated on a pounds per day per acre basis using the method from the EPA Document "Control of Open Fugitive Dust Sources" (EPA-450/3-88-008).	na	Wet Suppression	0.9	0.00012671	0.318701898	0.03187019	na	8760	1.395914315	0.139591432	na	
		PM10	na	1257.580464	lb/acre-yr	See Above	na	Wet Suppression	0.9	0.00012671	0.159350949	0.01593509	na	8760	0.697957158	0.069795716	na	
		PM2.5	na	188.6370696	lb/acre-yr	See Above	na	Wet Suppression	0.9	0.00012671	0.023902642	0.00239026	na	8760	0.104693574	0.010469357	na	
007		Fossil Fuel Conveying																
	2	Fossil Fuel Conveying; Barge Unloading and Transfer to A																
		PM	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	5500	8.25	0.825	na	8760	36.135	3.6135	na	
		PM10	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	5500	8.25	0.825	na	8760	36.135	3.6135	na	
		PM2.5	na	0.00135	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	5500	7.425	0.7425	na	8760	32.5215	3.25215	na	
	5	Fossil Fuel Conveying; Conveyors A, B & C and Transfers																
		PM	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	16500	24.75	2.475	na	8760	108.405	10.8405	na	
		PM10	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	16500	24.75	2.475	na	8760	108.405	10.8405	na	
		PM2.5	na	0.00135	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	16500	22.275	2.2275	na	8760	97.5645	9.75645	na	
	6	Fossil Fuel Conveying; Conveyor E3 and Transfer to E1																
		PM	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	7920	11.88	1.188	na	8760	52.0344	5.20344	na	
		PM10	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	7920	11.88	1.188	na	8760	52.0344	5.20344	na	
		PM2.5	na	0.00135	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	7920	10.692	1.0692	na	8760	46.83096	4.683096	na	

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	
7 Fossil Fuel Conveying; Reclaim Hopper and Transfer to R1																	
		PM	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	3960	5.94	0.594	na	8760	26.0172	2.60172	na
		PM10	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	3960	5.94	0.594	na	8760	26.0172	2.60172	na
		PM2.5	na	0.00135	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	3960	5.346	0.5346	na	8760	23.41548	2.341548	na
8 Fossil Fuel Conveying; Conveyors F1, G1 & F2, G2 and Transfers																	
		PM	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	5280	7.92	0.792	na	8760	34.6896	3.46896	na
		PM10	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	5280	7.92	0.792	na	8760	34.6896	3.46896	na
		PM2.5	na	0.00135	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	5280	7.128	0.7128	na	8760	31.22064	3.122064	na
9 Fossil Fuel Conveying; Conveyors D and S and Transfers																	
		PM	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	1650	2.475	0.2475	na	8760	10.8405	1.08405	na
		PM10	na	0.0015	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	1650	2.475	0.2475	na	8760	10.8405	1.08405	na
		PM2.5	na	0.00135	lb/ton	Existing KyEIS Factor	na	Process Enclosed	0.9	1650	2.2275	0.22275	na	8760	9.75645	0.975645	na
10 Fossil Fuel Conveying; Conveyor E1 and Transfer to Piles																	
		PM	na	0.0015	lb/ton	Same as other transfer points	na	Process Enclosed	0.9	2640	3.96	0.396	na	8760	17.3448	1.73448	na
		PM10	na	0.0015	lb/ton	Same as other transfer points	na	Process Enclosed	0.9	2640	3.96	0.396	na	8760	17.3448	1.73448	na
		PM2.5	na	0.00135	lb/ton	Same as other transfer points	na	Process Enclosed	0.9	2640	3.564	0.3564	na	8760	15.61032	1.561032	na
037	Fossil Fuel Handling, Blending and Reclaim																
	1 Fuel Handling and Transfer to E2 and E3																
		PM	na	0.006377557	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	2640	16.8367495	0.1683675	na	8760	73.74496283	0.737449628	na
		PM10	na	0.006377557	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	2640	16.8367495	0.1683675	na	8760	73.74496283	0.737449628	na
		PM2.5	na	0.005739801	lb/ton	0.0009 gr/dscf exit loading	na	Fabric Filter	0.99	2640	15.15307455	0.15153075	na	8760	66.37046655	0.663704665	na
008	1	Fossil Fuel Crushing Operations															
		PM	na	0.0004	lb/ton	Existing KyEIS Factor	na	Rotoclone	0.97	3600	1.44	0.0432	na	8760	6.3072	0.189216	na
		PM10	na	0.0004	lb/ton	Existing KyEIS Factor	na	Rotoclone	0.97	3600	1.44	0.0432	na	8760	6.3072	0.189216	na
		PM2.5	na	0.00036	lb/ton	Existing KyEIS Factor	na	Rotoclone	0.97	3600	1.296	0.03888	na	8760	5.67648	0.1702944	na

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)	Emission Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	
009	1	Unit 1 Silos (6) and Dust Collector															
		PM	na	0.00957	lb/ton	KYEIS 2017 Survey	na	Fabric Filter	0.99	2640	25.26	0.25	na	8760	1.10659824	0.098269258	na
		PM10	na	0.00957	lb/ton	KYEIS 2017 Survey	na	Fabric Filter	0.99	2640	25.26	0.25	na	8760	1.10659824	0.098269258	na
		PM2.5	na	0.00861	lb/ton	KYEIS 2017 Survey	na	Fabric Filter	0.99	2640	22.73	0.23	na	8760	0.99559152	0.088411527	na
* The short-term loading rate to the silos far exceeds the annual average rate, which is constrained by the rate coal can be fired in Unit 1.																	
Therefore, the represented max. annual controlled emissions are based on the max. Unit 1 coal rate (234.44 ton/hr) x 8,760 hr/yr = 2,053,694 ton/yr. Uncontrolled is based on 23,126,400 and 99% control since controls are inhe																	
039	1	Unit 2 Silos (6) and Dust Collector															
		PM	na	0.00638	lb/ton	KYEIS 2017 Survey	na	Fabric Filter	0.99	2640	16.84	0.17	na	8760	0.73773216	0.101470455	na
		PM10	na	0.00638	lb/ton	KYEIS 2017 Survey	na	Fabric Filter	0.99	2640	16.84	0.17	na	8760	0.73773216	0.101470455	na
		PM2.5	na	0.00574	lb/ton	KYEIS 2017 Survey	na	Fabric Filter	0.99	2640	15.15	0.15	na	8760	0.66372768	0.0912916	na
* The short-term loading rate to the silos far exceeds the annual average rate, which is constrained by the rate coal can be fired in Unit 2.																	
Therefore, the represented max. annual controlled emissions are based on the max. Unit 2 coal rate (363.12 ton/hr) x 8,760 hr/yr = 3,180,892 ton/yr. Uncontrolled is based on 23,126,400 and 99% control since controls are inhe																	
010	Limestone Handling/Storage																
	1	Limestone Handling/Storage: Lime/Limestone Receiving															
		PM	na	0.0003	lb/ton	MRI- Crushed Stone Recv	na	Dust Suppression	0.95	1650	0.495	0.02475	na	8760	2.1681	0.108405	na
		PM10	na	0.00002	lb/ton	MRI- Crushed Stone Recv	na	Dust Suppression	0.95	1650	0.033	0.00165	na	8760	0.14454	0.007227	na
		PM2.5	na	0.00002	lb/ton	Existing KyEIS Factor	na	Dust Suppression	0.95	1650	0.033	0.00165	na	8760	0.14454	0.007227	na
	2	Limestone Handling/Storage: Limestone Stackout and Stockpile															
		PM	na	0.0011	lb/ton	AP42 11.19.2-2, PM10 for Conveyor Transfer Point	na	Dust Suppression	0.9	1500	1.65	0.165	na	8760	7.227	0.7227	na
	PM10	na	0.0011	lb/ton	AP42 11.19.2-2, PM10 for Conveyor Transfer Point	na	Dust Suppression	0.9	1500	1.65	0.165	na	8760	7.227	0.7227	na	
	PM2.5	na	0.000165	lb/ton	PM2.5/PM Ratio from EPA PM	na	Dust Suppression	0.9	1500	0.2475	0.02475	na	8760	1.08405	0.108405	na	
013	Limestone Crushing and Milling																
	2	Two ball mills															
		PM	na	0.0011	lb/ton	AP42 11.19.2-2, PM10 for Conveyor Transfer Point	na	Process Enclosed	0.9	260	0.286	0.0286	na	8760	1.25268	0.125268	na
		PM10	na	0.0011	lb/ton	AP42 11.19.2-2, PM10 for Conveyor Transfer Point	na	Process Enclosed	0.9	260	0.286	0.0286	na	8760	1.25268	0.125268	na
	PM2.5	na	0.000165	lb/ton	PM2.5/PM Ratio from EPA PM Calculator for SCC 30510105	na	Process Enclosed	0.9	260	0.0429	0.00429	na	8760	0.187902	0.0187902	na	

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	
014		Limestone Conveying																
	1	Limestone Conveying: Conveyor A, B, C,																
		PM	na	0.0011	lb/ton	AP42 11.19.2-2, PM10 for Conveyor Transfer Point	na	Process Enclosed	0.9	1500	1.65	0.165	na	8760	7.227	0.7227	na	
		PM10	na	0.0011	lb/ton	AP42 11.19.2-2, PM10 for Conveyor Transfer Point	na	Process Enclosed	0.9	1500	1.65	0.165	na	8760	7.227	0.7227	na	
		PM2.5	na	0.000165	lb/ton	PM2.5/PM Ratio from EPA PM Calculator for SCC 30510105	na	Process Enclosed	0.9	1500	0.2475	0.02475	na	8760	1.08405	0.108405	na	
014		Limestone Conveying																
	2	Limestone Hopper to C2																
		PM	na	0.0014	lb/ton	KYEIS 2016	na	Process Enclosed	0.7	130	0.182	0.0546	na	8760	0.79716	0.239148	na	
		PM10	na	0.0014	lb/ton	KYEIS 2016	na	Process Enclosed	0.7	130	0.182	0.0546	na	8760	0.79716	0.239148	na	
		PM2.5	na	0.00021	lb/ton	KYEIS 2016	na	Process Enclosed	0.7	130	0.0273	0.00819	na	8760	0.119574	0.0358722	na	
014		Limestone Conveying																
	3	Limestone Conveyor C2 to C3																
		PM	na	0.0014	lb/ton	KYEIS 2016	na	Process Enclosed	0.7	130	0.182	0.0546	na	8760	0.79716	0.239148	na	
		PM10	na	0.0014	lb/ton	KYEIS 2016	na	Process Enclosed	0.7	130	0.182	0.0546	na	8760	0.79716	0.239148	na	
		PM2.5	na	0.00021	lb/ton	KYEIS 2016	na	Process Enclosed	0.7	130	0.0273	0.00819	na	8760	0.119574	0.0358722	na	
042	1	Fly Ash Silo (1,200 Ton) and Dust Control Device																
		PM	na	0.078677946	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	180	14.16203033	0.1416203	na	8760	62.02969283	0.620296928	na	
		PM10	na	0.078677946	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	180	14.16203033	0.1416203	na	8760	62.02969283	0.620296928	na	
		PM2.5	na	0.070810152	lb/ton	0.0009 gr/dscf exit loading	na	Fabric Filter	0.99	180	12.74582729	0.12745827	na	8760	55.82672355	0.558267235	na	
044	1	Powdered Activated Carbon (PAC) Silo and Dust Control																
		PM	na	0.053137111	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	40	2.125484437	0.02125484	na	8760	9.309621836	0.093096218	na	
		PM10	na	0.053137111	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	40	2.125484437	0.02125484	na	8760	9.309621836	0.093096218	na	
		PM2.5	na	0.0478234	lb/ton	0.0009 gr/dscf exit loading	na	Fabric Filter	0.99	40	1.912935994	0.01912936	na	8760	8.378659652	0.083786597	na	
045a	1	Sorbent Storage Silos and Dust Control Device																
		PM	na	0.053137111	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	40	2.125484437	0.02125484	na	8760	9.309621836	0.093096218	na	
		PM10	na	0.053137111	lb/ton	0.001 gr/dscf exit loading	na	Fabric Filter	0.99	40	2.125484437	0.02125484	na	8760	9.309621836	0.093096218	na	
		PM2.5	na	0.0478234	lb/ton	0.0009 gr/dscf exit loading	na	Fabric Filter	0.99	40	1.912935994	0.01912936	na	8760	8.378659652	0.083786597	na	

KyEIS Source ID	Process ID	Pollutant	CAS#	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency	Hourly Rate (SCC Units/hr)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Hours Per Year	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	
045b	1	Sorbent Storage Silo and Dust Control Device															
		PM	na	0.053137111	lb/ton		Fabric Filter	0.99	40	2.125484437	0.02125484	na	8760	9.309621836	0.093096218	na	
		PM10	na	0.053137111	lb/ton		Fabric Filter	0.99	40	2.125484437	0.02125484	na	8760	9.309621836	0.093096218	na	
		PM2.5	na	0.0478234	lb/ton		Fabric Filter	0.99	40	1.912935994	0.01912936	na	8760	8.378659652	0.083786597	na	
020	1	Natural Draft Cooling Tower for EU31															
		PM	na	0.035028	lb/MMgal		Drift Eliminators	na	20.4	0.7145712	na	na	8760	3.129821856	na	na	
		PM10	na	0.01851131	lb/MMgal		Drift Eliminators	na	20.4	0.377630716	na	na	8760	1.654022538	na	na	
		PM2.5	na	7.20525E-05	lb/MMgal		Drift Eliminators	na	20.4	0.001469871	na	na	8760	0.006438035	na	na	
041	1	Linear Mechanical Draft Cooling Tower for Unit 1															
		PM	na	0.0326511	lb/MMgal		Drift Eliminators	na	17.7	0.57792447	na	na	8760	2.531309179	na	na	
		PM10	na	0.017255185	lb/MMgal		Drift Eliminators	na	17.7	0.305416775	na	na	8760	1.337725476	na	na	
		PM2.5	na	6.71632E-05	lb/MMgal		Drift Eliminators	na	17.7	0.001188789	na	na	8760	0.005206896	na	na	
54	1	Landfill Operations & Haul Trucks(EU54)															
		PM	na	34.4871	lb/1000ton		Watering	0.70	0.1212	4.18	na	na	8760	18.30768396	18.30768396	na	
		PM10	na	8.293889	lb/1000ton		Watering	0.70	0.1212	1.01	na	na	8760	4.402860739	4.402860739	na	
		PM2.5	na	0.919669	lb/1000ton		Watering	0.70	0.1212	0.11	na	na	8760	0.488211807	0.488211807	na	
		Control efficiency of 70% is assumed in AP.42 emission factor. Operating rate 0.1212 (1000 tons)/hr															

Section N.2: Stack Information

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UTM Zone:

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)
01	01	18	760	475	4271874.4	638,142.9	2275000	149 (exit temp.)	149.1
2A	31	18	760	475	4271875.3	638,147.0	1567556	133 (exit temp.)	102.67
2B	31	18	760	475	4271870.6	638,144.6	1567556	133 (exit temp.)	102.67
18	18	<1	16	475	NA	NA	NA	77	NA
25	25	18	90	475	4271389.2	638,323.9	2608000	1049	171
26	26	18	90	475	4271412.4	638,358.4	2608000	1049	171
27	27	18	90	475	4271433.5	638,195.00	2608000	1049	171
28	28	18	90	475	4271454.6	638,431.00	2608000	1049	171
29	29	18	90	475	4271457.7	638,465.80	2608000	1049	171

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)
30	30	18	90	475	4271497.6	638,501.40	2608000	1049	171
32	32	3	50	475	4271825	638,312	22985	281	62
33	33	0.67	11	475	421971	638160	10609	799	501.51
42	42	3	111	475	4271831	638253	56320	59	132.79
44	44	3	50	475	4271955	638119	2522	70	5.95
45a	45	3	50	475	4271950	638110	2522	70	5.95
45b	45	3	50	475	4271950	638110	2522	70	5.95
50	50	0.83	12	475	NA	NA	5150	890	158.64
51	51	0.83	12	475	NA	NA	5150	890	158.64
52	51	0.83	12	475	NA	NA	5150	890	158.64
53	53	NA	NA	475	NA	NA	NA	NA	NA

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)
55	55	0.75	10	475	NA	NA	4000	175	150.9
56	56	0.75	10	475	NA	NA	4000	175	150.9
57	57	NA	NA	475	NA	NA	NA	NA	NA
58	58	NA	NA	475	NA	NA	NA	NA	NA
59	59	NA	NA	NA	NA	NA	NA	NA	NA
	NA - Not Available								

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Section N.3: Fugitive Information

UTM Zone:

Emission Unit #	Emission Unit Name	Process ID	Area Physical Data		Area UTM Coordinates		Area Release Data	
			Length of the X Side <i>(ft)</i>	Length of the Y Side <i>(ft)</i>	Northing <i>(m)</i>	Easting <i>(m)</i>	Release Temperature <i>(°F)</i>	Release Height <i>(ft)</i>
13	Limestone Crushing & Milling	02	NA	NA	4271470	638310	NA	NA
06	Paved Roads	1	NA	NA	4,271,685	638,339	NA	NA
05	Coal Storage Pile	1	NA	NA	4,272,376	637,860	NA	NA
10	Lime Handling/Receiving/Stockpile	1	NA	NA	NA	NA	77/Ambient	15
10	Lime Stockpile	2	NA	NA	NA	NA	77/Ambient	15
10	Emergency Lime Stockpile	3	NA	NA	NA	NA	77/Ambient	15
14	Limestone Conveying	1	NA	NA	NA	NA	NA	NA
14	Limestone Hopper to C2	2	NA	NA	NA	NA	NA	NA
14	Limestone Conveyor C2 to C3	3	NA	NA	NA	NA	NA	NA
34	Fossil Fuel Storage Operations (Fossil Fuel pile "A")	1	NA	NA	NA	NA	NA	NA

35	Fossil Fuel Storage Operations (Fossil Fuel pile "B")	1	NA	NA	NA	NA	NA	Imber NA
20	Natural Draft Cooling Tower for EU 31	1	NA	NA	4272060	638087	104	508
41	Mechanical Draft Cooling Tower	1	NA	NA	4272356	638193	107	41
54	Landfill Operations and Haul Trucks	1	NA	NA	NA	NA	77/Ambient	NA
	NA - Not Available							

DEP7007V

DEP7007V

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Additional Documentation

___ Complete DEP7007AI

Division for Air Quality

300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

Applicable Requirements and Compliance Activities

- ___ Section V.1: Emission and Operating Limitation(s)
- ___ Section V.2: Monitoring Requirements
- ___ Section V.3: Recordkeeping Requirements
- ___ Section V.4: Reporting Requirements
- ___ Section V.5: Testing Requirements
- ___ Section V.6: Notes, Comments, and Explanations

Source Name: Louisville Gas & Electric - Trimble County Generating Station

KY EIS (AFS) #: 21- 223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: 4054

Date: April-2020

Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
1	Unit 1 Boiler (TC1)	40 CFR 63, Subpart UUUUU	MATS	Comply with 40 CFR 63, Subpart UUUUU. See <i>Attached MATS Attachment.</i>		Records during startup and shutdown.	<i>See Attached MATS Attachment.</i>
1	Unit 1 Boiler (TC1)	401 KAR 51:017, 40 CFR 60.42(a)(1)	PM	Particulate matter (PM) emissions shall not exceed 0.10 lb/MMBtu based on a three-hour average.			Once-per-permit-term performance test

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
1	Unit 1 Boiler (TC1)	40 CFR 60.42(a)(2)	Opacity	Do not discharge into the atmosphere any gases that exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.			Three Hour Method 9 per 40 CFR 60.45(b)(7)
1	Unit 1 Boiler (TC1)	401 KAR 51:017	SO2	Sulfur dioxide emissions shall not exceed 0.84 lb/MMBtu based on a three hour rolling average.			CEMS for SO2
1	Unit 1 Boiler (TC1)	40 CFR 60.43(a)(2)	SO2	Do not discharge into the atmosphere any gases that contain SO2 in excess of 1.2 lb/MMBtu heat input.			CEMS for SO2
1	Unit 1 Boiler (TC1)	401 KAR 51:001, Section 1(144), Voluntary limit	SO2	Consecutive twelve month rolling total of sulfur dioxide emissions shall not exceed 4,822 tons per year.			CEMS for SO2
1	Unit 1 Boiler (TC1)	40 CFR 60.44(a)(3)	NOX	Do not discharge into the atmosphere any gases that contain NOX, expressed as NO2 in excess of 0.70 lb/MMBtu heat input.			CEMS for NOX
1	Unit 1 Boiler (TC1)	401 KAR 51:001 Section 1(144), Voluntary limit	NOX	Consecutive twelve month rolling total nitrogen oxide emissions shall not exceed 5,556 tons per year.			CEMS for NOX

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
1	Unit 1 Boiler (TC1)	40 CFR Part 76	NOX	Nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.40 lb/MMBtu on an annual basis.			CEMS for NOX
1	Unit 1 Boiler (TC1)	401 KAR 50:055, Section 2	All	The electrostatic precipitator (ESP), SO2 scrubber (FGD), and selective catalytic reduction (SCR) shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices.			Proper design, maintenance, and operation of equipment.
031	Unit 31 Boiler (TC2)	40 CFR 63, Subpart UUUUU	MATS	Comply with 40 CFR 63, Subpart UUUUU. See <i>Attached MATS Attachment.</i>		Records during startup and shutdown.	<i>See Attached MATS Attachment.</i>
031	Unit 31 Boiler (TC2)	401 KAR 51:017	PM10 (filterable)	0.018 lb/MMBtu Average of three 1-hour tests			Stack Testing
031	Unit 31 Boiler (TC2)	40 CFR 60.42Da(c)(2)	PM10 (filterable)	0.015 lb/MMBtu 24-hour daily block average			Calculated according to 40 CFR 60.48Da(p)

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	401 KAR 51:017 Short term limits, 401 KAR 51:017	PM, PM10 during startup and shutdown	125 lb/hr per 30 day rolling average (short term limit)		30-day avg shall be determined as follows; for start-up events, the period shall begin at the initiation of the start-up event and include the following 720 operating hours to obtain the 30-day avg. For shut-down events, the period shall include the shutdown event and the preceding seven-hundred-twenty (720) operating hours to obtain the 30-day avg. A "startup event" shall be the setting in operation of the PC boiler for any purpose, beginning with the ignition of fuel oil in the boiler and ending when the generator has achieved and sustained 30-40% of its nominal rating (750 MW) for a period of at least one 1-hr. A startup event shall not exceed 24-hrs, except to avoid equipment damage, unsafe operation, or deviation from established original equipment manufacturer (OEM) procedure. A "shutdown event" is considered as the cessation of operation of the PC boiler, beginning with the generator going below 375 MW, curtailment of the fuel supply to the boilers, and ending after fuel flow has ceased. A shutdown event shall not exceed ten (10) hours. For a startup event lasting longer than 24-hrs. and a shutdown event lasting longer than 10-hrs, the permittee shall record the time, date, type of event (startup and shutdown), duration of the event.	Imber Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	40 CFR 60.42Da(b)(1)	Opacity	Exempt			
031	Unit 31 Boiler (TC2)	401 KAR 51:017	SO2	8.94 tons per calendar day;			CEMS for SO2, monitoring and reporting
031	Unit 31 Boiler (TC2)	401 KAR 51:017	SO2	3,263.1 tons, 12-consecutive months total			CEMS for SO2, monitoring, recordkeeping and reporting

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	40 CFR 60.43Da(i)	SO2	1.4 lb/MWh gross energy output based on a 30-day rolling average OR 95% reduction			CEMS for SO2, monitoring
031	Unit 31 Boiler (TC2)	401 KAR 51:017	CO	0.10 lbs/MMBtu, 30-day rolling average OR 0.5 lbs/MMBtu, 3-hour rolling average (Compliance with the 8-hr. avg. of 3,471 lb./hr., is considered compliance with the 3-hr. rolling average of 0.5 lbs./MMBtu.)			CEMS for CO, monitoring
031	Unit 31 Boiler (TC2)	401 KAR 51:017	CO	3,471 lb/hr, 8-hour average			CEMS for CO, monitoring
031	Unit 31 Boiler (TC2)	401 KAR 51:017	CO	3,471 lb/hr, 3-hour average			CEMS for CO, monitoring

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	Short term limits, 401 KAR 51:017	CO	3,471 lb/hr, 30-day rolling avg. (Short term limit)		30-day avg shall be determined as follows; for start-up events, the period shall begin at the initiation of the start-up event and include the following 720 operating hours to obtain the 30-day avg. For shut-down events, the period shall include the shutdown event and the preceding seven-hundred-twenty (720) operating hours to obtain the 30-day avg. A "startup event" shall be the setting in operation of the PC boiler for any purpose, beginning with the ignition of fuel oil in the boiler and ending when the generator has achieved and sustained 30-40% of its nominal rating (750 MW) for a period of at least one 1-hr. A startup event shall not exceed 24-hrs, except to avoid equipment damage, unsafe operation, or deviation from established original equipment manufacturer (OEM) procedure. A "shutdown event" is considered as the cessation of operation of the PC boiler, beginning with the generator going below 375 MW, curtailment of the fuel supply to the boilers, and ending after fuel flow has ceased. A shutdown event shall not exceed ten (10) hours. For a startup event lasting longer than 24-hrs. and a shutdown event lasting longer than 10-hrs, the permittee shall record the time, date, type of event (startup and shutdown), duration of the event.	Imber Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	401 KAR 51:017	NOX	4.17 tons/calendar year			CEMS for NOX
031	Unit 31 Boiler (TC2)	401 KAR 51:017	NOX	Consecutive twelve month rolling total nitrogen oxide emissions shall not exceed 1,506.72 tons per year.			CEMS for NOX

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	40 CFR 60.44Da(e) . Compliance with this limitation shall constitute compliance with the 65% reduction requirement contained in 40 CFR 60.44Da(a)(2).	NOX	1.0 lb/MWh gross energy output, 30-day rolling average			CEMS for NOX
031	Unit 31 Boiler (TC2)	40 CFR Part 76	NOX	Nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.40 lb/MMBtu on an annual basis.			CEMS for NOX
031	Unit 31 Boiler (TC2)	401 KAR 51:017	VOC	0.0032 lbs/MMBtu, 3-hour rolling average		Compliance with CO limits of 0.1 lb/MMBtu on a 30-day rolling average OR 0.5 lb/MMBtu on a 3-hour average	

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	Short term limits, 401 KAR 51:017	VOC	22 lbs/hr, 30-day rolling average (Short term limit)		30-day avg shall be determined as follows; for start-up events, the period shall begin at the initiation of the start-up event and include the following 720 operating hours to obtain the 30-day avg. For shut-down events, the period shall include the shutdown event and the preceding seven-hundred-twenty (720) operating hours to obtain the 30-day avg. A "startup event" shall be the setting in operation of the PC boiler for any purpose, beginning with the ignition of fuel oil in the boiler and ending when the generator has achieved and sustained 30-40% of its nominal rating (750 MW) for a period of at least one 1-hr. A startup event shall not exceed 24-hrs, except to avoid equipment damage, unsafe operation, or deviation from established original equipment manufacturer (OEM) procedure. A "shutdown event" is considered as the cessation of operation of the PC boiler, beginning with the generator going below 375 MW, curtailment of the fuel supply to the boilers, and ending after fuel flow has ceased. A shutdown event shall not exceed ten (10) hours. For a startup event lasting longer than 24-hrs. and a shutdown event lasting longer than 10-hrs, the permittee shall record the time, date, type of event (startup and shutdown), duration of the event.	Imber Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	401 KAR 51:017	SAM	26.6 lbs/hr, 3-hour rolling average		SO2 CEM See Table 4L	

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	Short term limits, 401 KAR 51:017	SAM	26.6 lbs/hr, 30-day rolling average (CAM indicator – 2.78 lb./MWhr, 3-hr. rolling average)		30-day avg shall be determined as follows; for start-up events, the period shall begin at the initiation of the start-up event and include the following 720 operating hours to obtain the 30-day avg. For shut-down events, the period shall include the shutdown event and the preceding seven-hundred-twenty (720) operating hours to obtain the 30-day avg. A “startup event” shall be the setting in operation of the PC boiler for any purpose, beginning with the ignition of fuel oil in the boiler and ending when the generator has achieved and sustained 30-40% of its nominal rating (750 MW) for a period of at least one 1-hr. A startup event shall not exceed 24-hrs, except to avoid equipment damage, unsafe operation, or deviation from established original equipment manufacturer (OEM) procedure. A “shutdown event” is considered as the cessation of operation of the PC boiler, beginning with the generator going below 375 MW, curtailment of the fuel supply to the boilers, and ending after fuel flow has ceased. A shutdown event shall not exceed ten (10) hours. For a startup event lasting longer than 24-hrs. and a shutdown event lasting longer than 10-hrs, the permittee shall record the time, date, type of event (startup and shutdown), duration of the event.	Imber Method of Determining Compliance with the Emission and Operating Requirement(s)
031	Unit 31 Boiler (TC2)	401 KAR 51:017	Fluorides	1.55 lbs/hr, 3-hour rolling average (CAM indicator – 1.738 lb./MWhr, 3-hr. rolling average)		SO2 CEM See Table 4L	

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031	Unit 31 Boiler (TC2)	401 KAR 51:017	Fluorides	1.55 lbs/hr, 30-day rolling average		30-day avg shall be determined as follows; for start-up events, the period shall begin at the initiation of the start-up event and include the following 720 operating hours to obtain the 30-day avg. For shut-down events, the period shall include the shutdown event and the preceding seven-hundred-twenty (720) operating hours to obtain the 30-day avg. A "startup event" shall be the setting in operation of the PC boiler for any purpose, beginning with the ignition of fuel oil in the boiler and ending when the generator has achieved and sustained 30-40% of its nominal rating (750 MW) for a period of at least one 1-hr. A startup event shall not exceed 24-hrs, except to avoid equipment damage, unsafe operation, or deviation from established original equipment manufacturer (OEM) procedure. A "shutdown event" is considered as the cessation of operation of the PC boiler, beginning with the generator going below 375 MW, curtailment of the fuel supply to the boilers, and ending after fuel flow has ceased. A shutdown event shall not exceed ten (10) hours. For a startup event lasting longer than 24-hrs. and a shutdown event lasting longer than 10-hrs, the permittee shall record the time, date, type of event (startup and shutdown), duration of the event.	Imber Method of Determining Compliance with the Emission and Operating Requirement(s)

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	40 CFR 63, Subpart DDDDD, as a limited-use boiler, pursuant to 40 CFR 63.7575 [This federally-enforceable limit is less than 10% of the maximum potential heat input [to achieve limited applicability of 40 CFR 63, Subpart DDDDD, as a limited-use boiler, pursuant to 40 CFR 63.7575].	NA			Fuel consumed limited to 87,595 MMBtu/yr, based on a 12-month rolling total.	Monitoring and recordkeeping
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	40 CFR 63.7540 a(10 - 12), [40 CFR 63.7500(c)]	NA			Tune-up of the boiler every five (5) years as specified in 40 CFR 63.7540 [40 CFR 63.7500(c)]	Reporting
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	40 CFR 63.7500(a)(3)	NA			At all times the permittee shall operate and maintain the unit in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Division that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.	

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	401 KAR 51:017 satisfies 40 CFR 60.42c(d)	Sulfur	Fuel oil used must meet the sulfur content standards in ASTM Grade No. 2-D S15 (Ultra Low Sulfur Diesel-ULSD) or equivalent and cannot exceed a sulfur content of 15 ppm or use natural gas..			Monitor fuel supplier certification, certified analysis, or contract specifications.
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	40 CFR 63.7495(b)	NA	The permittee shall comply with all applicable provisions of 40 CFR 63, Subpart DDDDD.			
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	401 KAR 60:005, Section 2 and 40 CFR 60.43c(e)(1); 401 KAR 51:017	PM	Particulate matter emissions shall not exceed 0.03 lb/MMBtu or 3.0 lb/hr based on a three (3)-hour average.	Exempt from PM limits from 40 CFR 60, subpart Dc [40 CFR 60.43c(e)(4)]	Performance test for PM limit was performed in 2009.	Records (limited used boiler)
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	401 KAR 60:005, Section 2 and 40 CFR 60.43c(c)	Opacity	Opacity from the auxiliary steam boiler shall not exceed twenty (20) percent opacity based on a six- minute average except that a maximum of twenty-seven (27) percent is allowed for not more than one (1) six (6) minute period in any sixty (60) consecutive minutes.			Unit is assumed to be in compliance while operating on NG. Perform Annual Qualitative Visual while using NG and Method 9 if triggered. QVs every 10 boiler operating days if unit operates on ULSD and perform a Method 9 if triggered. Unit converted to NG in 2017. A 30-day notice must be given if the unit operates on fuel oil.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
32	Unit 32 "Limited Use" Auxiliary Steam Boiler		CO	Carbon monoxide emissions shall not exceed 100 ppm by volume on a dry basis corrected to 3 percent oxygen or 0.078 lb/MMBtu on a 30-day rolling average.		Use of only ULSD or natural gas. Records of fuel types used.	Use of only ULSD or natural gas. Records of fuel types used.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 52:020, Section 10	NA	Startup and shutdown periods shall be limited to no more than two (2) hours for each startup/shutdown event			Monitoring, hours of operation.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 52:020, Section 10	NA	Use only natural gas in the turbines.			Monitor, fuel usage
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 51:017	Sulfur	Fuel sulfur content due to the firing of natural gas shall not exceed 2.0 grains/100 SCF.			Use of pipeline natural gas.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 51:017	NOX	Nitrogen oxides emission levels in the exhaust gas shall not exceed an hourly average of 12 ppm by volume at 15 percent oxygen on a dry basis, and an annual (12 month rolling) average of 9 ppm by volume at 15 percent oxygen on a dry basis, except during periods of SSM.	Compliance with this limit constitutes compliance with the NOx limit contained in 40 CFR 60, Subpart GG.		NOX CEMS, per monitoring requirements (indicator of compliance)
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 51:017	CO	Except during periods of SSM, the carbon monoxide emission level in the exhaust gas shall not exceed 9 ppm by volume at 15 % oxygen, on a dry basis, during any 3-hour average period.			CO CEMS, per monitoring requirements.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 51:017	PM	Filterable particulate emissions shall not exceed 19 lb/hr per turbine.	PSD PM limit was demonstrated by testing April 11, 12, 16, & 17, 2002		Initial performance test (completed in 2002) and fuel use records.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	401 KAR 51:017	Formaldehyde	Formaldehyde emissions in the exhaust gas from the sum of all turbines, shall not exceed 10 tons during any consecutive 12-month period.			Fuel usage records and emission calculations

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
18	Emergency Generator Engine	40 CFR 63.6604(b)	NA	If the engine is operated or is contractually obligated to be available for more than fifteen (15) hours per year for the purposes of demand response as specified in 40 CFR 63.6640(f), the permittee must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.			Monitor engine use and fuel used.
18	Emergency Generator Engine	40 CFR 63.6605(a)	NA	Be in compliance with the applicable emission limitations, operating limitations, and other requirements in 40 CFR 63, Subpart ZZZZ at all times.			Recordkeeping as prescribed in rule.
18	Emergency Generator Engine	40 CFR 63.6604(b)	NA	At all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.			Proper design, maintenance, and operation of equipment.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
18	Emergency Generator Engine	40 CFR 63.6604(e)	NA	Operate and maintain the engine and any after-treatment control devices according to the manufacturer's instructions or develop a maintenance plan consistent with good air pollution control practice for minimizing emissions.			Proper design, maintenance, and operation of equipment.
18	Emergency Generator Engine	40 CFR 63.6604(f)	NA	Install a non-resettable hour meter if one is not already installed.			Ensure hour meter is installed.
18	Emergency Generator Engine	40 CFR 63.6604(h)	NA	Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed thirty (30) minutes.			Maintain records of hours and engine use.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
18	Emergency Generator Engine	40 CFR 63.6604(f)	NA	To be considered an emergency engine, operate the engine according to the requirements for emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for fifty (50) hours per year, as described in 40 CFR 63.6640(f)(1) through (3). There is no time limit on the use of emergency stationary RICE in emergency situations, when those emergency situations meet the requirements of 40 CFR 63.6640(f).			Maintain records of hours and engine use.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
18	Emergency Generator Engine	40 CFR 63, Subpart ZZZZ Table 2., Item 1	NA	<p>Change the oil and filter every five hundred (500) hours of operation or annually, whichever comes first. Inspect the air cleaner every one thousand (1,000) hours of operation or annually, whichever comes first, and replace as necessary. Inspect all hoses and belts every five hundred (500) hours of operation or annually, whichever comes first, and replace as necessary.</p> <p>The permittee has the option of utilizing an oil analysis program as specified in 40 CFR 63.6625(i) in order to extend the specified oil change requirement.</p>			Maintain records of maintenance and inspections.
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	401 KAR 51:017	NA	Except for testing purposes, only operate the Emergency Generator during periods when Unit 31 is operating less than 50 percent load.			Reporting

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	40 CFR 63.6640(f)(2)(ii) and (iii) 40 CFR 60.4211(f) 40 CFR 60.4211(f)(1)	NA	Engine shall not operate or shall not contractually be obligated to be available for more than 15-hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engine shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)].			Reporting (fuel usage/hours of operation)
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	40 CFR 60.4207(b)	NA	Shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that diesel purchased prior to October 1, 2010, may be used until depleted.			Reporting
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	40 CFR 60.4205 40 CFR 60.4206	NOX + NMHC	Meet a NOx plus non-methane hydrocarbon limit of 6.4 g/kw-hr.			Certification from manufacturer obtained in accordance with 60.4211(c) Shall meet the emission stds over the entire life of the engine (40 CFR 4206).
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	40 CFR 60.4205 40 CFR 60.4206	CO	Meet a CO limit of 3.5 g/hp-hr.			Certification from manufacturer obtained in accordance with 60.4211(c) Shall meet the emission stds over the entire life of the engine (40 CFR 4206).

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	40 CFR 60.4205 40 CFR 60.4206	PM	Meet a PM limit of 0.20 g/hp-hr.			Certification from manufacturer obtained in accordance with 60.4211(c) Shall meet the emission stds over the entire life of the engine (40 CFR 4206).
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	40 CFR 60.4211(f)(1)	NA	Shall not operate or shall not contractually be obligated to be available for more than 15-hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engines shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)].			Reporting
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	40 CFR 60.4207(b)	NA	Shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel obtained prior to October 10, 2010 may be used until depleted [40 CFR 60.4207(b)].			Reporting

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	40 CFR 60.4205 40 CFR 60.4206	NOX + NMHC	Meet a NOx plus non-methane hydrocarbon limit of 6.4 g/kw-hr.			Certification from manufacturer obtained in accordance with 60.4211(c) Shall meet the emission stds over the entire life of the engine (40 CFR 4206).
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	40 CFR 60.4205 40 CFR 60.4206	CO	Meet a CO limit of 3.5 g/hp-hr.			Certification from manufacturer obtained in accordance with 60.4211(c) Shall meet the emission stds over the entire life of the engine (40 CFR 4206).
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	40 CFR 60.4205 40 CFR 60.4206	PM	Meet a PM limit of 0.20 g/hp-hr.			Certification from manufacturer obtained in accordance with 60.4211(c) Shall meet the emission stds over the entire life of the engine (40 CFR 4206).

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
053	Emergency Fire Pump Engine (Diesel)	40 CFR 60.4211(f)(1)]	NA	Shall not operate or shall not contractually be obligated to be available for more than 15-hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engines shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)].			Reporting
053	Emergency Fire Pump Engine (Diesel)	Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ]	NA	Shall change the oil and filter every 500 hours of operation or annually, whichever comes first. The permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. The permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary [Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ].			Records according to 40 CFR 63.6655(a)(4)

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
053	Emergency Fire Pump Engine (Diesel)	Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ]	NA	Shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes [Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ].			Records according to 40 CFR 63.6655(f)

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
053	Emergency Fire Pump Engine (Diesel)	40 CFR 63.6605(b)]	NA	<p>Shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].</p>			Records

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
053	Emergency Fire Pump Engine (Diesel)	40 CFR 63.6625(e)]	NA	Shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions			Records
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4211(f)(1)	NA	There is no time limit on the use of emergency stationary ICE in emergency situations [40 CFR 60.4211(f)(1)].			
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4211(f)(2)	NA	May be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 1.a.ii.(2) of this section counts as part of the 100 hours per calendar year allowed [40 CFR 60.4211(f)(2)].			

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4211(a)	NA	The permittee shall [40 CFR 60.4211(a)]: i. Operate and maintain the stationary CI internal combustion engines and control devices according to the manufacturer's emission-related written instructions; ii. Change only those emission-related settings that are permitted by the manufacturer; and iii. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable.			
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4207(b)	NA	Diesel fuel shall meet the requirements of 40 CFR 80.510(b) for nonroad diesel fuel [40 CFR 60.4207(b)].			
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4205(b)	NOX + NMHC	Meet a NOx plus non-methane hydrocarbon limit of 6.4 g/kw-hr.			Purchase of a certified engine

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4205(b)	CO	Meet a CO limit of 3.5 g/hp-hr.			Purchase of a certified engine
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	40 CFR 60.4205(b)	PM	Meet a PM limit of 0.20 g/hp-hr.			Purchase of a certified engine
057 058 059	NG Process Heater 8.8 mmbtu/hr (057) NG Process Heater 8.0 mmbtu/hr (058) NG Process Heater 8.0 mmbtu/hr (059)	401 KAR 59:015	PM	PM emissions limited to 0.10/MMBtu (3-hour average)			Units are considered to be in compliance with particulate matter standard while burning natural gas.
057 058 059	NG Process Heater 8.8 mmbtu/hr (057) NG Process Heater 8.0 mmbtu/hr (058) NG Process Heater 8.0 mmbtu/hr (059)	401 KAR 59:015	Opacity	Emissions shall not exceed 20% opacity (6-minute average) except that a maximum of 27% opacity is allowed for periods or aggregate of periods of not more than 6 minutes in any 60 minutes during building a new fire,			Units are considered to be in compliance with the opacity standards while burning natural gas.
057 058 059	NG Process Heater 8.8 mmbtu/hr (057) NG Process Heater 8.0 mmbtu/hr (058) NG Process Heater 8.0 mmbtu/hr (059)	401 KAR 59:015	SO2	SO2 emissions limited to 0.8 lb/MMBtu (24-hour average)			Units are considered to be in compliance with sulfur dioxide standards while burning natural gas.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
057 058 059	NG Process Heater 8.8 mmbtu/hr (057) NG Process Heater 8.0 mmbtu/hr (058) NG Process Heater 8.0 mmbtu/hr (059)	40 CFR 63.7540(a)(10)(i) through (vi) and according to Table 3, Item 1 of 40 CFR 63, Subpart DDDDD.	NA	Shall complete a tune-up every year			Recordkeeping/Reporting
Units 05, 06, 34, 35 - Fossil Fuel Storage Operations & Plant Roadways							
05 06 034 035	Fossil Fuel Storage Operations & Plant Roadways Fossil Fuel Storage Piles (Piles encompass areas north of E1 conveyor Controls NA) Paved plant roadways (paved roads for truck delivery of raw materials) Fossil Fuel Pile "A" (SW of E1 conveyor - Controls - compaction and water) Fossil Fuel Pile "B" (SE of E1 conveyor - Controls - compaction and water)	401 KAR 63:010, Section 3 Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007	Fugitive dust	Take reasonable precautions to prevent PM from becoming airborne, including: -Applying water or other chemicals to stockpiles; -Operating hoods, fans, and filters, or water sprays; -Keeping paved roadways clean with water or other chemical; -Removing material from paved roads; -Using compaction to suppress dust during handling			Records
		401 KAR 63:010, Section 3	Fugitive dust	Discharge of visible fugitive dust emissions beyond the property line is prohibited.			Weekly visual observations of Fossil Fuel Pile A and B (EU034 & 035).

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
		401 KAR 63:010, Section 4	Fugitive dust	Do not allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.			Records (Unit 06)
		401 KAR 51:017	Fugitive dust	Shall use compaction and water suppression control methods as BACT for EU34 and EU35.			Records
Units 07, 08, 09, 37, & 39 - Fossil Fuel Handling Operations							
07	Barge Unloader - One Continuous Barge Unloader; transfer rate 5,500 ton/hr; controls enclosure; Construction 1990						
07	Conveyor Belt A - From Continuous Barge Unloader to Conveyor B; transfer rate 5,500 ton/hr; controls enclosure; construction 1990						
07	Conveyor Belt B - From Conveyor A to Transfer House/Conveyor C; transfer rate 5,500 ton/hr; controls enclosure/hood; construction 1990						

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
07	Conveyor Belt C - From B Transfer House to Coal Sample House Bin; transfer rate 5,500 ton/hr; controls enclosure/hood/rotocone; construction 1990						
07	Conveyor Belt D - From Coal Sample House Bin to Conveyor E1 or S; transfer rate 3,000 ton/hr; controls enclosure; construction 1990						
07	Reclaim Hopper & Conveyor Belt R1 - From One Inactive Fossil Fuel Pile to Crusher House; transfer rate 1,320 ton/hr; controls enclosure; construction 1990						
07	Conveyor Belt S - From Conveyor D to one Inactive Fossil Fuel Pile; transfer rate 1,650 ton/hr; controls enclosure; construction 1990						

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
07	Conveyor Belt E1 - From Conveyor D to Active Storage or Crusher House; transfer rate 2,640 ton/hr; controls Hood; construction 1990						
07	Conveyor Belt F1 & F2 - From Crusher House to Conveyors G1 & G2; transfer rate 1,320 ton/hr; controls dust collector; construction 1990						
07	Conveyor Belt G1 & G2 - From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos; transfer rate 1,320 ton/hr; controls dust collector; construction 1990						
08	Crusher House - Two Crushers, Fossil Fuel Crusher Bin; transfer rate 3,600 ton/hr; controls rotoclone; construction 1990						

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
09	Six Unit 1 Silos - transfer rate 800 ton/hr; controls dust collector; construction 1990						
037	Conveyor Belt E2 - From Active Coal Piles "A" & "B" to Conveyor E3; transfer rate 2,640 ton/hr; controls dust collectors; construction 2008						
037	Conveyor Belt E3 - From Conveyor E2 to Conveyor E1; transfer rate 2,640 ton/hr; controls hoods; construction 2008						
039	Six Unit 2 Silos - Boiler Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2008						
		401 KAR 51:017	Fugitive dust			Shall utilize dust collectors as BACT for the reclaim hopper of EU 37 and for EU 39 [401 KAR 51:017].	

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
		40 CFR 60.254	Opacity	Shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater [40 CFR 60.254].			Monitoring: Weekly qualitative visual observation from each emission Unit (07, 08, 09, 37, 39) and Method 9 if visible emissions are seen.
010	Lime/Limestone Receiving and Storage - Receiving Operations: clamshell unloader, clamshell barge unloader bin; Stockpile Stackout Operations (inactive outdoor storage) Max Op Rate (Receiving) -1,650 tons.hr; Max Op Rate (Stockpile/Stackout) - 1,500 Tons/hr; Construction - Before 1990	401 KAR 63:010, Section 3	Fugitive dust	Take reasonable precautions to prevent PM from becoming airborne, including: -Applying asphalt, water, or other chemicals on roads, stockpiles, and other surfaces; -Operating hoods, fans, and filters, or water sprays			Proper design, maintenance, and operation of equipment.
010	Lime/Limestone Receiving and Storage -	401 KAR 63:010, Section 3	Fugitive dust	Discharge of visible fugitive dust emissions beyond the property line is prohibited.			Use applicable dust suppression techniques when necessary.
013	Lime/Limestone Crushing & Milling - (Two Ball Mills - 260 tons/hr, each; Constructed 1989	40 CFR 60.672(e)(1)	Fugitive dust	Fugitive emissions from building openings (except for vents as defined in 60.671) must not exceed 7 percent opacity.			Monitoring: Monthly qualitative visual observation.

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
Units 14 - Lime/Limestone Handling and Processing							
014	Limestone Conveyor A - Limestone Unloader to Limestone Conveyor A						
014	Transfer Bin - Limestone Conveyor A Transfer to Limestone Conveyor B						
014	Limestone Conveyor B - Limestone Conveyor B to Inactive (outdoor pile) or Active (indoor pile)						
014	Reclaim Hopper - From Inactive (outdoor pile) to Conveyor Belt C						
014	Limestone Conveyor C - From Active Indoor Pile Reclaim Hopper to Limestone Hopper						

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
014	C2 Emergency Limestone Conveyor - From Emergency (outdoor pile) to C2 Emergency Conveyor						
014	C3 Emergency Limestone Conveyor - From C2 Conveyor to C Conveyor						
		40 CFR 60.672(b), referencing Table 3	Opacity	Fugitive emissions from transfer points, conveyor belts, or any other listed emissions unit shall not exceed 10 percent opacity [40 CFR 60.672(b), referencing Table 3].			Testing - Annual Method 22s
		40 CFR 60.672(e)(1)	Fugitive	Fugitive emissions from building openings (except for vents as defined in 40 CFR 60.671) shall not exceed 7 percent opacity [40 CFR 60.672(e)(1)].			Compliance via Annual Method 22 testing
042	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	401 KAR 51:017	Fugitive	The permittee shall utilize a dust collector on fly ash silo bins and pneumatic conveyances as BACT for the 1,200 ton fly ash silo.			

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
042	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	401 KAR 59:010	Opacity	Shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity.			Monitoring, weekly qual visuals.
042	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	402 KAR 59:010	PM	Particulate matter emissions from the bin dust collectors shall not exceed [17.31P0.16] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour.			The dust collector equipment shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010.
044	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	401 KAR 51:017		The permittee shall utilize bin vent filters as BACT.			
	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	402 KAR 59:010		Shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity.			Monitoring, weekly qual visuals, Method 9 if triggered.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	402 KAR 59:010		Particulate matter emissions from the bin dust collectors shall not exceed [17.31P0.16] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour.			The bin vent filters shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010.
045	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	401 KAR 51:017		The permittee shall utilize bin vent filters as BACT.			
045	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	402 KAR 59:010		Shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity.			Monitoring, weekly qual visuals, Method 9 if triggered.
045	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	402 KAR 59:010		Particulate matter emissions from the bin dust collectors shall not exceed [17.31P0.16] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour.			The bin vent filters shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010.

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
020	Natural Draft Cooling Tower for EU 31 - Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	401 KAR 63:010		Reasonable precautions shall be taken to prevent particulate matter from becoming airborne			Records/maintenance
020	Natural Draft Cooling Tower for EU 31 - Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	401 KAR 63:010		Discharge of visible fugitive dust emissions beyond the property line is prohibited			Records/maintenance
041	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	401 KAR 63:010		Reasonable precautions shall be taken to prevent particulate matter from becoming airborne			Records/maintenance
041	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	401 KAR 63:010		Discharge of visible fugitive dust emissions beyond the property line is prohibited			Records/maintenance

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
041	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	401 KAR 51:017		The cooling tower shall utilize 0.0005% drift eliminators			Records/maintenance
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	To preclude 40 CFR 60, Subpart WWW		Shall not accept any waste from the public. The landfill shall not receive any material other than gypsum and residual waste from the coal boilers			Monitoring
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	401 KAR 63:010, section 3(1)		No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following			Monitoring

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Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	401 KAR 63:010, section 3(2)		Discharge of visible fugitive dust emissions beyond the property line is prohibited			
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	401 KAR 63:010, section 3(3)		When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from the landfill or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air			Monitoring

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	401 KAR 63:010, section 4		At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway			Monitoring
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	401 KAR 63:010, section 4		The permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the missions originate			Posting a 15 mile per hour sign for each road way and monitoring (water usage, QVs)
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	401 KAR 63:010, section 4					

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Section V.2: Monitoring Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
1	Unit 1 Boiler (TC1)	PM	40 CFR 64.3(d)	PM	Install, calibrate, and maintain a certified particulate matter continuous emissions monitor (PM-CEMS). The PM-CEMS shall comply with Performance Specification 11 of Appendix B to 40 CFR 60 and ongoing quality assurance requirements per 40 CFR 60 Appendix F, Procedure 2. -At any time the PM-CEMS is considered out-of-compliance, monitor the ESP secondary voltages and currents pursuant to 40 CFR 64.4 noted in the CAM plan. Corrective action shall be initiated when an excursion occurs outside the indicator ranges established in the approved CAM plan for these parameters.
1	Unit 1 Boiler (TC1)	SO2, PM, O2 (or CO2)	40 CFR 64.3(d)	SO2, PM, O2 (or CO2)	CEMS shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions [40 CFR 75.10(a)]. The CEMS shall comply with performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A. CEMS shall be used to satisfy CAM requirements [40 CFR 64.3(d)].
1	Unit 1 Boiler (TC1)	SO2	401 KAR 52:020, Section 10	SO2	Excluding the startup and shut down periods, if any three (3)-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and the CEMS and make any necessary repairs as soon as practicable.
1	Unit 1 Boiler (TC1)	NOX	401 KAR 52:020, Section 10	NOX	CEMS shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions [40 CFR 75.10(a)]. The CEMS shall comply with performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A. CEMS shall be used to satisfy CAM requirements [40 CFR 64.3(d)].
1	Unit 1 Boiler (TC1)	SO2 and NOX	40 CFR 60.45	SO2 and NOX	Performance evaluations of SO2 CEMS and NOx CEMS, including reference methods, calibration gases, and span values, shall be according to 40 CFR 60.45.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
1	Unit 1 Boiler (TC1)	MATS	40 CFR 63.10042	Startup/Shutdown	<p>If you choose to rely on paragraph (2) of the definition of "startup" in 40 CFR 63.10042 for your EGU the permittee shall monitor the additional requirements during startup periods or shutdown periods required by 40 CFR 63.10020(e).</p> <p>Startup means either the first-ever firing of fuel in Emission Unit 01 for the purpose of producing electricity, or the firing of fuel in Emission Unit 01 after a shutdown event for any purpose. Startup ends when any of the steam from Emission Unit 01 is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup; Or startup means the period in which operation of Emission Unit 01 is initiated for any purpose. Startup begins with either the firing of any fuel in Emission Unit 01 for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (other than the first-ever firing of fuel in Emission Unit 01 following construction of Emission Unit 01) or for any other purpose after a shutdown event. Startup ends 4 hours after Emission Unit 01 generates electricity that is sold or used for any other purpose (including on site use), or 4 hours after Emission Unit 01 makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. Any fraction of an hour in which startup occurs constitutes a full hour of startup.</p> <p>Shutdown means the period in which cessation of operation of Emission Unit 01 is initiated for any purpose. Shutdown begins when Emission Unit 01 no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil derived fuel is being fired in Emission Unit 01, whichever is earlier. Shutdown ends when Emission Unit 01 no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes, and no fuel is being fired in Emission Unit 01. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown.</p>
1	Unit 1 Boiler (TC1)	SO2 and NOX	401 KAR 51:017	SO2 and NOX	The permittee shall monitor emissions of SO2 and NOx, in tons, on a monthly basis.
1	Unit 1 Boiler (TC1)		40 CFR 60.45(e).	CEM	Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in 40 CFR 60.45(e).

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
1	Unit 1 Boiler (TC1)	Opacity	40 CFR 60.45(b)(7).	Method 9	Method 9 testing shall be performed according to the incremental schedule of 40 CFR 60.45(b)(7).
1	Unit 1 Boiler (TC1)	MATS	401 KAR 52:020 Section 10	MATS	The permittee shall comply with all applicable continuous monitoring requirements of 40 CFR 63.10010, 40 CFR 63.10020, and 40 CFR 63.10021.
1	Unit 1 Boiler (TC1)	MATS	40 CFR 63, Subpart UUUUU	MATS	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.
1	Unit 1 Boiler (TC1)	SO ₂ , CO, NO _x , PM, Hg, O ₂ /CO diluents	401 KAR 52:020 401 KAR 51:017 40 CFR 60.49Da	SO ₂ , CO, NO _x , PM, Hg, O ₂ /CO diluents	The permittee shall install, calibrate, maintain, and operate continuous monitoring systems for measuring SO ₂ emissions, CO emissions, NO _x emissions, PM emissions, mercury emissions, and either oxygen or carbon dioxide diluents. Oxygen or carbon dioxide shall be monitored at each location where SO ₂ or NO _x emissions are monitored. The permittee shall ensure the continuous monitoring systems are in compliance with the requirements of 40 CFR 60.50Da.
1	Unit 1 Boiler (TC1)	SO ₂	401 KAR 52:020 40 CFR 75.10	SO ₂	If any thirty (30) day rolling average emissions of SO ₂ (excluding the startup and shut down periods) exceed 1.4 lb/MWh gross energy output, or if any calendar day emissions (excluding startup and shutdown) exceed 8.94 tons per day, the permittee shall, as appropriate, initiate an inspection of the control equipment or the CEM system and make any necessary repairs as soon as practicable.
1	Unit 1 Boiler (TC1)	NO _x	401 KAR 52:020, 40 CFR 60.49Da(c), and 40 CFR 75.10	NO _x	If any thirty (30) day rolling average emissions of NO _x (excluding the startup and shut down periods) exceed 1.0 lb/MWh gross energy output, or if any calendar day emissions (excluding startup and shutdown) exceed 4.17 tons per day, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the CEM system and make any necessary repairs as soon as practicable.
1	Unit 1 Boiler (TC1)	CEM	40 CFR 60.49a(e)	CEM	All of the CEMS shall be operated and data shall be recorded during all periods of operation of the emissions units including periods of startup, shutdown, malfunction or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
031	Unit 31 Boiler (TC2)	PM, NOx, SO2	40 CFR 60.49Da(h) [40 CFR 60.49Da(f)(2)] or for NOx, by equation F-26 of 40 CFR 75 [letter from Division's Field Office Branch Manager, March 26, 2013].	PM, NOx, SO2	The permittee shall obtain emissions data for PM, NOx, and SO2 for at least 90 percent of all operating hours for each thirty (30) successive boiler operating days. If this minimum data requirement cannot be met with a CEMS, the permittee shall supplement emissions data with other monitoring systems as described in 40 CFR 60.49Da(h) [40 CFR 60.49Da(f)(2)] or for NOx, by equation F-26 of 40 CFR 75 [letter from Division's Field Office Branch Manager, March 26, 2013].
031	Unit 31 Boiler (TC2)	PM, NOx, SO2	401 KAR 52:020, Section 10	PM, NOx, SO2	When emissions data for pollutants other than PM, NOx, and SO2 are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using other monitoring systems as approved by the Division or other data substitution methods, including 40 CFR 75, to provide emissions data for a minimum of eighteen (18) hours in at least twenty-two (22) out of thirty (30) successive boiler operating days.
031	Unit 31 Boiler (TC2)	CEM	40 CFR 60.49Da	CEM	The following procedures shall be used to conduct monitoring system performance evaluations and calibration checks as required under 40 CFR 60.49Da: (i-iv)

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
031	Unit 31 Boiler (TC2)	NA	401 KAR 52:020	Startup/Shutdown	<p>If you choose to rely on paragraph (2) of the definition of "startup" in 40 CFR 63.10042 for your EGU the permittee shall monitor the additional requirements during startup or shutdown periods required by 40 CFR 63.10020(e).</p> <p>Startup means either the first-ever firing of fuel in Emission Unit 31 for the purpose of producing electricity, or the firing of fuel in Emission Unit 31 after a shutdown event for any purpose. Startup ends when any of the steam from Emission Unit 31 is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup; Or startup means the period in which operation of Emission Unit 31 is initiated for any purpose. Startup begins with either the firing of any fuel in Emission Unit 31 for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (other than the first-ever firing of fuel in Emission Unit 31 following construction of Emission Unit 31) or for any other purpose after a shutdown event. Startup ends 4 hours after Emission Unit 31 generates electricity that is sold or used for any other purpose (including on site use), or 4 hours after Emission Unit 31 makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. Any fraction of an hour in which startup occurs constitutes a full hour of startup. Shutdown means the period in which cessation of operation of Emission Unit 31 is initiated for any purpose. Shutdown begins when Emission Unit 31 no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil derived fuel is being fired in Emission Unit 31, whichever is earlier. Shutdown ends when Emission Unit 31 no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes, and no fuel is being fired in Emission Unit 31. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown</p>
031	Unit 31 Boiler (TC2)	SO2, NOx, PM	40 CFR 64.4(d)	SO2, NOx, PM	The permittee shall use SO2, NOx, and PM CEMS as continuous compliance determination methods consistent with 40 CFR 64.4(d), as applicable.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
031	Unit 31 Boiler (TC2)	SO2, NOx	401 KAR 51:017	SO2, NOx	The permittee shall monitor emissions of SO2 and NOx, in tons, on a monthly basis
031	Unit 31 Boiler (TC2)	H2SO4, Fluoride	40 CFR 64.6	H2SO4, Fluoride	Monitoring for H2SO4 and Fluoride is shown in the table (see Attachment/Table 4L for Unit 31)
031	Unit 31 Boiler (TC2)	MATS	40 CFR 63, Subpart UUUUU	MATS	The permittee shall comply with all applicable continuous monitoring requirements of 40 CFR 63.10010, 40 CFR 63.10020, and 40 CFR 63.10021.
031	Unit 31 Boiler (TC2)	MATS	40 CFR 63, Subpart UUUUU	MATS	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.
031	Unit 31 Boiler (TC2)	NA	40 CFR 63.7525(k) 401 KAR 52:020, Section 10	Fuel	The permittee shall monitor the quantity of fuel consumed, in MMBtu/month.
031	Unit 31 Boiler (TC2)	Opacity	401 KAR 52:020, Section 10	Opacity	The permittee shall perform an Annual Qualitative Visual. Unit operates on NG and is assumed to be in compliance.
031	Unit 31 Boiler (TC2)	NOX	401 KAR 52:020, Section 10, 40 CFR 75.10(a)(2)	NOX	Install, calibrate, maintain, and operate the nitrogen oxides Continuous Emissions Monitor (CEM). The nitrogen oxides CEM shall be used as the indicator of continuous compliance with the nitrogen oxides emission standard. Excluding the startup and shutdown periods, if any (1) one-hour average exceeds the nitrogen oxides emission limitation, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary control device/process/CEM repairs or take corrective action as soon as practicable.
031	Unit 31 Boiler (TC2)	NA	401 KAR 52:020, Section 10	Natural gas used	Monitor the quantity of natural gas, in millions of cubic feet, fired in each combustion turbine on a daily basis.
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	401 KAR 52:020, Section 10	NG or Fuel Oil used	The permittee shall monitor the quantity of fuel consumed in MMBtu/monthly

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	401 KAR 52:020, Section 10	QVs/Method 9 if triggered	The permittee shall perform an annual qualitative visual observation of the emissions from the stack while operating on natural gas. Qualitative Visuals are required every 10-boiler operating days if the unit operates on fuel oil.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NOX, CO	401 KAR 52:020, Section 10	NOX, CO	Install, calibrate, operate, test, and monitor all continuous monitoring systems and monitoring devices in accordance with 40 CFR 60.13 or 40 CFR 75.10.
025 026 027 028 029 031	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Hours of Operation	Monitor the hours of operation of each combustion turbine on a daily basis.
025 026 027 028 029 032	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Power output	Monitor the power output, in MW, of each combustion turbine on a daily basis.
025 026 027 028 029 033	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Monthly Fuel Usage Rate	Monitor fuel usage rate, in gallons, on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
025 026 027 028 029 034	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	40 CFR 63.6655	Records, maintenance and hours	Shall maintain all records required by 40 CFR 63.6655, including notifications, records of required maintenance, records of actions during malfunction, and records of hours of operation.
025 026 027 028 029 035	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	40 CFR 63.10(b)(1) 40 CFR 63.6660	Records, maintenance	Shall keep each record in hard copy or electronic form for five (5) years following the date of each occurrence, measurement, maintenance, corrective action or record. The records shall be in a form suitable and readily available for expeditious review
025 026 027 028 029 036	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	40 CFR 60.4209(a)	Hours of Operation	A non-resettable hour meter shall be installed on the emergency generator.
18	Emergency Generator Engine	NA	401 KAR 52:020, Section 10	Monthly Fuel Usage Rate; sulfur content	The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis. The permittee shall maintain supplier's certifications of fuel sulfur content
18	Emergency Generator Engine	NA	40 CFR 60.4209(a)	Hours of Operation	A non-resettable hour meter shall be installed on the emergency generator.
18	Emergency Generator Engine	NA	401 KAR 52:020, Section 10	Monthly Fuel Usage Rate	The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis. The permittee shall maintain supplier's certifications of fuel sulfur content

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	40 CFR 63.6625(f)	Hours of Operation	A non-resettable hour meter shall be installed on the emergency generator.
033	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	401 KAR 52:020, Section 10	Monthly Fuel Usage Rate	The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis.
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	40 CFR 60.4209(a)	NA (meters are installed)	The permittee shall install non-resettable hour meters prior to startup of each engine.
050 051 053	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	40 CFR 60.4209(b)	NA	If the engine is equipped with a diesel particulate filter to comply with the emission standards, the diesel particulate filter shall be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached. (These Units do not have diesel particulate filters).
053	Emergency Fire Pump Engine (Diesel)	NA	401 KAR 52:020, Section 10	Fuel Usage and hours of operation (monthly)	The permittee shall maintain the records of the fuel combusted and hours of operation on a monthly basis.
053	Emergency Fire Pump Engine (Diesel)	NA	401 KAR 52:020, Section 10	Fuel Usage and hours of operation (monthly)	The permittee shall monitor fuel usage (MMSCF) for each unit on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	40 CFR 60.4209(a)	Meter hours	a.The permittee shall install non-resettable hour meters prior to startup of each engine [40 CFR 60.4209(a)].
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	40 CFR 60.4209(b)	NA	If the engine is equipped with a diesel particulate filter to comply with the emission standards, the diesel particulate filter shall be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	Opacity	401 KAR 52:020, Section 10	Opacity	The permittee shall perform a qualitative visual observation of each coal pile area (05, 33, 35), weekly.
057 058 059	NG Process Heater 8.8 mmbtu/hr (057) NG Process Heater 8.0 mmbtu/hr (058) NG Process Heater 8.0 mmbtu/hr (059)	PM, Opacity	401 KAR 52:020, Section 10	MMscf	The permittee shall monitor fuel usage (MMscf) for each unit on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
Units 05, 06, 34, 35 - Fossil Fuel Storage Operations & Plant Roadways					
05	Fossil Fuel Storage Piles (Piles encompass areas north of E1 conveyor - Controls NA)				
06	Paved plant roadways (Defined as - Paved roads used for truck delivery of raw bulk materials shipped and received - i.e. flyash, gypsum, hydrated lime, PAC, etc. - Controls NA)				
034	Fossil Fuel Pile "A" (SW of E1 conveyor - Controls - compaction and water)				
035	Fossil Fuel Pile "B" (SE of E1 conveyor - Controls - compaction and water)				
		NA	401 KAR 52:020, Section 10	Trucks/Tons	The permittee shall monitor the amount of coal received via trucks in tons, on a monthly basis
		Opacity	401 KAR 52:020, Section 10	Opacity	The permittee shall perform a qualitative visual observation of each coal pile area (05, 33, 35), weekly.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
Units 07, 08, 09, 37, & 39 - Fossil Fuel Handling Operations					
07	Barge Unloader - One Continuous Barge Unloader; transfer rate 5,500 ton/hr; controls enclosure; Construction 1990				
07	Conveyor Belt A - From Continuous Barge Unloader to Conveyor B; transfer rate 5,500 ton/hr; controls enclosure; construction 1990				
07	Conveyor Belt B - From Conveyor A to Transfer House/Conveyor C; transfer rate 5,500 ton/hr; controls enclosure/hood; construction 1990				
07	Conveyor Belt C - From B Transfer House to Coal Sample House Bin; transfer rate 5,500 ton/hr; controls enclosure/hood/rotocone; construction 1990				
07	Conveyor Belt D - From Coal Sample House Bin to Conveyor E1 or S; transfer rate 3,000 ton/hr; controls enclosure; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
07	Reclaim Hopper & Conveyor Belt R1 - From One Inactive Fossil Fuel Pile to Crusher House; transfer rate 1,320 ton/hr; controls enclosure; construction 1990				
07	Conveyor Belt S - From Conveyor D to one Inactive Fossil Fuel Pile; transfer rate 1,650 ton/hr; controls enclosure; construction 1990				
07	Conveyor Belt E1 - From Conveyor D to Active Storage or Crusher House; transfer rate 2,640 ton/hr; controls Hood; construction 1990				
07	Conveyor Belt F1 & F2 - From Crusher House to Conveyors G1 & G2; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				
07	Conveyor Belt G1 & G2 - From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				
08	Crusher House - Two Crushers, Fossil Fuel Crusher Bin; transfer rate 3,600 ton/hr; controls rotoclone; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
09	Six Unit 1 Silos - transfer rate 800 ton/hr; controls dust collector; construction 1990	NA	401 KAR 52:020, Section 10	Tons	The permittee shall monitor the amount of coal received and processed, in tons, on a monthly basis.
037	Conveyor Belt E2 - From Active Coal Piles "A" & "B" to Conveyor E3; transfer rate 2,640 ton/hr; controls dust collector; construction 2008	NA	401 KAR 52:020, Section 10	Opacity	The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate.
037	Conveyor Belt E3 - From Conveyor E2 to Conveyor E1; transfer rate 2,640 ton/hr; controls hoods; construction 2008	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the lime and limestone processed, in tons, on a monthly basis.
039	Six Unit 2 Silos - Boiler Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2008	NA	401 KAR 52:020, Section 10	Monitoring, Recordkeeping, and Reporting Requirements.	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
039	Six Unit 2 Silos - Boiler Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2009	Opacity	401 KAR 52:020, Section 10	QVs	The permittee shall perform a qualitative visual observation of the opacity of emissions from each unit on a monthly basis and maintain a log of the observations. If visible emissions are seen, then an inspection shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.
039	Six Unit 2 Silos - Boiler Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2010	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the lime and limestone processed, in tons, on a monthly basis.
010	Lime/Limestone Receiving and Storage -Receiving Operations: clamshell unloader, clamshell barge unloader bin; Stockpile Stackout Operations (inactive outdoor storage) Max Op Rate (Receiving) -1,650 tons.hr; Max Op Rate (Stockpile/Stackout) - 1,500 Tons/hr; Construction - Before 1990	NA	401 KAR 52:020, Section 10	Tons (Monthly)	a.The permittee shall monitor the lime and limestone processed, in tons, on a monthly basis

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
013	Lime/Limestone Crushing & Milling - (Two Ball Mills - 260 tons/hr, each; Constructed 1989)	Opacity	401 KAR 52:020, Section 10	Qual Visual	The permittee shall perform a qualitative visual observation of the opacity of emissions from each unit on a monthly basis and maintain a log of the observations. If visible emissions are seen, then an inspection shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate
013	Lime/Limestone Crushing & Milling - (Two Ball Mills - 260 tons/hr, each; Constructed 1990)	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the lime and limestone processed, in tons, on a monthly basis
Units 14 - Lime/Limestone Handling & Processing					
014	Limestone Conveyor A - Limestone Unloader to Limestone Conveyor A				
014	Transfer Bin - Limestone Conveyor A Transfer to Limestone Conveyor B				
014	Limestone Conveyor B - Limestone Conveyor B to Inactive (outdoor pile) or Active (indoor pile)				
014	Reclaim Hopper - From Inactive (outdoor pile) to Conveyor Belt C				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
014	Limestone Conveyor C - From Active Indoor Pile Reclaim Hopper to Limestone Hopper				
014	C2 Emergency Limestone Conveyor - From Emergency (outdoor pile) to C2 Emergency Conveyor				
014	C3 Emergency Limestone Conveyor - From C2 Conveyor to C Conveyor				
		NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the amount of lime and limestone processed, in tons, on a monthly basis .
042	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the amount of sorbent processed, in tons, on a monthly basis.
042	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
044	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the amount of PAC processed, in tons, on a monthly basis
044	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC3	Opacity	401 KAR 52:020, Section 10	Opacity	The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate
045	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	NA	401 KAR 52:020, Section 10	Tons (Monthly)	The permittee shall monitor the amount of sorbent processed, in tons, on a monthly basis
045	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	Opacity	401 KAR 52:020, Section 10	Opacity	The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate
020	Natural Draft Cooling Tower for EU 31 -Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	NA	401 KAR 52:020, Section 10	Records	The permittee shall maintain records of the manufacturer's design of the drift eliminators
020	Natural Draft Cooling Tower for EU 31 -Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	NA	401 KAR 59:005, Section 3(4)	TDS Water Circulating Rate	The permittee shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
041	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	NA	401 KAR 52:020, Section 10	TDS	The permittee shall monitor the total dissolved solids content of the circulating water on a monthly basis
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	401 KAR 52:020, Section 10	Water usage	The permittee shall monitor actions taken (e.g. water usage for roads, enclosures are in good operating condition) to prevent the discharge of visible fugitive emissions beyond the property line for each unit on a monthly basis The permittee shall monitor actions taken (e.g. water usage for roads, enclosures are in good operating condition) to prevent the discharge of visible fugitive emissions beyond the property line for each unit on a monthly basis

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	401 KAR 52:020, Section 10	Tons/Monthly	The permittee shall monitor the rate of material hauled (tons, VMT, gallons/hr, etc.) for each unit or vehicle on paved and unpaved roadways on a monthly basis
054	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	Fugitive	401 KAR 52:020, Section 10	Records	Visual observations shall be made each operating day to determine if fugitive dust is becoming airborne from associated operations as a result of vehicular traffic or windy conditions on paved and unpaved roadways

Section V.3: Recordkeeping Requirements					Imber
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
1	Unit 1 Boiler (TC1)	NA	401 KAR 59:005, Section 3(4)	All Measurements	The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection.
1	Unit 1 Boiler (TC1)	NA	401 KAR 59:005, Section 3(2) 401 KAR 52:020, Section 10	SSM	The permittee shall record and maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative.
1	Unit 1 Boiler (TC1)	NA	401 KAR 52:020, Section 10	Method 9	The permittee shall keep Method 9 observations in a designated logbook or an electronic format. Records shall be maintained for not less than five (5) years.
1	Unit 1 Boiler (TC1)	SO ₂ , NO _x	401 KAR 51:017	Tons	The permittee shall calculate emissions of SO ₂ and NO _x , in tons, on a consecutive twelve (12)-month rolling total.
1	Unit 1 Boiler (TC1)	MATS	401 KAR 52:020, Section 10	NA	The permittee shall comply with all applicable recording provisions of 40 CFR 63.10030 through 40 CFR 63.10033.
1	Unit 1 Boiler (TC1)	MATS	40 CFR 63, Subpart UUUUU	Records	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
31	Unit 31 Boiler (TC2)	NA	40 CFR 60.52Da	All Measurements	The permittee shall maintain a record of applicable measurements, including CEM system, monitoring device, and performance testing measurements; all CEM system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60.7 recorded in a permanent form suitable for inspection.
31	Unit 31 Boiler (TC2)	NA	40 CFR 60.7	SSM	The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a CEM system or emission monitoring device is inoperative.
31	Unit 31 Boiler (TC2)	NA	40 CFR 64.9(b)	CAM	The permittee shall record on a daily basis for the WFGD the following: i. The WFGD liquid pH in the reaction tank; ii. Recycle pump amps and status.
31	Unit 31 Boiler (TC2)	NA	40 CFR 64.9(b)	CAM	The permittee shall record, on a daily basis, voltages, or other parameters identified during the performance test for the WESP, as approved by the Division.
31	Unit 31 Boiler (TC2)	SO ₂ , NO _x	401 KAR 51:017	Tons	The permittee shall calculate emissions of SO ₂ and NO _x in tons, on a consecutive twelve (12)-month rolling total.
31	Unit 31 Boiler (TC2)	MATS	401 KAR 52:020, Section 10	NA	The permittee shall comply with all applicable recording provisions of 40 CFR 63.10030 through 40 CFR 63.10033.
31	Unit 31 Boiler (TC2)	MATS	40 CFR 63, Subpart UUUUU	Records	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	401 KAR 52:020, Section 10	QVs/Method 9	The permittee shall maintain records of qualitative visual observations and any Method 9 readings taken.
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	401 KAR 52:020, Section 10	Fuel Usage	The permittee shall maintain records of the quantity of fuel consumed, MMSCF/month.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	401 KAR 52:020, Section 10	NG usage	Statement that only NG is used.
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	40 CFR 63.10(b)(1) 40 CFR 63.7560(a)	Limited use status	<p>For units in the limited use subcategory, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating.</p> <p>Records of fuel usage.</p> <p>Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).</p> <p>As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records off site for the remaining 3 years.</p>
032	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	40 CFR 63.7555	Limited use status	The permittee shall meet the requirements of 40 CFR 63.7555.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	40 CFR 60.7(f)	All Measurements	The permittee shall maintain a file of all measurements, including CEMS, monitoring device, and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60, Subpart A recorded in a permanent form suitable for inspection [40 CFR 60.7(f)].
025 026 027 028 029 031	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Compliance Tests	Records, including those documenting the results of each compliance test and all other records and reports required by this permit, shall be maintained for five (5) years.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
025 026 027 028 029 032	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Sulfur content (use of NG)	The permittee shall maintain a log of all sulfur content measurements as required in 4.c., Specific Monitoring Requirements.
025 026 027 028 029 033	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Fuel Usage	The permittee shall maintain a daily log of the natural gas, in millions of cubic feet, fired in each combustion turbine, for any consecutive twelve (12) month period.
025 026 027 028 029 034	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	Hours of operation	The permittee shall maintain a daily log of all hours of operation for each combustion turbine, for any consecutive twelve (12) month period.
025 026 027 028 029 035	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	401 KAR 52:020, Section 10	MW	The permittee shall maintain a daily log of all power output, in MW, for each combustion turbine, for any consecutive twelve (12) month period.
18	Emergency Generator Engine	NA	401 KAR 52:020, Section 10	Fuel Usage	The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
18	Emergency Generator Engine	NA	40 CFR 63.6655	Notifications	The permittee shall maintain all records required by 40 CFR 63.6655, including notifications, records of required maintenance, records of actions during malfunction, and records of hours of operation.
18	Emergency Generator Engine	NA	40 CFR 63.10(b)(1) 40 CFR 63.6660	NA	The permittee shall keep each record in hard copy or electronic form for five (5) years following the date of each occurrence, measurement, maintenance, corrective action or record. The records shall be in a form suitable and readily available for expeditious review.
33	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	401 KAR 52:020, Section 10	Fuel Usage	The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis.
33	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	NA	Hours of operation	The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	401 KAR 52:020, Section 10	Fuel Usage	The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis.
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	KAR 52:020 Section 10	Hours of operation	The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.
053	Emergency Fire Pump Engine (Diesel)	NA	401 KAR 52:020, Section 10	Fuel Usage	The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
053	Emergency Fire Pump Engine (Diesel)	NA	KAR 52:020 Section 10	Hours of operation	The permittee shall record the hours of operation for the engine on a monthly basis.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	40 CFR 60.4214(b)	Hours of operation	If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	40 CFR 60.4214(c)	Records of equipment	For engines equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. (These units do not have diesel particulate filters)
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	401 KAR 52:020, Section 10	Hours of operation, fuel usage	The permittee shall compile and maintain records of hours of operation of each engine and the amount of fuel consumed by each generator on a monthly basis.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	401 KAR 52:020, Section 10	Mfg. certifications	The permittee shall maintain records of the manufacturer's certified emissions certificate, manufacturer's written operating instructions, and any procedures developed by the permittee that are approved by the engine manufacturer, over the entire life of the engine.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	NA	NA	See Section F, Monitoring, Recordkeeping and Reporting Requirements.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
Units 05, 06, 34, 35 - Fossil Fuel Storage Operations & Plant Roadways					
05	Fossil Fuel Storage Piles (Piles encompass areas north of E1 conveyor - Controls NA)				
06	Paved plant roadways (Defined as -Paved roads used for truck delivery of raw bulk materials shipped and received - i.e. flyash, gypsum, hydrated lime, PAC, etc. - Controls NA)				
034	Fossil Fuel Pile "A" (SW of E1 conveyor - Controls - compaction and water)				
035	Fossil Fuel Pile "B" (SE of E1 conveyor - Controls - compaction and water)				
		NA	401 KAR 52:020, Section 10	Qvs	The permittee shall maintain records of qualitative visual observations including date, time, and results.
		NA	401 KAR 52:020, Section 10	Tons	The permittee shall maintain records of the amount of coal received via truck, in tons, on a monthly basis.
		NA	401 KAR 52:020, Section 10	Miles	Emission Unit 06 only - The permittee shall maintain records of number of trucks/ vehicle miles traveled, as applicable, for raw material delivered/received, on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
Units 07, 08, 09, 37, & 39 - Fossil Fuel Handling Operations					
7	Barge Unloader - One Continuous Barge Unloader; transfer rate 5,500 ton/hr; controls enclosure; Construction 1990				
7	Conveyor Belt A - From Continuous Barge Unloader to Conveyor B; transfer rate 5,500 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt B - From Conveyor A to Transfer House/Conveyor C; transfer rate 5,500 ton/hr; controls enclosure/hood; construction 1990				
7	Conveyor Belt C - From B Transfer House to Coal Sample House Bin; transfer rate 5,500 ton/hr; controls enclosure/hood/rotocone; construction 1990				
7	Conveyor Belt D - From Coal Sample House Bin to Conveyor E1 or S; transfer rate 3,000 ton/hr; controls enclosure; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
7	Reclaim Hopper & Conveyor Belt R1 - From One Inactive Fossil Fuel Pile to Crusher House; transfer rate 1,320 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt S - From Conveyor D to one Inactive Fossil Fuel Pile; transfer rate 1,650 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt E1 - From Conveyor D to Active Storage or Crusher House; transfer rate 2,640 ton/hr; controls Hood; construction 1990				
7	Conveyor Belt F1 & F2 - From Crusher House to Conveyors G1 & G2; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				
7	Conveyor Belt G1 & G2 - From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
8	Crusher House - Two Crushers, Fossil Fuel Crusher Bin; transfer rate 3,600 ton/hr; controls rotoclone; construction 1990				
9	Six Unit 1 Silos - transfer rate 800 ton/hr; controls dust collector; construction 1990				
37	Conveyor Belt E2 - From Active Coal Piles "A" & "B" to Conveyor E3; transfer rate 2,640 ton/hr; controls dust collector; construction 2008				
37	Conveyor Belt E3 - From Conveyor E2 to Conveyor E1; transfer rate 2,640 ton/hr; controls hoods; construction 2008				
39	Six Unit 2 Silos - Boiler Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2008				
		NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the amount of coal received and processed, in tons, on a monthly basis.
		NA	401 KAR 52:020, Section 10	QVs, weekly	The permittee shall maintain a log of qualitative visual observations and all compliance tests. The permittee shall record each week, the date and time of each observation and the results of visible emissions monitoring. In case of exceedances, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate exceedances.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
10	Lime/Limestone Receiving and Storage -Receiving Operations: clamshell unloader, clamshell barge unloader bin; Stockpile Stackout Operations (inactive outdoor storage) Max Op Rate (Receiving) - 1,650 tons.hr; Max Op Rate (Stockpile/Stackout) - 1,500 Tons/hr; Construction - Before 1990	NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the lime and limestone processed, in tons, on a monthly basis
13	Lime/Limestone Crushing & Milling - (Two Ball Mills - 260 tons/hr, each; Constructed 1989	NA	NA	Method 9	The permittee shall maintain records of any Method 9 tests, if taken, and any corrective actions initiated according to 4.a, Specific Monitoring Requirements.
		NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the lime and limestone processed, in tons, on a monthly basis.
Units 14 - Lime/Limestone Handing & Processing					
14	Transfer Bin - Limestone Conveyor A Transfer to Limestone Conveyor B				
14	Limestone Conveyor B - Limestone Conveyor B to Inactive (outdoor pile) or Active (indoor pile)				
14	Reclaim Hopper - From Inactive (outdoor pile) to Conveyor Belt C				

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Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
14	Limestone Conveyor C - From Active Indoor Pile Reclaim Hopper to Limestone Hopper				
14	C2 Emergency Limestone Conveyor - From Emergency (outdoor pile) to C2 Emergency Conveyor				
14	C3 Emergency Limestone Conveyor - From C2 Conveyor to C Conveyor				
		NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the lime and limestone processed, in tons, on a monthly basis.
42	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	401 KAR 52:020, Section 10	QVs, weekly	The permittee shall maintain a log of qualitative visual observations and all compliance tests. The permittee shall record each week, the date and time of each observation and the results of visible emissions monitoring. In case of exceedances, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate exceedances
42	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the amount of fly ash processed, in tons, on a monthly basis.
42	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	401 KAR 52:020, Section 10	QVs, weekly	The permittee shall record each week the date, time and results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
44	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the amount of PAC processed, in tons, on a monthly basis.
44	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC3	NA	401 KAR 52:020, Section 10	QVs, weekly	The permittee shall record each week the date, time and the results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance.
45	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	NA	401 KAR 52:020, Section 10	Tons, monthly	The permittee shall maintain records of the amount of sorbent processed, in tons, on a monthly basis.
45	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	NA	401 KAR 52:020, Section 10	QVs, weekly	The permittee shall record each week the date, time and results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance.
20	Natural Draft Cooling Tower for EU 31 -Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	NA	401 KAR 52:020, Section 10	Records, drift eliminators	The permittee shall maintain records of the manufacturer's design of the drift eliminators.
20	Natural Draft Cooling Tower for EU 31 -Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	NA	401 KAR 59:005, Section 3(4)	TDS, monthly	The permittee shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
41	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	NA	401 KAR 52:020, Section 10	Records, drift eliminators	The permittee shall maintain records of the manufacturer's design of the drift eliminators.
41	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	NA	401 KAR 59:005, Section 3(4)	TDS, monthly	The permittee shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content.
54	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	401 KAR 52:020, Section 10	QVs, monthly	The permittee shall maintain records of the visual observations and actions taken to prevent the discharge of visible fugitive emissions beyond the property line on a monthly basis.
54	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	401 KAR 52:020, Section 10	TDS, monthly	The permittee shall maintain records of the processing rate (tons, VMT, gallons/hr, etc.) for each vehicle or unit for paved and unpaved roadways on a monthly basis.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
54	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	401 KAR 52:020, Section 10	Maintenance	Records regarding the maintenance and use of the air pollution control equipment (spray nozzles) shall be maintained.
54	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material			Calculations	The permittee shall maintain records of the calculations to determine the fugitive emissions from paved and unpaved roads with all data used in calculations. Emission calculations shall be based on the most current AP-42 emission factors for paved and unpaved roadways for that year.

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Section V.4: Reporting Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
1	Unit 1 Boiler (TC1)	SO2, NOx, and PM	40 CFR 60.45(g)	Excess emissions	Excess emissions and monitoring system performance reports for opacity, SO2, NOx, and PM shall be submitted to the Division's Florence Regional Office semiannually according to 40 CFR 60.45(g).
1	Unit 1 Boiler (TC1)	SO2, NOx, and PM	401 KAR 59:005, Section 4(8)	Excess emissions	Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division's Florence Regional Office. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information: (i - v)
1	Unit 1 Boiler (TC1)	NA	401 KAR 52:020, Section 10	startup exceedances/description	For exceedances that occur as a result of start-up, the permittee shall report: i. The type of start-up (cold, warm, or hot); ii. Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.
1	Unit 1 Boiler (TC1)	MATS	40 CFR 63.10031	performance test	Within sixty (60) days after the completion of each performance test for pollutants covered under 40 CFR 63, Subpart UUUUU, the permittee shall submit the results of said performance test electronically to U.S. EPA according to 40 CFR 63.10031.
31	Unit 31 Boiler (TC2)	SO2, NOx, and PM	401 KAR 59:005, Section 4(8)	Excess emissions	Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division's Florence Regional Office. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information: (i - v)

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
31	Unit 31 Boiler (TC2)	CO	401 KAR 52:020, Section 10	Excess emissions	Reporting of the 3,471 lb./hr., 8-hr. average CO limit, covers the reporting requirement for the 3-hr. rolling average of 0.5 lbs./MMBtu CO limit.
31	Unit 31 Boiler (TC2)	PM	401 KAR 52:020, Section 10	Excess emissions	Excess emissions for emission units using a continuous monitoring system for measuring particulate matter are defined by any rolling twenty-four (24)-hour average of particulate matter, in units of pounds per million Btu (lb/MMBtu), greater than the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous particulate matter measurements per hour. Any time period exempted shall be considered before determining the excess average of particulate matter.
31	Unit 31 Boiler (TC2)	NA	401 KAR 52:020, Section 10	startup exceedances/description	The permittee shall report the number of excursions (excluding startup, shut down, malfunction data) above the particulate matter standard, date and time of excursions, particulate matter value of the excursions, and percentage of the PM-CEMS data showing excursions above the applicable standard in each calendar quarter [401 KAR 52:020, Section 10]. For exceedances that occur as a result of start-up, the permittee shall report. i. The type of start-up (cold, warm, or hot); ii. Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
31	Unit 31 Boiler (TC2)	NA	40 CFR 64.9(a)	CAM Plan Requirements	The permittee shall report the following information regarding its CAM plan according to the general reporting requirements specified in Section F.5. of this permit: i. Number of exceedances or excursions; ii. Duration of each exceedance or excursion; iii. Cause of each exceedance or excursion; iv. Corrective actions taken on each exceedance or excursion; v. Number of monitoring equipment downtime incidents; vi. Duration of each monitoring equipment downtime incident; vii. Cause of each monitoring equipment downtime incident; viii. Description of actions taken to implement a quality improvement plan and upon completion of the quality improvement plan, documentation that the plan was completed and reduced the likelihood of similar excursions or exceedances.
31	Unit 31 Boiler (TC2)	NOX, SO2	401 KAR 52:020, Section 10	Emissions	The permittee shall report semiannually the twelve (12) month rolling total SO2 and NOx emissions.
31	Unit 31 Boiler (TC2)	MATS	40 CFR 63.10031	performance test	Within sixty (60) days after the completion of each performance test for pollutants covered under 40 CFR 63, Subpart UUUUU, the permittee shall submit the results of said performance test electronically to U.S. EPA according to 40 CFR 63.10031.
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	Opacity	40 CFR 60.48c	Excess emissions	The permittee shall meet the requirements of 40 CFR 60.48c.
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	40 CFR 63.7550	Semi-Annual Reporting	The permittee shall meet the requirements of 63.7550.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	40 CFR 60.7(c)	Excess emissions	Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information: (i - iv)
025 026 027 028 029 031	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NOx	401 KAR 52:020, Section 10	Excess emissions	Excess emissions of NOx are defined as any (1) one-hour period during which the average emissions (arithmetic average) exceed the applicable NOx emission standard. These periods of excess emissions shall be reported quarterly. The NOx CEMS reports will be used in lieu of the water to fuel ratio requirements of 40 CFR 60.334(c).
025 026 027 028 029 032	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	CO	401 KAR 52:020, Section 10	Excess emissions	Excess emissions of CO are defined as any (3) three-hour period during which the average emissions (arithmetic average) exceed the applicable CO emission standard. These periods of excess emissions shall be reported quarterly,
18	Emergency Generator Engine	NA	40 CFR 63.6645 40 CFR 63.6650	NA	The permittee shall submit any notifications required by 40 CFR 63.6645 and 63.6650.
33	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	401 KAR 52:020, Section 10	Fuel usage, hours of operation	The permittee shall report records of fuel usage rate, hours of operation and purpose.
33	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	401 KAR 52:020, Section 10	Violations	The permittee shall report any violation of Operating Limitation.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	40 CFR 60.4214(b)	NA	The permittee shall submit any notifications required by 40 CFR 60.4214(b).
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	401 KAR 52:020, Section 10	Violations	The permittee shall report any violation of Operating Limitations.
53	Emergency Fire Pump Engine (Diesel)	NA	401 KAR 52:020, Section 10	Hours of operation/purpose	The permittee shall submit notifications of hours of operation and emergency operation.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	NA	Hours and Fuel Usage	The permittee shall report hours of operation of each engine and the amount of fuel consumed by each generator in its semi-annual reporting.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	40 CFR 60.4214(d)	Contractually obligation	If the engines operate or are contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(3) the permittee shall submit an annual report according to the requirements in 40 CFR 60.4214(d).

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
057 058 059	NG Process Heater 10.9 mmbtu/hr (057) NG Process Heater 10.9 mmbtu/hr (058) NG Process Heater 10.9 mmbtu/hr (059)	NA	CFR 63.7550 paragraphs (c)(5)(i) through (iii), (xiv), (xvii) and (c)(5) (iv)	NA	a) The permittee shall follow reporting requirements detailed in 40 CFR 63.7550(c) (1): A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in 40 CFR 63.7550 paragraphs (c)(5)(i) through (iii), (xiv), (xvii) and (c)(5) (iv) for limited-use boiler or process heater.
Units 05, 06, 34, 35 - Fossil Fuel Storage Operations & Plant Roadways					
05 06 034 035	Fossil Fuel Storage Piles (Piles encompass areas north of E1 conveyor - Controls NA) Paved plant roadways (Defined as -Paved roads used for truck delivery of raw bulk materials shipped and received - i.e. flyash, gypsum, hydrated lime, PAC, etc. - Controls NA) Fossil Fuel Pile "A" (SW of E1 conveyor - Controls - compaction and water) Fossil Fuel Pile "B" (SE of E1 conveyor - Controls - compaction and water)				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
		NA	NA	NA	Monitoring , Recordkeeping, Reporting
Units 07, 08, 09, 37, & 39 - Fossil Fuel Handling Operations					
7	Barge Unloader - One Continuous Barge Unloader; transfer rate 5,500 ton/hr; controls enclosure; Construction 1990				
7	Conveyor Belt A - From Continuous Barge Unloader to Conveyor B; transfer rate 5,500 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt B - From Conveyor A to Transfer House/Conveyor C; transfer rate 5,500 ton/hr; controls enclosure/hood; construction 1990				
7	Conveyor Belt C - From B Transfer House to Coal Sample House Bin; transfer rate 5,500 ton/hr; controls enclosure/hood/rotocone; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
7	Conveyor Belt D - From Coal Sample House Bin to Conveyor E1 or S; transfer rate 3,000 ton/hr; controls enclosure; construction 1990				
7	Reclaim Hopper & Conveyor Belt R1 - From One Inactive Fossil Fuel Pile to Crusher House; transfer rate 1,320 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt S - From Conveyor D to one Inactive Fossil Fuel Pile; transfer rate 1,650 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt E1 - From Conveyor D to Active Storage or Crusher House; transfer rate 2,640 ton/hr; controls Hood; construction 1990				
7	Conveyor Belt F1 & F2 - From Crusher House to Conveyors G1 & G2; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
7	Conveyor Belt G1 & G2 - From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				
8	Crusher House - Two Crushers, Fossil Fuel Crusher Bin; transfer rate 3,600 ton/hr; controls rotoclone; construction 1990				
9	Six Unit 1 Silos - transfer rate 800 ton/hr; controls dust collector; construction 1990				
37	Conveyor Belt E2 - From Active Coal Piles "A" & "B" to Conveyor E3; transfer rate 2,640 ton/hr; controls dust collector; construction 2008				
37	Conveyor Belt E3 - From Conveyor E2 to Conveyor E1; transfer rate 2,640 ton/hr; controls hoods; construction 2008				
39	Six Unit 2 Silos - Boiler Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2008				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
		NA	NA	NA	Monitoring , Recordkeeping, Reporting
10	Lime/Limestone Receiving and Storage -Receiving Operations: Clamshell unloader, clamshell barge unloader bin; Stockpile Stackout Operations (inactive outdoor storage) Max Op Rate (Receiving) -1,650 tons/hr; Max Op Rate (Stockpile/Stackout) - 1,500 Tons/hr; Construction - Before 1990	NA	NA	NA	Monitoring , Recordkeeping, Reporting
13	Lime/Limestone Crushing & Milling - (Two Ball Mills - 260 tons/hr, each; Constructed 1989	NA	NA	NA	Monitoring , Recordkeeping, Reporting
Units 14 - Lime/Limestone Handling & Processing					
14	Transfer Bin - Limestone Conveyor A Transfer to Limestone Conveyor B				
14	Limestone Conveyor B - Limestone Conveyor B to Inactive (outdoor pile) or Active (indoor pile)				
14	Reclaim Hopper - From Inactive (outdoor pile) to Conveyor Belt C				
14	Limestone Conveyor C - From Active Indoor Pile Reclaim Hopper to Limestone Hopper				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
14	C2 Emergency Limestone Conveyor - From Emergency (outdoor pile) to C2 Emergency Conveyor				
14	C3 Emergency Limestone Conveyor - From C2 Conveyor to C Conveyor				
		NA	40 CFR 60.676	Performance Tests, Method 22's	The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of observations using Method 22 to demonstrate compliance, according to 40 CFR 60.676.
		NA	NA	NA	Monitoring , Recordkeeping, Reporting
42	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	NA	NA	Monitoring , Recordkeeping, Reporting
44	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	NA	NA	NA	Monitoring , Recordkeeping, Reporting
45	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	NA	401 KAR 52:020, Section 10	Product Changes	The permittee shall notify the Division's Florence Regional Office at least thirty (30) days prior to use of sorbent materials in the Sorbent storage silo other than hydrate lime
45	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	NA	NA	NA	Monitoring , Recordkeeping, Reporting

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
20	Natural Draft Cooling Tower for EU 31 -Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	NA	NA	NA	Monitoring , Recordkeeping, Reporting
41	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	NA	NA	NA	Monitoring , Recordkeeping, Reporting
54	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	NA	NA	Monitoring , Recordkeeping, Reporting

Section V.5: Testing Requirements					
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
1	Unit 1 Boiler (TC1)	PM	401 KAR 50:045	PM Performance Test	The permittee shall submit within six (6) months of the issuance date of a renewal permit, a schedule, to conduct a performance test for particulate matter (PM) within one (1) year of issuance of the renewal permit.
1	Unit 1 Boiler (TC1)	PM	401 KAR 50:045 40 CFR 60.46	PM Performance Test	Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests. Testing to demonstrate compliance with the requirements of 40 CFR 60, Subpart D shall be performed according to 40 CFR 60.46.
1	Unit 1 Boiler (TC1)	PM	401 KAR 50:045	PM Performance Test	If no additional stack tests are performed for PM, the permittee shall conduct a performance test for PM emissions within five (5) years of the previous test to demonstrate compliance with the applicable standard.
1	Unit 1 Boiler (TC1)	MATS	401 KAR 52:020, Section 10	Performance Tests	The permittee shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011,
1	Unit 1 Boiler (TC1)	MATS	40 CFR 63, Subpart UUUUU	Performance Tests	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.
31	Unit 31 Boiler (TC2)	PM	401 KAR 51:017 401 KAR 50:045	PM Performance Test	Within the first year of the life of the renewal permit, the permittee shall submit a schedule according to 401 KAR 50:045 to test for particulate matter smaller than 10 microns to demonstrate compliance with 401 KAR 51:017.
31	Unit 31 Boiler (TC2)	PM	401 KAR 50:045	PM Performance Test	If no additional stack tests are performed for PM, the permittee shall conduct a performance test for PM emissions within five (5) years of the previous test to demonstrate compliance with the applicable standard.
31	Unit 31 Boiler (TC2)	MATS	401 KAR 52:020, Section 10	Performance Tests	The permittee shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011,
31	Unit 31 Boiler (TC2)	MATS	40 CFR 63, Subpart UUUUU	Performance Tests	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
32	Unit 32 "Limited Use" Auxiliary Steam Boiler	NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
025 026 027 028 029 030	Gas Turbine (TC5); Gas Turbine (TC6); Gas Turbine (TC7); Gas Turbine (TC8); Gas Turbine (TC9); Gas Turbine (TC10)	NA	40 CFR 60.8	Performance Tests	Pursuant to 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the permittee shall use as test methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods or procedures as specified in 40 CFR 60.335, except as provided for in 40 CFR 60.8(b).
18	Emergency Generator Engine	NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
33	Emergency Generator Engine (for TC2, Tier 2 Certified)	NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
050 051 052	Emergency Generator Engine 50 (CT area Diesel); Emergency Generator Engine 51 (CT area Diesel); Emergency Generator Engine 52 (CT area Diesel);	NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
53	Emergency Fire Pump Engine (Diesel)	NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit 56 (Certified, Diesel);	NA	[40 CFR 60.4211(g)]	Performance Tests	If the engine or control device is not operated and maintained according to the manufacturer's written emission-related instructions, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emissionrelated written instructions, or within 1 year after the permittee changes emissionrelated settings in a way that is not permitted by the manufacturer. The permittee shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards [40 CFR 60.4211(g)]
055 056	Emergency Blackstart Diesel Generator Unit 55 (Certified, Diesel); Emergency Blackstart Diesel Generator Unit	NA	[40 CFR 60.4211(g)]	Performance Tests	The permittee shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards [40 CFR 60.4211(g)]
057 058 059	NG Process Heater 10.9 mmbtu/hr (057) NG Process Heater 10.9 mmbtu/hr (058) NG Process Heater 10.9 mmbtu/hr (059)	NA	NA	NA	NA

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
Units 05, 06, 34, 35 - Fossil Fuel Storage Operations & Plant Roadways					
05	Fossil Fuel Storage Piles (Piles encompass areas north of E1 conveyor - Controls NA)				
06	Paved plant roadways (Defined as -Paved roads used for truck delivery of raw bulk materials shipped and received - i.e. flyash, gypsum, hydrated lime, PAC, etc. - Controls NA)				
034	Fossil Fuel Pile "A" (SW of E1 conveyor - Controls - compaction and water)				
035	Fossil Fuel Pile "B" (SE of E1 conveyor - Controls - compaction and water)				
		NA	401 KAR 59:005, Section 2(2) 401 KAR 50:045, Section 4.	NA	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
Units 07, 08, 09, 37, & 39 - Fossil Fuel Handling Operations					
7	Barge Unloader - One Continuous Barge Unloader; transfer rate 5,500 ton/hr; controls enclosure; Construction 1990				
7	Conveyor Belt A - From Continuous Barge Unloader to Conveyor B; transfer rate 5,500 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt B - From Conveyor A to Transfer House/Conveyor C; transfer rate 5,500 ton/hr; controls enclosure/hood; construction 1990				
7	Conveyor Belt C - From B Transfer House to Coal Sample House Bin; transfer rate 5,500 ton/hr; controls enclosure/hood/rotone; construction 1990				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
7	Conveyor Belt D - From Coal Sample House Bin to Conveyor E1 or S; transfer rate 3,000 ton/hr; controls enclosure; construction 1990				
7	Reclaim Hopper & Conveyor Belt R1 - From One Inactive Fossil Fuel Pile to Crusher House; transfer rate 1,320 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt S - From Conveyor D to one Inactive Fossil Fuel Pile; transfer rate 1,650 ton/hr; controls enclosure; construction 1990				
7	Conveyor Belt E1 - From Conveyor D to Active Storage or Crusher House; transfer rate 2,640 ton/hr; controls Hood; construction 1990				

11/2018

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
7	Conveyor Belt F1 & F2 - From Crusher House to Conveyors G1 & G2; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				
7	Conveyor Belt G1 & G2 - From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos; transfer rate 1,320 ton/hr; controls dust collector; construction 1990				
8	Crusher House - Two Crushers, Fossil Fuel Crusher Bin; transfer rate 3,600 ton/hr; controls rotoclone; construction 1990				
9	Six Unit 1 Silos - transfer rate 800 ton/hr; controls dust collector; construction 1990				
37	Conveyor Belt E2 - From Active Coal Piles "A" & "B" to Conveyor E3; transfer rate 2,640 ton/hr; controls dust collector; construction 2008				

11/2018

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
37	Conveyor Belt E3 - From Conveyor E2 to Conveyor E1; transfer rate 2,640 ton/hr; controls hoods; construction 2008				
39	Six Unit 2 Silos - Boier Unit 2 Coal Storage; transfer rate 800 ton/hr; controls dust collector; construction 2008				
		NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
10	Lime/Limestone Receiving and Storage - Receiving Operations: clamshell unloader, clamshell barge unloader bin; Stockpile Stackout Operations (inactive outdoor storage) Max Op Rate (Receiving) -1,650 tons.hr; Max Op Rate (Stockpile/Stackout) - 1,500 Tons/hr; Construction - Before 1990	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
13	Lime/Limestone Crushing & Milling - (Two Ball Mills - 260 tons/hr, each; Constructed 1989	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
Units 14 - Lime/Limestone Handling & Processing					
14	Transfer Bin - Limestone Conveyor A Transfer to Limestone Conveyor B				
14	Limestone Conveyour B - Limestone Conveyor B to Inactive (outdoor pile) or Active (indoor pile)				
14	Reclaim Hopper - From Inactive (outdoor pile) to Conveyor Belt C				
14	Limestone Conveyour C - From Active Indoor Pile Reclaim Hopper to Limestone Hopper				
14	C2 Emergency Limestone Conveyor - From Emergency (outdoor pile) to C2 Emergency Conveyor				
14	C3 Emergency Limestone Conveyor - From C2 Conveyor to C Conveyor				

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
		Fugitive	401 KAR 52:020, Section 10	Method 22	The permittee shall determine fugitive emissions while all emission units are operating in accordance with EPA Reference Method 22, on an annual basis
42	Fly Ash Storage Silos and Dust Control Devices - 1,200 ton Silo; 5,000 ton silo; 100 ton Surge silo	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
44	Powered Activated Carbon Silo and Dust Control Devices - PAC Silo for TC2	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
45	Sorbent Storage Silo - Sorbent Silo storage for Emission Unit 31 SO3 control and conditioning boiler Unit 2 PJFF bags	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
20	Natural Draft Cooling Tower for EU 31 - Operating Rate: 20.4 million gal/hr; drift eliminators, 0.0005%	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
41	Mechanical Draft Cooling Tower - Linear, mechanical draft cooling tower (12 cells) for EU 01; Operating Rate: 17.7 million gal/hr; drift eliminators - 0.0005%	NA	401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
54	CCR Landfill Operations and Haul Trucks - Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material	NA	NA		NA

MATS ATTACHMENT

Unit	Pollutant	Emission Limit	Compliance Demonstration
1 AND 31	PM	0.030 lb/MMBtu OR 0.30 lb/MWh	Quarterly stack testing OR PM CEMS. [Table 5., Item 1; and Table 7. also 40 CFR 63.10005.]
OR			
	Total non-Hg HAP Metals	0.000050 lb/MMBtu OR 0.50 lb/GWh	Quarterly stack testing [Table 5., Item 2; and Table 7. also 40 CFR 63.10005.]
OR			
	All of the following: Antimony	0.80 lb/TBtu OR 0.0080 lb/GWh	Quarterly stack testing for each [Table 5., Item 2; and Table 7. also 40 CFR 63.10005.]
	Arsenic	1.1 lb/TBtu OR 0.020 lb/GWh	
	Beryllium	0.20 lb/TBtu OR 0.0020 lb/GWh	
	Cadmium	0.30 lb/TBtu OR 0.0030 lb/GWh	
	Cobalt	0.80 lb/TBtu OR 0.0080 lb/GWh	
	Lead	1.2 lb/TBtu OR 0.020 lb/GWh	
	Manganese	4.0 lb/TBtu OR 0.050 lb/GWh	
	Nickel	3.5 lb/TBtu OR 0.040 lb/GWh	
	Selenium	5.0 lb/TBtu OR 0.060 lb/GWh	
AND			
	HCL	0.0020 lb/MMBtu OR 0.020 lb/MWh	Quarterly stack testing OR HCl/Hf CEMS. [Table 5., Item 3; and Table 7. also 40 CFR 63.10005.]
OR			
	SO2	0.20 lb/MMBtu OR 1.5 lb/MWh	SO2 CEMS. [Table 5., Item 3; and Table 7.]
AND			
	Hg	1.2 lb/TBtu, OR 0.013 lb/GWh	Hg CEMS. [Table 5., Item 4; and Table 7. also 40 CFR 63.10005.] OR Sorbent Trap Monitoring. [Table 5., Item 4; and Table 7. also 40 CFR 63.10005.]

TABLE 4L (Unit 31)

Applicable CAM Requirement	H ₂ SO ₄ Mist	Fluoride
General Requirements	26.6 lb/hr 3 hour rolling average or WESP parameters	1.55 lb/hr 3 hour rolling average
Monitoring Methods and Location	SO ₂ CEMS OR WESP liquid flow rate, voltage, secondary currents OR other operating parameters, shall be monitored.	SO ₂ CEMS
Applicable CAM Requirement	H ₂ SO ₄ Mist	Fluoride
Indicator Range	An excursion is a SO ₂ CEMS reading of more than 2.78 lb./MWhr, on a 3-hr rolling average OR Outside of acceptable WESP ranges Secondary voltage- 50-60 kV Secondary current- 7-350 mA Flow- 180-290 gpm Or most recent performance test ranges/limits.	An excursion is a SO ₂ CEMS reading of more than 1.738 lb/MWhr, on a 3-hr rolling average.
Data Collection Frequency	Continuous SO ₂ CEMS	Continuous SO ₂ CEMS
Averaging Period	3-hour rolling	3- hour rolling
Recordkeeping	CEMS data records	CEMS data records
QA/QC	SO ₂ CEM and WESP will be maintained and operated in accordance with manufacturer specifications and recommendations	WFGD and SO ₂ CEM will be maintained and operated in accordance with manufacturer specifications and recommendations

DEP7007Y

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	DEP7007Y Good Engineering Practice and Stack Height Determination <input type="checkbox"/> Section Y.1: Building Dimension Information <input type="checkbox"/> Section Y.2: Exhaust Point Information <input type="checkbox"/> Section Y.3: Notes, Comments, and Explanations	Additional Documentation <input type="checkbox"/> Attach Flow Diagram for Exhaust Points <input type="checkbox"/> Complete DEP7007AI
Source Name: <u>Louisville Gas & Electric Company (Trimble County Generating Station)</u>		
KY EIS (AFS) #: <u>21- 223-00002</u>		
Permit #: <u>V-14-017 R3</u>		
Agency Interest (AI) ID: <u>4054</u>		
Date: <u>April 2020</u>		

Section Y.1: Building Dimension Information												
Exhaust Point #	Exhaust Point Name	Description of Exhaust Point <i>(stack, vent, roof monitor, indoors, etc.)</i>	List all processes and control devices serviced by the exhaust point:		Building dimensions where exhaust point is located:			Distance to nearest building <i>(ft)</i>	Dimensions of this nearest building:			
			Name	Flow Diagram Designation	Length <i>(ft)</i>	Width <i>(ft)</i>	Height <i>(ft)</i>		Length <i>(ft)</i>	Width <i>(ft)</i>	Height <i>(ft)</i>	
1	Unit 1 Boiler (Indirect Heat Exchanger)	Stack		Unit 1 (EU 1) with SCR, WESP,PJFF, WFGD, DSI, PAC & Unit 2 (EU31) with SCR, ESP, DESP,PJFF, WFGD, DSI, PAC	S1	NA	NA	NA	~ 10 ft.	~ 190 ft.	~ 60 ft.	~ 150 ft.
31	Unit 2 Boiler (2E) - (Indirect Heat Exchanger)	Stack		Unit 1 (EU 1) with SCR, WESP,PJFF, WFGD, DSI, PAC & Unit 2 (EU31) with SCR, ESP, DESP,PJFF, WFGD, DSI, PAC	S31	NA	NA	NA	~ 10 ft.	~ 190 ft.	~ 60 ft.	~ 150 ft.
31	Unit 2 Boiler (2N) - (Indirect Heat Exchanger)	Stack		Unit 1 (EU 1) with SCR, WESP,PJFF, WFGD, DSI, PAC & Unit 2 (EU31) with SCR, ESP, DESP,PJFF, WFGD, DSI, PAC	S31	NA	NA	NA	~ 10 ft.	~ 190 ft.	~ 60 ft.	~ 150 ft.

Imber

Section Y.2: Exhaust Point Information

Exhaust Point	Distance to nearest plant boundary from exhaust point discharge (ft)	Good engineering practice (GEP) height, if known (ft)	Diameter of exhaust point (ft)	Direction of Exhaust	Geographical Coordinates (in decimal degrees)		UTM Coordinates		Exit Gas Flow Rate (acfm)		Exit Gas Temperature (°F)	
					Latitude	Longitude	Northing	Easting	Minimum	Maximum	At Minimum Flow Rate	At Maximum Flow Rate
Unit 1 Boiler (Indirect Heat Exchanger)	1500	860	18	vertical	38.5846	-85.41395	4,271,874	638,143	Average based on 2018 PM stack test report 1,544,614		Average based on 2018 PM stack test report 127	
Unit 2 Boiler (2A) (Indirect Heat Exchanger)	1500	860	18	vertical	38.58461	-85.41389	4,271,875	638,147	Average based on 2018 PM stack test report 1,409,301		Average based on 2018 PM stack test report 128	
Unit 2 Boiler (2B) (Indirect Heat Exchanger)	1500	860	10	vertical	38.58458	-85.41392	4,271,871	638,145	Average based on 2018 PM stack test report 453,069		Average based on 2018 PM stack test report 129	

DEP7007CC



220 West Main Street
P.O. Box 32010
Louisville, KY 40232

SENT VIA KDAQ E-FORM SUBMITTAL WEBSITE

January 24, 2020

Mr. Clay Redmond, Supervisor
Kentucky Division for Air Quality
Florence Regional Office
8020 Veterans Memorial Drive, Suite 110
Florence, KY 41042

Re: Annual Compliance Certification/LG&E's Trimble County Generating Station/V-14-017R2

Dear Mr. Redmond:

As required by 401 KAR 52:020, Section 21, Louisville Gas & Electric Company (LG&E) has completed and enclosed an Annual Compliance Certification for its Trimble County Generating Station. This Compliance Certification Form (DEP 7007CC) is being supplied for January 1, 2019 – December 31, 2019. If you have any questions, please feel free to contact Marlene Zeckner Pardec at (502) 627-2343.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Ralph Bowling', is written over a light blue circular stamp. The signature is fluid and cursive.

Ralph Bowling
Vice President Power Production

Cc: U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality Submit to the Regional Office identified in your permit	DEP7007CC Compliance Certification ___ Section CC.1: Source Information ___ Section CC.2: Signature Block ___ Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit ___ Section CC.4: Notes, Comments, and Explanations
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Section CC.1: Source Information

1) Source Name Louisville Gas & Electric Company - Trimble County Generating Station	2) Agency Interest (AI) ID <div style="text-align: right;">AI#4054</div>
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3) Source Location Address (street, city, state, zip)
 487 Corn Creek Rd. Bedford< KY 40006

4) Technical Contact (name, e-mail, phone #)
 Marlene Zeckner Pardee; marlene.pardee@lge-ku.com: 502-627-2343

5) Permit Number(s) V-14-017R2	6) County Trimble	7) KY EIS (AFS) # 21-223-00002
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8) Submittal Information

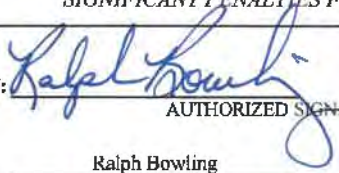
Are you certifying any requirement(s) as "not in continuous compliance?" Yes No

What is the reporting 01 01 2019 TO 12 31 2019
 mm/ dd/ yy mm/ dd/ yy

Section CC.2: Signature Block

9) CERTIFICATION SIGNATURE

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE STATEMENTS AND INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

BY:  AUTHORIZED SIGNATURE	<u>1-29-20</u> DATE
<u>Ralph Bowling</u> TYPED OR PRINTED NAME OF SIGNATORY	<u>Vice President Power Production</u> TITLE OF SIGNATORY

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

'Emission Units in Continuous Compliance

10a) Emission Units in Continuous Compliance. *The following emission units were in continuous compliance with each permit term or condition(s) and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
01	1. Operating Limitations	TC1 Indirect Heat Exchanger	Shall comply with all applicable provisions of 40 CFR 63, Subpart UUUUU, no later than April 16, 2015 [40 CFR 63.9984(b)]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)], except for the tune-up requirement [40 CFR 63.10005(a)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].		LG&E applied for and received an extension for TC1 (extension date, 2/9/16) Monitoring Plan Submittals were sent 1/10/16 Notice of intent for performance testing were submitted: SO2 - 1/8/16 Hg - 1/8/16 PM - 1/8/16 Notification of compliance status submitted: 8/4/16 Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16 Tune-up completed 1/28/16 (initial); 12/15/2017; 12/12/19
01	1b.	TC1 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements		LG&E applied for and received an extension for TC1 (extension date, 2/9/16) Monitoring Plan Submittals were sent 1/10/16 Notice of intent for performance testing were submitted: SO2 - 1/8/16 Hg - 1/8/16 PM - 1/8/16 Notification of compliance status submitted: 8/4/16 Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 Tune-up completed 1/28/16 (initial); 12/15/2017; 12/12/19
01	2a. Emission Limitations PM	TC1 Indirect Heat Exchanger	0.10 lb/MMBtu, 3-hour average 401 KAR 51:017, 40 CFR 60.42(a)(1) Stack testing, See 3.a., b., and c. PM CEMS, see 4.a.		The most recent PM Test was performed on 10/1/19.
01	2a. Opacity		20 percent, except for one 6-minute period of not more than 27 percent 40 CFR 60.42(a)(2) Method 9 testing according to 40 CFR 60.45(b)(7). See 4.i.		'Method 9's have been performed per 4i. The most recent test was performed 4/22/19. The average was 0%.

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01	2a. SO2	TC1 Indirect Heat Exchanger	0.84 lb/MMBtu, 3-hour rolling average AND 1.2 lb/MMBtu, 24-hour average AND 4,822 ton/yr, 12-month rolling total 401 KAR 51:017 40 CFR 60.43 (a)(2) Voluntary limit to preclude 401 KAR 51:001, Section 1(144) SO2 CEMS, see 4.c. [401 KAR 52:020, Section 10]. SO2 CEMS, see 4.c. [40 CFR 60.45(a), 40 CFR 64.3(d)]		CEM "Sulfur Dioxide emissions did not exceed 0.84 lb/mmBtu on 3-hr rolling averages, 1.2 lb/mmBtu based on 24-hr avg or 4,822 ton/yr based on 12-month rolling avg. during 2019. Data has been submitted in the Semi-Annual Monitoring Reports.
01	2a. NOx	TC1 Indirect Heat Exchanger	0.70 lb/MMBtu, 3-hour rolling average 40 CFR 60.44(a)(3) NOx CEMS, see 4.c. [40 CFR 60.45(a), 40 CFR 64.3(d)]. AND 5,556 ton/yr, 12-month rolling total Voluntary limit to preclude 401 KAR 51:001, Section 1(144) NOx CEMS, see 4.c. and h. Calculate, see 5.e. Report, see 6.b.		CEM "NOx emissions did not exceed 0.70 lb/mmBtu based on a 3-hr rolling avg or 5,556 ton/yr based on 12-month rolling avg. in 2019. Data has been submitted in the Semi-Annual Monitoring Reports.
01	2b.	TC1 Indirect Heat Exchanger	Shall comply with all applicable provisions of 40 CFR 63.9991, no later than April 16, 2015 [40 CFR 63.9984(b)]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].		Notification of compliance status submitted: 8/4/16 (LG&E received an extension) Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16
01	2c.	TC1 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D
01	2d.	TC1 Indirect Heat Exchanger	Pursuant to 40 CFR Part 76, nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.40 lb/MMBtu on an annual basis. See Section J, Acid Rain Permit.		CEM "NOx emissions did not exceed 0.40 lb/mmBtu on an annual basis. Data has been submitted in the Semi-Annual Monitoring Reports.
01	3a. Testing Requirements	TC1 Indirect Heat Exchanger	Shall submit within six (6) months of the issuance date of final permit V- 14-017 a schedule, to conduct a performance test for particulate matter (PM) within one (1) year of issuance of this permit [401 KAR 50:045].		Notifications submitted as required. Title V permit was issued 10/16/15, PM test was conducted on 2/16/16
01	3b.	TC1 Indirect Heat Exchanger	Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests. Testing to demonstrate compliance with the requirements of 40 CFR 60, Subpart D shall be performed according to 40 CFR 60.46.		Testing was completed as required for PM.
01	3c.	TC1 Indirect Heat Exchanger	If no additional stack tests are performed for PM, the permittee shall conduct a performance test for PM emissions within five (5) years of the previous test to demonstrate compliance with the applicable standard [401 KAR 50:045].		NA during this reporting period

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01	3d.	TC1 Indirect Heat Exchanger	Shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011, no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].		Notification of compliance status submitted: 8/4/16 (LG&E received an extension) Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16
01	3e.	TC1 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D
01	4a.	Unit 1 Indirect Heat Exchanger	Shall install, calibrate, and maintain a certified PM CEMS. PM CEMS shall comply with performance specification 11 of Appendix B to 40 CFR 60 and ongoing quality assurance requirements per 40 CFR 60 Appendix F, Procedure 2 [40 CFR 64.3(d)].		PM CEM is installed, calibrated, maintained, and operated as required.
01	4b.	Unit 1 Indirect Heat Exchanger	CEMS shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions [40 CFR 75.10(a)]. The CEMS shall comply with performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A. CEMS shall be used to satisfy CAM requirements [40 CFR 64.3(d)].		CEMS are installed, calibrated, maintained, and operated as required.
01	4c.	TC1 Indirect Heat Exchanger	Excluding the startup and shut down periods, if any three (3)-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an inspection of the control equipment and the CEMS and make any necessary repairs as soon as practicable [401 KAR 52:020, Section 10].		There were (0) SO2 exceedances during this reporting period.
01	4d.	TC1 Indirect Heat Exchanger	Excluding the startup and shut down periods, if any three (3)-hour average NOx value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and the CEM system and make any necessary repairs or take corrective actions as soon as practicable [401 KAR 52:020, Section 10].		There were (0) NOx exceedances during this reporting period.
01	4e.	TC1 Indirect Heat Exchanger	Performance evaluations of SO2 CEMS and NOx CEMS, including reference methods, calibration gases, and span values, shall be according to 40 CFR 60.45.		Evaluations are performed as required.

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01	4f.	TC1 Indirect Heat Exchanger	The permittee shall monitor the additional requirements during startup periods or shutdown periods required by 40 CFR 63.10020(e).		TC1 received an extension until 2/9/16. In the finalized technical corrections to the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial- Institutional, and Small Industrial-Commercial Institutional Steam Generating Units (MATS Rule) published on April 6, 2016 (81 Fed. Reg. 20171), EPA revised the regulatory language to make it clear that certain sections of the regulation (specifically, 40CFR63.10020(e)) were only applicable to sources that chose to rely on paragraph (2) of the definition of "startup" in § 63.10042 (i.e., startup definition #2). Therefore, since Trimble Unit 1 is following the definition of "startup" in § 63.10042, paragraph (1) (i.e., startup definition #1), no information 40CFR63.10020(e) and 40CFR63.10031(c)(5) is being supplied for Trimble County 1.
01	4g.	TC1 Indirect Heat Exchanger	Shall monitor emissions of SO2 and NOx, in tons, on a monthly basis [401 KAR 51:017].		NOx and SO2 emission (tons) are monitored monthly.
01	4h.	TC1 Indirect Heat Exchanger	Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in 40 CFR 60.45(e).		CEMS data is converted into units of applicable standards using the conversion procedure in the applicable regulations
01	4i.	TC1 Indirect Heat Exchanger	Method 9 testing shall be performed according to the incremental schedule of 40 CFR 60.45(b)(7).		Method 9's are performed as required. The most recent test was performed 4/22/19. The average was 0%.
01	4j.	TC1 Indirect Heat Exchanger	Shall comply with all applicable continuous monitoring requirements of 40 CFR 63.10010, 40 CFR 63.10020, and 40 CFR 63.10021, no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].		An extension was granted until 2/9/16. Notification of compliance status submitted: 8/4/16 Initial performance test reports were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16 Tune-up completed 1/28/16 (initial); 12/15/2017; 12/12/19.
01	4k.	TC1 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		An extension was granted until 2/9/16. Monitoring Plan Submittals were sent 1/10/16 Notice of intent for performance testing were submitted: SO2 - 1/8/16 Hg - 1/8/16 PM - 1/8/16 Notification of compliance status submitted: 8/4/16 Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16 Tune-up completed 1/28/16 (initial); 12/15/2017, 12/12/19.

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01	5a. Specific Recordkeeping Requirements	TC1 Indirect Heat Exchanger	Shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection [401 KAR 59:005, Section 3(4)].		Records are maintained.
01	5b.	TC1 Indirect Heat Exchanger	Shall record and maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative [401 KAR 59:005, Section 3(2); 401 KAR 52:020, Section 10].		Records are maintained of SSM and operating condition of control devices.
01	5c.	TC1 Indirect Heat Exchanger	Shall keep Method 9 observations in a designated logbook or an electronic format. Records shall be maintained for not less than five (5) years [401 KAR 52:020 Section 10].		Records of Method 9's are maintained.
01	5d.	TC1 Indirect Heat Exchanger	Shall calculate emissions of SO2 and NOx, in tons, on a consecutive twelve (12)-month rolling total [401 KAR 51:017].		Records of NOx and SO2 emission (tons), based on a 12-month rolling total, are maintained.
01	5e.	TC1 Indirect Heat Exchanger	Shall comply with all applicable recording provisions of 40 CFR 63.10030 through 40 CFR 63.10033, no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].		An extension was granted until 2/9/16. Monitoring Plan Submittals were sent 1/10/16 Notice of intent for performance testing were submitted: SO2 - 1/8/16 Hg - 1/8/16 PM - 1/8/16 Notification of compliance status submitted: 8/4/16 Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16 Boiler Tune-up completed 12/15/17 The 2019 MATS "Summary Reports - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" were included in the 1st and 2nd 2019 Semi-Annual Monitoring Reports submitted in July 2019 and Jan 2020.
01	5f.	TC1 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D
	6a. Specific Reporting Requirements		Excess emissions and monitoring system performance reports for opacity, SO2, NOx, and PM shall be submitted to the Division's Florence Regional Office semiannually according to 40 CFR 60.45(g).		Excess emissions and monitoring system performance reports for opacity, SO2, NOx, and PM have been reported as required.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
01	6c.	TC1 Indirect Heat Exchanger	For exceedances that occur as a result of start-up, the permittee shall report: i. The type of start-up (cold, warm, or hot); ii. Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations. [401 KAR 52:020, Section 10].		CEMS excess emission reports were submitted as required. Startup data has been submitted in the Semi-Annual Monitoring Reports.
01	6d.	TC1 Indirect Heat Exchanger	Within sixty (60) days after the completion of each performance test for pollutants covered under 40 CFR 63, Subpart UUUUU, whether that day falls before or after February 9, 2016, the permittee shall submit the results of said performance test electronically to U.S. EPA according to 40 CFR 63.10031.		An extension was granted until 2/9/16. Notification of compliance status submitted: 8/4/16 Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16
01	7a. Specific Control Equipment Operating Conditions	TC1 Indirect Heat Exchanger	The electrostatic precipitator (ESP), pulse-jet fabric filter with PAC injection, SO2 scrubber (FGD), and selective catalytic reduction (SCR) shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		Operated ESP, PJFF, FGD, ad SCR as necessary to maintain compliance with permit emission limits, manufacturer's specs, and/or GOP. Maintenance records are maintained.
01	7b.	TC1 Indirect Heat Exchanger	Pursuant to 401 KAR 59:005 and 40 CFR 63.10032, records regarding the maintenance (e.g., routine scheduled service, replacement of parts, etc.) of the control equipment shall be maintained.		Records regarding the maintenance of the control equipment were maintained
01	7c.	TC1 Indirect Heat Exchanger	See Section E., Source Control Equipment Requirements, for further requirements.		See Section E
31	1a. Operating Limitations	TC2 Indirect Heat Exchanger	Shall utilize control devices selected as BACT. BACT for PM/PM10 is PJFF. BACT for CO is good combustion controls. BACT for H2SO4 mist is WESP. BACT for fluorides (as HF) is WFGD. BACT does not apply to NOx and SO2. Only ASTM Grade No. 2-D S15 (Ultra Low Sulfur Diesel-ULSD) or equivalent with a sulfur content not to exceed 15 ppm shall be used for startup and stabilization. [401 KAR 51:017].		Controls have been utilized as required

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31	1b.	TC2 Indirect Heat Exchanger	Shall comply with all applicable provisions of 40 CFR 63, Subpart UUUUU, (operating & emission limits) no later than April 16, 2015 [40 CFR 63.9984(b)]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)], except for the tune-up requirement [40 CFR 63.10005(a)].		Monitoring Plan Submittals were sent 3/27/15 Notice of intent for performance testing were submitted: SO2 - 3/24/15; Hg - 3/24/15; revised notice sent 4/23/15 PM - 6/19/15 Initial performance test reports were submitted: SO2 -7/17/15 to EPA; 11/20/15 to KDAQ Hg - 9/28/15 to EPA; 11/20/15 to KDAQ PM - 11/3/15 to EPA; 11/20/15 to KDAQ (Revised due to data issues and resubmitted on 12/3/15 and 2/17/16). Notification of compliance status was submitted 11/03/15 (Revised due to PM data issues and resubmitted on 12/3/15 and 2/15/16). 2019 quarterly 30-boiler operating day avg report for PMCEMS sent: 4/18/19 for 1st quarter 2019; 7/26/19 for 2nd quarter 2019; 10/29/19 for 3rd quarter 2019; 4th quarter will be sent by 1/30/20. 1st 2019 MATS "Summary Report - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" was submitted 7/25/19. The 2nd 2019 report will be submitted by 1/30/2020. The draft report (2nd) is attached.
	1c.	TC2 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D
31	2a. Emission Limitations PM10 (filterable)	TC2 Indirect Heat Exchanger	0.018 lb/MMBtu Average of three 1-hour tests 401 KAR 51:017 Stack testing See 3.a.		PM RRA and MATS 5B was performed on 6/4 - 6/5/2019
31	2a. PM(filterable)	TC2 Indirect Heat Exchanger	0.015 lb/MMBtu 24-hour daily block average 40 CFR 60.42Da(c)(2) Calculated according to 40 CFR 60.48Da(p)		PM CEM PM (24-hr block) did not exceed 0.015 lb/mmbtu during this reporting period. Data was submitted in the Semi-Annual Monitoring Reports.
31	2a. PM, PM10(startup/shutdown)	TC2 Indirect Heat Exchanger	125 lb/hr per 30 day rolling average 401 KAR 51:017 See 2.b.		PM CEM PM (30-day rolling) did not exceed 125 lb/hr during this reporting period. The maximum 30-day average was 48.6. Data was submitted in the Semi-Annual Monitoring Reports.
31	2a. Opacity	TC2 Indirect Heat Exchanger	exempt 40 CFR 60.42Da(b)(1)		NA, exempt for opacity. TC2 has PM CEM

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31	2a. SO2	TC2 Indirect Heat Exchanger	a. 8.94 tons per calendar day; AND b. 3,263.1 tons, 12-consecutive months total AND 1.4 lb/MWh gross energy output, based on a 30-day rolling average OR c. 95% reduction 401 KAR 51:017, 40 CFR 60.43Da(i) SO2 CEMS, see 4.a. and b; Reported, 6.f. Monitored, 4.a. and k; Calculated, 5.e. Reported, 6.f. SO2 CEMS, see 4.a. and b. [40 CFR 60.49Da(b)] Calculate, 40 CFR 60.48Da SO2 CEMS, see 4.a. and b. [40 CFR 60.49Da(b)] Calculate, 40 CFR 60.48Da		SO2 CEM SO2 - 8.94 tons per calendar day; 3,263.1 tons, 12-consecutive months total and AND 1.4 lb/MWh gross energy output, based on a 30-day rolling average OR 95% reduction were not exceeded during this reporting period. Emission data was submitted in the Semi-Annual Monitoring Reports. 12-month rolling data is included in the exhibit DEP7007CC 8a(1)
	2a. CO	TC2 Indirect Heat Exchanger	a. 0.10 lbs/MMBtu, 30-day rolling average, OR b. 0.5 lbs/MMBtu, 3-hour rolling average AND c. 3,471 lb/hr, 8-hour average AND d. 3,471 lb/hr, 3-hour rolling average AND e. 3,471 lb/hr, 30-day rolling total 401 KAR 51:017		CO CEM CO - 0.10 lbs/MMBtu, 30-day rolling average; OR b. 0.5 lbs/MMBtu, 3-hour rolling average AND 3,471 lb/hr, 8-hour average AND 3,471 lb/hr, Limits were not exceeded during this reporting period.
31	2a. NOx	TC2 Indirect Heat Exchanger	a. 4.17 tons per calendar day AND b. 1,506.72 tons per 12 consecutive months total AND c. 1.0 lb/MWh gross energy output, 30-day rolling average 401 KAR 51:017 40 CFR 60.44Da(e) Compliance with this limitation shall constitute compliance with the 65% reduction requirement contained in 40 CFR 60.44Da(a)(2). NOx CEMS, see 4.a. and c. Monitored, 4.a. and k. Calculated, 5.e. Reported, see 6.f. NOx CEMS, see 4.a. and c.		NOx CEM NOx - 4.17 tons per calendar day AND 1,506.72 tons per 12 consecutive months total AND 1.0 lb/MWh gross energy output, 30-day rolling average were not exceeded during this reporting period. Emission data was submitted in the Semi-Annual Monitoring Reports. 12-month rolling data is included in the exhibit DEP7007CC 8a(1)
31	2a. VOC	TC2 Indirect Heat Exchanger	a. 0.0032 lbs/MMBtu, 3-hour rolling average AND b. 22 lbs/hr, 30-day rolling average 401 KAR 51:017 Compliance with CO limits of 0.1 lb/MMBtu on a 30-day rolling average OR 0.5 lb/MMBtu on a 3-hour average See 2.b.		CO CEM VOC - 0.0032 lbs/MMBtu, 3-hour rolling average were not exceeded during this reporting period, compliance is based on no exceedance of the CO limits of 0.1 lb/MMBtu on a 30-day rolling average OR 0.5 lb/MMBtu on a 3-hour average. 22 lbs/hr, 30-day rolling average was not exceeded during this time period. The highest 1-hour VOC value was 4.64 lb/hr.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
31	2a. SAM	TC2 Indirect Heat Exchanger	a. 26.6 lbs/hr, 3-hour rolling average AND b. 26.6 lbs/hr, 30-day rolling average 401 KAR 51:017 SO2 CEMS, see table 4.l. See 2.b.		SO2 CEM SAM - 26.6 lbs/hr, 3-hour rolling average AND 26.6 lbs/hr, 30-day rolling average were not exceeded during this reporting period. The SO2 CEM did not exceed 2.78 lb/MWh 3-hr rolling average during this reporting period. SO2 data was submitted in the Semi-Annual Monitoring Reports.
31	2b.	TC2 Indirect Heat Exchanger	The respective short term limits for PM10, CO, VOC, SAM, and fluorides in table 2.a. above are the best available control technology limits at all times, except during startup and shutdown events. However, to determine compliance with the tons per year limits specified in the permit, emissions during startup and shutdown shall be included. The permittee shall utilize good work and maintenance practices and manufacturer's recommendations to minimize emissions at all times [401 KAR 51:017].		PM, CO and SO2 CEM The short term limits for PM10, CO, VOC, SAM, and fluorides were not exceeded during this reporting period. Emission data was submitted in the Semi-Annual Reports.
31	2c.	TC2 Indirect Heat Exchanger	Shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011, (emission & operating limits) no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)].		Monitoring Plan Submittals were sent 3/27/15 Notification of compliance status was submitted 11/03/15 (Revised due to PM data issues 12/3/15 and 2/16/16). Initial performance test reports were submitted: SO2 - 7/17/15 to EPA; 11/20/15 to KDAQ Hg - 9/28/15 to EPA; 11/20/15 to KDAQ PM - 11/3/15 to EPA; 11/20/15 to KDAQ (Revised due to data issues and resubmitted on 12/3/15 and 2/17/16)
31	2d.	TC2 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D
31	3a. Testing Requirements	TC2 Indirect Heat Exchanger	Within the first year of the life of the permit, the permittee shall submit a schedule according to 401 KAR 50:045 to test for particulate matter smaller than 10 microns to demonstrate compliance with 401 KAR 51:017.		Schedule submitted as required. PM test was completed 11/4/2015. Permit was issued 10/16/15.
31	3b.	TC2 Indirect Heat Exchanger	If no additional stack tests are performed for PM, the permittee shall conduct a performance test for PM emissions within five (5) years of the previous test to demonstrate compliance with the applicable standard [401 KAR 50:045].		NA during this reporting period. Test completed 11/4/15
31	3c.	TC2 Indirect Heat Exchanger	The permittee shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011, (Testing, compliance status, tune-up) no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)].		Notification of compliance status was submitted 11/03/15. Initial performance test reports were submitted: SO2 - 7/17/15 Hg - 9/28/15 PM - 11/3/15 Tune-up completed May 22, 2015 (initial).
31	3d.	TC2 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
31	4a. Specific Monitoring Requirements	TC2 Indirect Heat Exchanger	Shall install, calibrate, maintain, and operate continuous monitoring systems for measuring SO2 emissions, CO emissions, NOx emissions, PM emissions, mercury emissions, and either oxygen or carbon dioxide diluents. Oxygen or carbon dioxide shall be monitored at each location where SO2 or NOx emissions are monitored. The permittee shall ensure the continuous monitoring systems are in compliance with the requirements of 40 CFR 60.50Da [401 KAR 52:020, and 401 KAR 51:017, and 40 CFR 60.49Da].		CEM are operated as required
31	4b.	TC2 Indirect Heat Exchanger	If any thirty (30) day rolling average emissions of SO2 (excluding the startup and shut down periods) exceed 1.4 lb/MWh gross energy output, or if any calendar day emissions (excluding startup and shutdown) exceed 8.94 tons per day, the permittee shall, as appropriate, initiate an inspection of the control equipment or the CEM system and make any necessary repairs as soon as practicable [401 KAR 52:020 and 40 CFR 75.10].		SO2 CEM 'Sulfur Dioxide emissions 1.4 lb/MWh gross energy output (30-day rolling) and 8.94 tons/day were not exceeded during this reporting period. Emission data was submitted in the Semi-Annual Reports.
31	4c.	TC2 Indirect Heat Exchanger	If any thirty (30) day rolling average emissions of NOx (excluding the startup and shut down periods) exceed 1.0 lb/MWh gross energy output, or if any calendar day emissions (excluding startup and shutdown) exceed 4.17 tons per day, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the CEM system and make any necessary repairs as soon as practicable [401 KAR 52:020, 40 CFR 60.49Da(c) and 40 CFR 75.10].		CEMS for NOx Nitrogen Oxide emissions 1.0 lb/MWh gross energy output (30-day rolling) and 4.17 tons/day, were not exceeded during this reporting period. Emission data was submitted in the Semi-Annual Reports.
31	4d.	TC2 Indirect Heat Exchanger	Until April 16, 2015, to meet the monitoring requirement for mercury, the permittee shall use a CEM, mercury monitor, or equivalent EPA approved method [401 KAR 52:020, Section 10].		NA
31	4e.	TC2 Indirect Heat Exchanger	All of the CEMS shall be operated and data shall be recorded during all periods of operation of the emissions units including periods of startup, shutdown, malfunction or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments [40 CFR 60.49Da(e)].		CEM was operated as required
31	4f. 401 KAR 52:020, Section 26 and 40 CFR 60.49a(p)	TC2 Indirect Heat Exchanger	Shall obtain emissions data for PM, NOx, and SO2 for at least 90 percent of all operating hours for each thirty (30) successive boiler operating days. If this minimum data requirement cannot be met with a CEMS, the permittee shall supplement emissions data with other monitoring systems as described in 40 CFR 60.49Da(h) [40 CFR 60.49Da(f)(2)] or for NOx, by equation F-26 of 40 CFR 75 [letter from Division's Field Office Branch Manager, March 26, 2013].		CEM are operated as required and emissions are calculated as required. Monitoring data reports are submitted in the Semi-Annual Reports.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
31	4g.	TC2 Indirect Heat Exchanger	When emissions data for pollutants other than PM, NOx, and SO2 are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using other monitoring systems as approved by the Division or other data substitution methods, including 40 CFR 75, to provide emissions data for a minimum of eighteen (18) hours in at least twenty-two (22) out of thirty (30) successive boiler operating days [401 KAR 52:020, Section 10].		CEM are operated as required and emissions are calculated as required. Monitoring data reports are submitted in the Semi-Annual Reports.
31	4h.	TC2 Indirect Heat Exchanger	The following procedures shall be used to conduct monitoring system performance evaluations and calibration checks as required under 40 CFR 60.49Da: (1-4)		Data substitution is used if required.
31	4i.	TC2 Indirect Heat Exchanger	Shall monitor the additional requirements during startup or shutdown periods required by 40 CFR 63.10020(e).		In the finalized technical corrections to the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial- Institutional, and Small Industrial-Commercial Institutional Steam Generating Units (MATS Rule) published on April 6, 2016 (81 Fed. Reg. 20171), EPA revised the regulatory language to make it clear that certain sections of the regulation (specifically, 40CFR63.10020(e)) were only applicable to sources that chose to rely on paragraph (2) of the definition of "startup" in § 63.10042 (i.e., startup definition #2). Therefore, since Trimble Unit 2 is following the definition of "startup" in § 63.10042, paragraph (1) (i.e., startup definition #1), no information 40CFR63.10020(e) and 40CFR63.10031(c)(5) is being supplied for Trimble County 31.
31	4j.	TC2 Indirect Heat Exchanger	Shall use SO2, NOx, and PM CEMS as continuous compliance determination methods consistent with 40 CFR 64.4(d), as applicable.		CEM are operated as required. The time, date, and duration of each shutdown and startup event were monitored and recorded.
31	4k.	TC2 Indirect Heat Exchanger	Shall monitor emissions of SO2 and NOx, in tons, on a monthly basis [401 KAR 51:017].		Emissions of SO2 and NOx, in tons, are monitored monthly
31	4m.	TC2 Indirect Heat Exchanger	Shall comply with all applicable continuous monitoring requirements of 40 CFR 63.10010, 40 CFR 63.10020, and 40 CFR 63.10021,(Continuous Compliance) no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)].		Monitoring Plan Submittals were sent 3/27/15 Notification of compliance status was submitted 11/03/15 (Revised due to PM data issues 12/3/15 and 2/16/16). Initial performance test reports were submitted: SO2 -7/17/15 to EPA; 11/20/15 to KDAQ Hg - 9/28/15 to EPA; 11/20/15 to KDAQ PM - 11/3/15 to EPA; 11/20/15 to KDAQ (Revised due to data issues and resubmitted on 12/3/15 and 2/17/16)
31	4n.	TC2 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements		See Section D

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, cals, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
31	5a. Specific Recordkeeping Requirements	TC2 Indirect Heat Exchanger	Shall maintain a record of applicable measurements, including CEM system, monitoring device, and performance testing measurements; all CEM system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60.7 recorded in a permanent form suitable for inspection [40 CFR 60.52Da].		CEM/CEM related records are maintained
31	5b.	TC2 Indirect Heat Exchanger	Shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a CEM system or emission monitoring device is inoperative [40 CFR 60.7].		SU, SD , and malfunction records are maintained
31	5c.	TC2 Indirect Heat Exchanger	Shall record on a daily basis for the WFGD the following: i. The WFGD liquid pH in the reaction tank; ii. Recycle pump amps and status. [40 CFR 64.9(b)].		WFGD records are maintained. Examples included in Semi-Annual Reports
31	5d.	TC2 Indirect Heat Exchanger	Shall record, on a daily basis, voltages, or other parameters identified during the performance test for the WESP, as approved by the Division [40 CFR 64.9(b)].		WESP records are maintained. Examples included in Semi-Annual Reports
31	5e	TC2 Indirect Heat Exchanger	Shall calculate emissions of SO ₂ & NO _x , in tons, on a consecutive twelve (12)-month rolling total [401 KAR 51:017].	See Attachment 34	Cals are included in Semi-Annual Report and in Exhibit DEP7007 8a(1)
31	5f.	TC2 Indirect Heat Exchanger	Shall comply with all applicable recording provisions of 40 CFR 63.10030 through 40 CFR 63.10033,(Notifications) no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)].		Monitoring Plan Submittals were sent 3/27/15 Notice of intent for performance testing were submitted: SO ₂ - 3/24/15; Hg – 3/24/15; revised notice sent 4/23/15 PM - 6/19/15 Initial performance test reports were submitted: SO ₂ -7/17/15 to EPA; 11/20/15 to KDAQ Hg - 9/28/15 to EPA; 11/20/15 to KDAQ PM - 11/3/15 to EPA; 11/20/15 to KDAQ (Revised due to data issues and resubmitted on 12/3/15 and 2/17/16). Notification of compliance status was submitted 11/03/15 (Revised due to PM data issues and resubmitted on 12/3/15 and 2/17/16). 2019 Quarterly 30-boiler operating day avg report for PMCEMS have been submitted as required. 2018 / 2019 MATS "Summary Reports - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" have been submitted as required (by 1/30/19, 7/30/19, 1/30/20).
31	5g	TC2 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
31	6b.	TC2 Indirect Heat Exchanger	Excess emissions for emission units using a continuous monitoring system for measuring particulate matter are defined by any rolling twenty-four (24)-hour average of particulate matter, in units of pounds per million Btu (lb/MMBtu), greater than the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous particulate matter measurements per hour. Any time period exempted shall be considered before determining the excess average of particulate matter [401 KAR 52:020, Section 10].		Excess emissions are reported as required
31	6c.	TC2 Indirect Heat Exchanger	Shall report the number of excursions (excluding startup, shut down, malfunction data) above the particulate matter standard, date and time of excursions, particulate matter value of the excursions, and percentage of the PM-CEMS data showing excursions above the applicable standard in each calendar quarter [401 KAR 52:020, Section 10]. For exceedances that occur as a result of start-up, the permittee shall report [401 KAR 52:020, Section 10]: i. The type of start-up (cold, warm, or hot); ii. Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.		There were (0) CEM Exceedances during this reporting period.
31	6d.	TC2 Indirect Heat Exchanger	Shall report the following information regarding its CAM plan according to the general reporting requirements specified in Section F.5. of this permit: (i-viii)		TC2 follows the current approved CAM plan. CEM data is reports as required in the quarterly reports.
31	6e.	TC2 Indirect Heat Exchanger	Shall report semiannually the twelve (12) month rolling total SO2 and NOx emissions [401 KAR 52:020, Section 10].	See Attachment 34	NOx and SO2 data is reported as required. This data is included in the Semi-Annual Reports and in DEP7007CC 8a(1)
31	6f.	TC2 Indirect Heat Exchanger	Shall report semiannually the twelve (12) month rolling total SO2 and NOx emissions [401 KAR 52:020, Section 10].	See Attachment 34	NOx and SO2 data is reported as required. This data is included in the Semi-Annual Reports and in DEP7007CC 8a(1)
31	6g.	TC2 Indirect Heat Exchanger	Within sixty (60) days after the completion of each performance test for pollutants covered under 40 CFR 63, Subpart UUUUU, whether that day falls before or after April 16, 2015, the permittee shall submit the results of said performance test to U.S. EPA according to 40 CFR 63.10031.		Notification of compliance status was submitted 11/03/15 (Revised due to PM data issues 12/3/15 and 2/16/16). Initial performance test reports were submitted: SO2 - 7/17/15 to EPA; 11/20/15 to KDAQ Hg - 9/28/15 to EPA; 11/20/15 to KDAQ PM - 11/3/15 to EPA; 11/20/15 to KDAQ (Revised due to data issues and resubmitted on 12/3/15 and 2/17/16)

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	Imber The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
31	6h.	TC2 Indirect Heat Exchanger	Shall comply with all applicable reporting requirements of 40 CFR 63.10030 through 40 CFR 63.10033, no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)].		Monitoring Plan Submittals were sent 3/27/15 Notice of intent for performance testing were submitted: SO2 -3/24/15 Hg - 3/24/15 & revised on 4/23/15 PM - 6/19/15 Initial performance test reports were submitted: SO2 -7/17/15 to EPA; 11/20/15 to KDAQ Hg - 9/28/15 to EPA; 11/20/15 to KDAQ PM - 11/3/15 to EPA; 11/20/15 to KDAQ (Revised due to data issues and resubmitted on 12/2/15 and 2/15/16) Notification of compliance status was submitted 11/03/15 (Revised due to PM data issues 12/2/15 and 2/15/16). 2019 quarterly 30-boiler operating day avg report for PMCEMS sent: 4/26/19 for 1st quarter 2019; 7/26/19 for 2nd quarter; 10/29/19 for 3rd quarter; 4th quarter will be sent by 1/30/20. Most recent tune-up was completed 5/29/19. See Attachment 87 for the 40 CFR 63.10031 Summary Report—Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance Report
31	6i.	TC2 Indirect Heat Exchanger	Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., Source Emission Limitations and Testing Requirements.		See Section D
31	7a. Specific Control Equipment Operating Conditions	TC2 Indirect Heat Exchanger	The selective catalytic reduction, pulse-jet fabric filter, wet flue gas desulfurization, dry sorbent injection, dry electrostatic precipitator, wet electrostatic precipitator, and powdered activated carbon injection shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2 (5)].		Control were operated and maintained as required.
31	7b.	TC2 Indirect Heat Exchanger	Records regarding the maintenance of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].		Maintenance records of control equipment are maintained
31	7c.	TC2 Indirect Heat Exchanger	See Section E, Source Control Equipment Requirements for further requirements		See Section E
32	1a. Operating Limitations	"Limited Use" Auxiliary Steam Boiler	The fuel consumed in this unit shall be limited to 87,595 MMBtu/yr, based on a twelve (12)-month rolling total. [This federally-enforceable limit is less than 10% of the maximum potential heat input [to achieve limited applicability of 40 CFR 63, Subpart DDDDD, as a limited-use boiler, pursuant to 40 CFR 63.7575]. Compliance Demonstration Method: Compliance with the limited-use operating limit shall be demonstrated by monitoring according to 4.a., Specific Monitoring Requirements, and recordkeeping according to 5.b, Specific Record Keeping Requirements.	See Attachment 40	See 4a. The fuel consumed limited, 87,595 MMBtu/yr, based on a twelve (12)-month rolling total, was not exceeded during this reporting period.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
32	1b	"Limited Use" Auxiliary Steam Boiler	Shall complete a tune-up of the boiler every five (5) years as specified in 40 CFR 63.7540 [40 CFR 63.7500(c)]. The initial tune-up shall be completed no later than January 31, 2016 [40 CFR 63.7495(b)]. Compliance Demonstration Method: Compliance with the tune-up operating limit shall be demonstrated by reporting according to 6.b. and c., Specific Reporting Requirements.		The initial tune-up was completed 8/18/15 and notification was submitted 9/29/15 per 6.b and 6.c. Most recent tune-up completed 5/29/19.
32	1c.	"Limited Use" Auxiliary Steam Boiler	At all times the permittee shall operate and maintain the unit in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Division that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.7500(a)(3)].		The boiler is being operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions
32	1d.	"Limited Use" Auxiliary Steam Boiler	The fuel oil used shall meet the sulfur content standards in ASTM Grade No. 2-D S15 (Ultra Low Sulfur Diesel-ULSD) or equivalent and cannot exceed a sulfur content of 15 ppm [401 KAR 51:017]. This satisfies the percent sulfur by weight requirement of 40 CFR 60.42c(d). Compliance Demonstration Method: Compliance with the ULSD operating limit shall be demonstrated by recordkeeping of vendor certifications according to 5.d., Specific Record Keeping Requirements.		Historical records are maintained that shows that vendor delivered ULSD (15 ppm sulfur). In April of 2018 the aux boiler was converted to Natural gas. Fuel oil was not used in 2019.
32	1f.	"Limited Use" Auxiliary Steam Boiler	Shall comply with all applicable provisions of 40 CFR 63, Subpart DDDDD, no later than January 31, 2016 [40 CFR 63.7495(b)].		The initial tune-up was completed 8/18/15 and notification was submitted 9/29/15
32	2a. Emission Unit/Permit ID#	"Limited Use" Auxiliary Steam Boiler	PM emissions shall not exceed 0.03 lb/MMBtu or 3.0 lb/hr based on a three (3)-hour average [401 KAR 51:017]. This unit is exempt from PM limits from 40 CFR 60 Dc [40 CFR 60.43c(e)(4)]. Compliance Demonstration Method: Compliance with the 401 KAR 51:017 PM limit is demonstrated by stack testing performed in 2009.		PM emissions did not exceed 0.03 lb/mmBtu or 3.0 lb/hr based on a three (3) hour average/PM test that was performed Sept. 9, 2009. This unit is exempt from PM limits from 40 CFR 60 Dc [40
32	2b.	"Limited Use" Auxiliary Steam Boiler	Opacity from this unit shall not exceed 20 percent (six (6)-minute average) except for one six (6)-minute period per hour of not more than 27 percent opacity [40 CFR 60.43c(c)]. Compliance Demonstration Method: Compliance with the opacity limit shall be demonstrated by qualitative visual observations according to 4.b., Specific Monitoring Requirements.		Opacity emissions did not exceed twenty (20) percent. Qualitative visual were performed.

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32	2c.	"Limited Use" Auxiliary Steam Boiler	CO emissions shall not exceed 100 ppm by volume on a dry basis corrected to 3 percent oxygen or 0.078 lb/MMBtu on a thirty (30)-day rolling average [401 KAR 51:017]. Compliance Demonstration Method: Compliance with the CO emission limit shall be demonstrated by using only ULSD according to 1.d., Operating Limitations.		Unit currently only uses NG. In April of 2018 the aux boiler was converted to Natural gas.
32	3a. Testing Requirements	"Limited Use" Auxiliary Steam Boiler	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
32	4a. Specific Monitoring Requirements	"Limited Use" Auxiliary Steam Boiler	Prior to January 31, 2016, the permittee shall monitor the hours of operation. No later than January 31, 2016, the permittee shall monitor the quantity of fuel consumed, in MMBtu/month [40 CFR 63.7525(k)] [401 KAR 52:020, Section 10].		NA during this reporting period
32	4b.	"Limited Use" Auxiliary Steam Boiler	Shall perform a qualitative visual observation of the emissions from the stack once every 7 boiler operating day and maintain a log of the observations. If visible emissions from the stack are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs. Hours of operation shall include any partial hour in which an auxiliary boiler has been fired to 75% of its rated steam capacity [401 KAR 52:020, Section 10].		Opacity emissions did not exceed twenty (20) percent. Qualitative visual has been completed every 7-boiler operating days. No visual emissions were visible on any visual and no Method 9's were triggered.
32	5a. Specific Recordkeeping Requirements	"Limited Use" Auxiliary Steam Boiler	Shall maintain records of qualitative visual observations and any Method 9 readings taken [401 KAR 52:020, Section 10].		Records of QVs and Method 9's are maintained.
32	5b.	"Limited Use" Auxiliary Steam Boiler	Shall maintain records of the hours of operation for the boiler until January 31, 2016 [401 KAR 52:020, Section 10].		NA during this reporting period
32	5c.	"Limited Use" Auxiliary Steam Boiler	No later than January 31, 2016, the permittee shall maintain records of the quantity of fuel consumed, in MMBtu/month, and calculate a twelve (12)-month rolling total of the annual capacity factor [40 CFR 63.7525(k), 401 KAR 52:020, Section 10]. Twelve (12)- month rolling totals of fuel capacity factor shall be calculated according to 40 CFR 60.48c(h).		Records of the fuel consumed MMBtu/yr., based on a twelve (12)-month rolling total, were retained. Fuel consumption was reported in the semi-annual reports.
32	5d.	"Limited Use" Auxiliary Steam Boiler	ULSD vendor certification shall include all the requirements according to 40 CFR 60.48c(f).		Historical records are maintained that shows that vendor delivered ULSD (15 ppm sulfur). In April of 2018 the aux boiler was converted to Natural gas. Fuel oil was not used in 2019.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
32	5e.	"Limited Use" Auxiliary Steam Boiler	Records shall be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1) [40 CFR 63.7560(a)]. As specified in 40 CFR 63.10(b)(1), the permittee shall keep each record for five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.7560(b)]. The permittee shall keep each record on site, or they shall be accessible from on site (for example, through a computer network), for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The permittee can keep the records off site for the remaining three (3) years [40 CFR 63.7560(c)].		Records are maintained.
32	5f.	"Limited Use" Auxiliary Steam Boiler	Shall meet the requirements of 40 CFR 63.7555.		Records are maintained (notifications, reports, Method 9's, QV's, vendor data/sulfur content, fuel usage, hours of operation, maintenance, etc.).
32	6a. Specific Reporting Requirements	"Limited Use" Auxiliary Steam Boiler	Shall meet the requirements of 40 CFR 60.48c.		Permittee maintains current safety data sheets.
32	6b	"Limited Use" Auxiliary Steam Boiler	Shall meet the requirements of 40 CFR 63.7545, and 63.7550.		Notifications have been submitted (reported) as required. The initial tune-up was completed 8/18/15 and the notification was submitted 9/29/15.
32	6c	"Limited Use" Auxiliary Steam Boiler	The first tune-up report shall be submitted by July 31, 2016 [40 CFR 63.7550(c)(1), 63.7550(a)(1)].		Notifications have been submitted (reported) as required. The initial tune-up was completed 8/18/15 and the notification was submitted 9/29/15.
32	7a. Specific Control Equipment Operating Conditions	"Limited Use" Auxiliary Steam Boiler	Shall operate the unit in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		The auxiliary steam boiler operates in accordance with manufacturer's specs and/or SOP
32	7b.	"Limited Use" Auxiliary Steam Boiler	See Section E., Source Control equipment Requirements.		See Section E
25 - 30	1a. Operating Limitations	6 Combustion Turbines (TC5 - TC10)	Startup and shutdown periods shall be limited to no more than two (2) hours for each startup/shutdown event [401 KAR 52:020, Section 10].		CT5,6,7,8,9 &10 did not exceed the 2-hour limit.
25 - 30	1b.	6 Combustion Turbines (TC5 - TC10)	Shall use only natural gas in the turbines [401 KAR 52:020, Section 10].		CT's use natural gas
25 - 30	1c.	6 Combustion Turbines (TC5 - TC10)	The fuel sulfur content shall not exceed 2.0 grains/100 SCF [401 KAR 51:017]. Compliance Demonstration Method: Compliance shall be demonstrated by 4.c., Specific Monitoring Requirements [401 KAR 52:020, Section 10].		The sulfur content in the NG is tested at a frequency of every 6-months or less. Sulfur analysis were sampled 1/17, 6/3/19 and 11/20/19 in 2019.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
25 - 30	2a. Emission Limitations	6 Combustion Turbines (TC5 - TC10)	NOx levels in the exhaust gas shall not exceed an hourly average of 12 ppm by volume at 15 percent oxygen on a dry basis, and an annual (twelve (12)-month rolling) average of 9 ppm by volume at 15 percent oxygen on a dry basis, except during periods of startup, shutdown, or malfunction [401 KAR 51:017]. Compliance with this limit constitutes compliance with the NOx limit contained in 40 CFR 60, Subpart GG. Compliance Demonstration Method: Compliance with the NOx limit shall be demonstrated by CEMS according to 4.a., Specific Monitoring Requirements [40 CFR 75.10 (a)(2)].		CEMS for NOx No NOx exceedances during this reporting period.
25-30	2c. 401 KAR 51:017	6 Combustion Turbines (TC5 - TC10)	Filterable PM shall not exceed 19 lb/hr, from each turbine [401 KAR 51:017]. Compliance Demonstration Method: Compliance with the PSD PM limit is demonstrated by testing performed on April 11 and 12, and 16 and 17, 2002.		Compliance with the PSD PM limit is demonstrated by the testing that was performed on April 11 and 12, and 16 and 17, 2002. Units use natural gas.
25 - 30	2d.	6 Combustion Turbines (TC5 - TC10)	Formaldehyde emissions from Emission Units 25 – 30 shall not exceed 10 tons during any consecutive twelve (12)-month period [401 KAR 63:020]. Compliance Demonstration Method: To demonstrate compliance, the permittee shall calculate and maintain a twelve (12)-month rolling total of the following equation: $F = \text{NG} \times \text{EF} / 2000$	See Attachment 45	Formaldehyde emissions did not exceed 10 tons in any 12 month period. This data was submitted in the Semi-Annual report and in DEP7007cc 8a(1)
25 - 30	2e.	6 Combustion Turbines (TC5 - TC10)	See Section D., Source Emission Limitations and Testing Requirements.		See Section D
25 - 30	3. Testing Requirements	6 Combustion Turbines (TC5 - TC10)	Pursuant to 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the permittee shall use as test methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods or procedures as specified in 40 CFR 60.335, except as provided for in 40 CFR 60.8(b).		CT RATAs were completed as follows: CT5 2/26/19; CT6 2/27/19; CT7 2/28/19; CT8 2/28/19, CT9 2/27/19, CT10 2/26/19.
25 - 30	4a. Specific Monitoring Requirements	6 Combustion Turbines (TC5 - TC10)	The permittee shall install, calibrate, maintain, and operate the NOx CEMS. The NOx CEMS shall be used as the indicator of continuous compliance with the NOx emission standard. Excluding the startup and shut down periods, if any (1) one-hour average exceeds the NOx emission limitation, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary control device/process/CEMS repairs or take corrective action as soon as practicable [401 KAR 52:020, Section 10, and 40 CFR 75.10(a)(2)].		Use of NOx CEM and monitored as required
25 - 30	4b.	6 Combustion Turbines (TC5 - TC10)	Shall monitor the quantity of natural gas, in millions of cubic feet, fired in each combustion turbine on a daily basis [401 KAR 52:020, Section 10].		NG usage is monitored. Monthly summaries are noted in the Semi-Annual reports.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	<p style="text-align: right;">Imber</p> The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
25 - 30	4c.	6 Combustion Turbines (TC5 - TC10)	Shall monitor the sulfur content of the fuel being fired in the turbines every six months or use vendor guarantees that the gas contains 2.0 grains/100 SCF of sulfur or less as proof of natural gas quality, according to 40 CFR 60.334(b) [401 KAR 51:017].		The sulfur content in the NG is tested at a frequency of every 6-months or less. Sulfur analysis were sampled 1/17, 6/3/19 and 11/20/19 in 2019.
25 - 30	4d.	6 Combustion Turbines (TC5 - TC10)	To meet the monitoring requirement for CO, the permittee shall use a CEMS. Excluding the startup and shut down periods, if any (3) three-hour average CO value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process or CEMS repairs or take corrective action as soon as practicable [401 KAR 52:020, Section 10].		Use of CO CEM and monitored as required
25 - 30	4e.	6 Combustion Turbines (TC5 - TC10)	Shall install, calibrate, operate, test, and monitor all continuous monitoring systems and monitoring devices in accordance with 40 CFR 60.13 or 40 CFR 75.10.		Use of CEM and monitored as required
25 - 30	4f.	6 Combustion Turbines (TC5 - TC10)	Shall monitor the hours of operation of each combustion turbine on a daily basis [401 KAR 52:020, Section 10].		Number of hours of operation of each combustion turbine is monitored daily. Monthly summaries are noted in the Semi-Annual reports.
25 - 30	4g.	6 Combustion Turbines (TC5 - TC10)	Shall monitor the power output, in MW, of each combustion turbine on a daily basis [401 KAR 52:020, Section 10].		Power output of each combustion turbine is monitored daily. Monthly summaries are noted in the Semi-Annual reports.
25 - 30	5a. Specific Recordkeeping Requirements	6 Combustion Turbines (TC5 - TC10)	Shall maintain a file of all measurements, including CEMS, monitoring device, and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60, Subpart A recorded in a permanent form suitable for inspection [40 CFR 60.7(f)].		Files of all measurements, compliance tests, fuel data, and hours of operation are maintained
25 - 30	5b.	6 Combustion Turbines (TC5 - TC10)	Records, including those documenting the results of each compliance test and all other records and reports required by this permit, shall be maintained for five (5) years [401 KAR 52:020, Section 10].		Records are maintained for at least 5-years.
25 - 30	5c.	6 Combustion Turbines (TC5 - TC10)	Shall maintain a log of all sulfur content measurements as required in 4.c., Specific Monitoring Requirements [401 KAR 52:020, Section 10].		Sulfur content data is maintained
25 - 30	5d.	6 Combustion Turbines (TC5 - TC10)	Shall maintain a daily log of the natural gas, in millions of cubic feet, fired in each combustion turbine, for any consecutive twelve (12) month period [401 KAR 52:020, Section 10].		Use of natural gas fired in each CT is maintained (12 consecutive month period). Monthly summaries are noted in the Semi-Annual reports.
25 - 30	5e.	6 Combustion Turbines (TC5 - TC10)	Shall maintain a daily log of all hours of operation for each combustion turbine, for any consecutive twelve (12) month period [401 KAR 52:020, Section 10].		Hours of operation for each CT are maintained (12 consecutive month period). Monthly summaries are noted in the Semi-Annual reports.

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25 - 30	5f.	6 Combustion Turbines (TC5 - TC10)	Shall maintain a daily log of all power output, in MW, for each combustion turbine, for any consecutive twelve (12) month period [401 KAR 52:020, Section 10].		Power output for each CT is maintained (12 consecutive month period). Monthly summaries are noted in the Semi-Annual reports.
25 - 30	6a. Specific Reporting Requirements	6 Combustion Turbines (TC5 - TC10)	Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information: (i-iv)		Quarterly reports are submitted as required
25 - 30	6b.	6 Combustion Turbines (TC5 - TC10)	Excess emissions of NOx are defined as any (1) one-hour period during which the average emissions (arithmetic average) exceed the applicable NOx emission standard. These periods of excess emissions shall be reported quarterly. The NOx CEMS reports will be used in lieu of the water to fuel ratio requirements of 40 CFR 60.334(c) [401 KAR 52:020, Section 10].		NOx Exceedance Event Reports are submitted as required
25 - 30	6c.	6 Combustion Turbines (TC5 - TC10)	Excess emissions of CO are defined as any (3) three-hour period during which the average emissions (arithmetic average) exceed the applicable CO emission standard.		CO Exceedance Event Reports are submitted as required
25 - 30	7a. Specific Control Equipment Operating Conditions	6 Combustion Turbines (TC5 - TC10)	The Dry Low-NOx Burners shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		Dry Low-NOX burners are operated to maintain compliance with permitted emission limits, in accordance with manufacturer's specs and SOP
25 - 30	7b.	6 Combustion Turbines (TC5 - TC10)	See Section E., Source Control Equipment Requirements.		See Section E
18	1a. Operating Limitations	Emergency Diesel Generator (150kW)	Beginning January 1, 2015, if the engine is operated or is contractually obligated to be available for more than fifteen (15) hours per year for the purposes of demand response as specified in 40 CFR 63.6640(f), the permittee shall use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted [40 CFR 63.6604(b)].		Engine uses ULSD fuel. Engines does not operate for demand responses.
18	1b	Emergency Diesel Generator (150kW)	Shall be in compliance with the applicable emission limitations, operating limitations, and other requirements in 40 CFR 63, Subpart ZZZZ at all times [40 CFR 63.6605(a)].		Engine operates as required per Subpart ZZZZ

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18	1c	Emergency Diesel Generator (150kW)	At all times the permittee shall operate and maintain the engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].		Engine operates as required per Subpart ZZZZ
18	1d	Emergency Diesel Generator (150kW)	Shall operate and maintain the engine and any after-treatment control devices according to the manufacturer's emission-related written instructions or develop the permittee's own maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 66.6625(e)].		Engine operates as required per Subpart ZZZZ
18	1e.	Emergency Diesel Generator (150kW)	Shall install a non-resettable hour meter if one is not already installed [40 CFR 63.6625(f)].		Engine is equipped with a non-resettable hour meter
18	1f.	Emergency Diesel Generator (150kW)	Shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed thirty (30) minutes [40 CFR 63.6625(h)].		Engine operates as required per Subpart ZZZZ
18	1g.	Emergency Diesel Generator (150kW)	In order for the engine to be considered an emergency engine under 40 CFR 60, Subpart ZZZZ, the permittee shall operate the engine according to the requirements for emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for fifty (50) hours per year, as described in 40 CFR 63.6640(f). There is no time limit on the use of emergency stationary reciprocating engines in emergency situations, when those emergency situations meet the requirements of 40 CFR 63.6640(f).		Engine operates as required per Subpart ZZZZ

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	1h.	Emergency Diesel Generator (150kW)	Shall change the oil and filter every five hundred (500) hours of operation or annually, whichever comes first. The permittee shall inspect the air cleaner every one thousand (1,000) hours of operation or annually, whichever comes first, and replace as necessary. The permittee shall inspect all hoses and belts every five hundred (500) hours of operation or annually, whichever comes first, and replace as necessary [40 CFR 63 Subpart ZZZZ, Table 2., Item 1.]. The permittee has the option of utilizing an oil analysis program as specified in 40 CFR 63.6625(i) in order to extend the specified oil change requirement.		PMs have been setup for oil/filter changes and inspections
18	3. Testing Requirements	Emergency Diesel Generator (150kW)	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
18	4. Specific Monitoring Requirements	Emergency Diesel Generator (150kW)	Shall monitor the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage, usage data (hours/purpose) and maintains records are maintained
18	5a. Specific Recordkeeping	Emergency Diesel Generator (150kW)	Shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage rate records are maintained (monthly gallons)
18	5b	Emergency Diesel Generator (150kW)	Shall maintain all records required by 40 CFR 63.6655, including notifications, records of required maintenance, records of actions during malfunction, and records of hours of operation.		Monthly fuel usage, usage data (hours/purpose) and maintains records are maintained
18	5c	Emergency Diesel Generator (150kW)	Shall keep each record in hard copy or electronic form for five (5) years following the date of each occurrence, measurement, maintenance, corrective action or record. The records shall be in a form suitable and readily available for expeditious review [40 CFR 63.10(b)(1) and 40 CFR 63.6660].		Records are maintained for at least 5-years.
18	6a. Specific Reporting Requirements	Emergency Diesel Generator (150kW)	Shall submit any notifications required by 40 CFR 63.6645 and 63.6650.		This Annual Report as well as semi-annual reports are submitted as required.
18	6b.	Emergency Diesel Generator (150kW)	See Section F., Monitoring, Recordkeeping, and Reporting Requirements		See Section F
33	1a. Operating Limitations	Emergency Diesel Generator (2206 HP)	The engine, except for testing purposes, shall only operate during periods when Unit 31 is operating at less than 50 percent load [401 KAR 51:017]. Compliance Demonstration Method: Compliance is demonstrated by 6.a. and 6.b., Specific Reporting		Unit is operated as permitted.
33	1b.	Emergency Diesel Generator (2206 HP)	The engine shall not operate or shall not contractually be obligated to be available for more than fifteen (15) hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engine shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)]. Compliance Demonstration Method: Compliance is demonstrated by 6.a and 6b., Specific Reporting Requirements.		The initial notification per 40 CFR 63.6645(f) was submitted January 6, 2011. Records are maintained. Engine does not operate for demand responses specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

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33	1c.	Emergency Diesel Generator (2206 HP)	Shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel obtained prior to October 10, 2010 may be used until depleted [40 CFR 60.4207(b)].		Engine uses ULSD fuel.
33	2a. Emission Limitations	Emergency Diesel Generator (2206 HP)	Shall meet the emission standards of 40 CFR 60.4205(b) as specified in the table (Emission Standards (g/kW-hr) NMHC + NOx - 6.4; CO - 3.5; PM 0.20) Compliance Demonstration Method: The permittee shall have		Unit is a Tier II certified engine Vendor certifies NOx at 4.97 g/hp-hr; CO at 0.45 g/hp-hr; PM at 0.03 g/hp-hr;
33	2b.	Emergency Diesel Generator (2206 HP)	Shall meet the emission standards over the entire life of the engine [40 CFR 60.4206].		Engine is a certified engine. PMs are performed according to mfg. recommendations.
33	3a. Testing Requirements	Emergency Diesel Generator (2206 HP)	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
33	4a. Specific Monitoring Requirements	Emergency Diesel Generator (2206 HP)	If the engine does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine [40 CFR 60.4209(a)].		Engine is equipped with a non-resettable hour meter
33	4b.	Emergency Diesel Generator (2206 HP)	Shall monitor the fuel usage rate, in gallons, on a monthly basis. The permittee shall maintain supplier's certifications of fuel sulfur content [401 KAR 52:020, Section 10].		Records of fuel usage and hours of operation are maintained (monthly). Vendor data notes that fuel is ULSD (15 ppm sulfur).
33	5a. Specific Recordkeeping Requirements	Emergency Diesel Generator (2206 HP)	Shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage rate records are maintained (monthly gallons)
33	5b.	Emergency Diesel Generator (2206 HP)	Shall record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)].		Monthly fuel usage, usage data (hours/purpose) and maintains records are maintained
33	6a.	Emergency Diesel Generator (2206 HP)	Shall report records of fuel usage rate, hours of operation and purpose .		Records of the monthly fuel usage, usage data (hours/purpose) are maintained and noted in the semi-annual reports
33	6b.	Emergency Diesel Generator (2206 HP)	Shall report any violation of Operating Limitation 1.a., 1.b., and 1.c. [401 KAR 52:020, Section 10].		No deviations of 1a -1c. Unit did not operate if Unit 31 operated at greater than 50 percent load except for testing.
33	6c.	Emergency Diesel Generator (2206 HP)	See Section F		See Section F
50-52	1a. Operating Limitations	Emergency Diesel Generators (1220 HP Each)	The engines shall not operate or shall not contractually be obligated to be available for more than fifteen (15) hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engines shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)]. Compliance Demonstration Method: Compliance is demonstrated by 6.a (believe typo, should be 6b)., Specific Reporting Requirements.		Units are operated as permitted.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	<p style="text-align: right;">Imber</p> The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
50-52	1b.	Emergency Diesel Generators (1220 HP Each)	Shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel obtained prior to October 10, 2010 may be used until depleted [40 CFR 60.4207(b)]. Compliance Demonstration Method: Compliance is demonstrated by 6.c., Specific Reporting Requirements.		Engines use ULSD fuel.
50-52	2a. Emission Limitations	Emergency Diesel Generators (1220 HP Each)	Shall meet the emission standards of 40 CFR 60.4205(b) as specified in the table (Emission Standards (g/kW-hr) NMHC + NOx - 6.4; CO - 3.5; PM 0.20) Compliance Demonstration Method: The permittee shall have purchased the engine as certified by the manufacturer. The engine shall be installed and configured according to the manufacturer's emission-related specifications [40 CFR 63.4211(c)].		Units are Tier II certified engines Vendor certifies NOx at 5.9 g/hp-hr; CO at 0.22 g/hp-hr; PM at 0.05 g/hp-hr;
50-52	2b.	Emergency Diesel Generators (1220 HP Each)	Shall meet the emission standards over the entire life of the engine [40 CFR 60.4206].		Engine is a certified engine. PMs are performed according to mfg. recommendations.
50-52	3a. Testing Requirements	Emergency Diesel Generators (1220 HP Each)	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
50-52	4a. Specific Monitoring Requirements	Emergency Diesel Generators (1220 HP Each)	If the engine does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine [40 CFR 60.4209(a)].		Engine is equipped with a non-resettable hour meter
50-52	4b.	Emergency Diesel Generators (1220 HP Each)	Shall monitor the fuel usage rate, in gallons, on a monthly basis. The permittee shall maintain supplier's certifications of fuel sulfur content [401 KAR 52:020, Section 10].		Records of fuel usage and hours of operation are maintained (monthly). Vendor data notes that fuel is ULSD (15 ppm sulfur).
50-52	5a. Specific Recordkeeping Requirements	Emergency Diesel Generators (1220 HP Each)	Shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage rate records are maintained (monthly gallons)
50-52	5b.	Emergency Diesel Generators (1220 HP Each)	Shall record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)].		Monthly fuel usage, usage data (hours/purpose) and maintains records are maintained
50-52	6a. Specific Reporting Requirements	Emergency Diesel Generators (1220 HP Each)	The permittee shall submit any notifications required by 40 CFR 60.4214(b).		The initial notifications per 40 CFR 63.6645(f) were submitted February 3, 2015.
50-52	6b.	Emergency Diesel Generators (1220 HP Each)	Shall report any violation of Operating Limitation 1.a. [401 KAR 52:020, Section 10].		No deviations of 1a.
50-52	6c.	Emergency Diesel Generators (1220 HP Each)	Shall report any violation of Operating Limitation 1.c. [401 KAR 52:020, Section 10]. (There is no 1c)		NA, there is no 1c. This was relayed to the permit writer for the upcoming permit revision.
50-52	6d.	Emergency Diesel Generators (1220 HP Each)	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
53	1a. Operating Limitations	Emergency Fire Pump Engine (380 HP)	The engine shall not operate or shall not contractually be obligated to be available for more than fifteen (15) hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). There is no time limit on the use of emergency engines in emergency situations. Compliance Demonstration Method: Compliance is demonstrated by 6.a., Specific Reporting Requirements.		Units are operated as permitted.
53	1b	Emergency Fire Pump Engine (380 HP)	Shall change the oil and filter every 500 hours of operation or annually, whichever comes first. The permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. The permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary [Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ]. Compliance Demonstration Method: The permittee shall keep records according to 40 CFR 63.6655(a)(4).		PMs have been setup for oil/filter changes and inspections. Records are retained. PM for 2019 was conducted on August 20th.
53	1c	Emergency Fire Pump Engine (380 HP)	Shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes [Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ]. Compliance Demonstration Method: The permittee shall keep records according to 40 CFR 63.6655(f).		Engine operates as required per Subpart ZZZZ.
53	1d	Emergency Fire Pump Engine (380 HP)	At all times the permittee shall operate and maintain the engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].		Engine operates as required per Subpart ZZZZ. Records are maintained
53	1e.	Emergency Fire Pump Engine (380 HP)	Shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 63.6625(e)].		PMs are performed and records are maintained

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) Imber (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
53	3. Testing Requirements	Emergency Fire Pump Engine (380 HP)	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period.
53	4. Specific Monitoring Requirements	Emergency Fire Pump Engine (380 HP)	Shall monitor the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage rate records are maintained
53	4b.	Emergency Fire Pump Engine (380 HP)	Shall install a non-resettable hour meter if one is not already installed [40 CFR 63.6625(f)].		Engine is equipped with a non-resettable hour meter
53	5a. Specific Recordkeeping	Emergency Fire Pump Engine	Shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage rate records are maintained
53	5b	Emergency Fire Pump Engine (380 HP)	Shall record the hours of operation for the engine on a monthly basis [401 KAR 52:020 Section 10].		Monthly fuel usage, usage data (hours/purpose) and maintains records are maintained
53	6a. Specific Reporting Requirements	Emergency Fire Pump Engine (380 HP)	Shall submit notifications of hours of operation and emergency operation [401 KAR 52:020, Section 10].		Monthly fuel usage and usage data (hours/purpose) and submitted in the Semi-Annual Reports.
53	6b.	Emergency Fire Pump Engine (380 HP)	See Section F., Monitoring, Recordkeeping, and Reporting Requirements		See Section F
55-56	1a. Operating Limitations	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	In order for the engines to be considered emergency stationary internal combustion engines under 40 CFR 60, Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described below, is prohibited. If the permittee does not operate the engines according to the requirements below, the engines will not be considered emergency engines and must meet all requirements for non-emergency engines [40 CFR 60.4211(f)].		Startup began 11/15/17 and Max Production/Operation Commenced 12/13/17 Engines operates as required per Subpart ZZZZ. Records are maintained
55-56	1b	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	The permittee shall [40 CFR 60.4211(a)]: i. Operate and maintain the stationary CI internal combustion engines and control devices according to the manufacturer's emission-related written instructions; ii. Change only those emission-related settings that are permitted by the manufacturer; and iii. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable.		Startup began 11/15/17 and Max Production/Operation Commenced 12/13/17 Engines are operated as required.
55-56	1c	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	Diesel fuel shall meet the requirements of 40 CFR 80.510(b) for nonroad diesel fuel [40 CFR 60.4207(b)].		Vendor data notes that fuel is ULSD (15 ppm sulfur).
55-56	2a. Emission Limitations	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	Exhaust emissions for each engine shall not exceed: Emission Standards (g/kW-hr): NMHC + Nox - 6.4; CO - 3.5; PM - 0.20 Compliance shall be demonstrated by purchasing engines certified to the above emission standards. See also 3.b. Testing Requirements.		Units are Tier II certified engines Vendor certifies NOx at 6.2 g/kW-hr; CO at 0.7 g/kW-hr; PM at 0.15 g/kW-hr;

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55-56	4a. Specific Monitoring Requirements	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	The permittee shall install non-resettable hour meters prior to startup of each engine [40 CFR 60.4209(a)].		Engine is equipped with a non-resettable hour meter
55-56	4b.	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	If the engine is equipped with a diesel particulate filter to comply with the emission standards, the diesel particulate filter shall be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached [40 CFR 60.4209(b)].		Note NA, engines does not have particulate filters
55-56	4c.	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	The permittee shall maintain the records of the fuel combusted and hours of operation on a monthly basis [401 KAR 52:020, Section 10].		Monthly fuel usage and usage data (hours/purpose) are submitted in this Semi-Annual Reports.
55-56	6a. Specific Reporting Requirements	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	The permittee shall report hours of operation of each engine and the amount of fuel consumed by each generator in its semi-annual reporting.		Monthly fuel usage and usage data (hours/purpose) are submitted in this Semi-Annual Reports.
55-56	6b.	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	If the engines operate or are contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(3) the permittee shall submit an annual report according to the requirements in 40 CFR 60.4214(d).		Engines are not operated or contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(3).
55-56	6c.	(2) Emergency Blackstart Diesel Engines (5051 HP)each/Tier 2 Certified	See Section F, Monitoring, Recordkeeping and Reporting Requirements.		Monitoring, Recordkeeping and Reporting Requirements are followed
05, 06 34, 35	1a. Operating Limitations	Fossil Fuel Storage Operations and Plant Roadways	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: (i-iv) 401 KAR 63:010, Section 3; Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007		Fugitives are controlled by a water suppressant. Plant roadways are maintained to control fugitives.
05, 06 34, 35	1b.	Fossil Fuel Storage Operations and Plant Roadways	Discharge of visible fugitive dust emissions beyond the property line is prohibited (401 KAR 63:010, Section 3)		Fugitives are controlled by a water suppressant. No fugitive dust emissions beyond the property line
05, 06 34, 35	1c.	Fossil Fuel Storage Operations and Plant Roadways	Shall not allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway [401 KAR 63:010, Section 4].		No earth or other materials were deposited on a paved street or roadway, and roads were maintained.
05, 06 34, 35	1d.	Fossil Fuel Storage Operations and Plant Roadways	Shall apply compaction and water suppression control methods as BACT for EU 34 and EU 35 [401 KAR 51:017].		Controls (water and compaction) have been utilized as required

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05, 06 34, 35	3. Testing Requirements	Fossil Fuel Storage Operations and Plant Roadways	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
05, 06 34, 35	4a. Specific Monitoring Requirements	Fossil Fuel Storage Operations and Plant Roadways	Shall perform a qualitative visual observation of each coal pile area encompassed by the listed Emission Units on a weekly basis [401 KAR 52:020, Section 10].		Weekly QV's(Units 34 and 35) are performed as required. Examples are submitted in the Semi-Annual Reports.
05, 06 34, 35	4b.	Fossil Fuel Storage Operations and Plant Roadways	Shall monitor the amount of coal received, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of coal is maintained.
05, 06 34, 35	4c.	Fossil Fuel Storage Operations and Plant Roadways	Emission Unit 06 only - Shall monitor vehicle miles traveled, on a monthly basis [401 KAR 52:020, Section 10]. See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		Monthly records of vehicle miles traveled is maintained.
05, 06 34, 35	5a. Specific Recordkeeping Requirements	Fossil Fuel Storage Operations and Plant Roadways	Shall maintain records of qualitative visual observations including date, time, and results [401 KAR 52:020, Section 10].		Records of QV's are maintained
05, 06 34, 35	5b.	Fossil Fuel Storage Operations and Plant Roadways	Shall maintain records of the amount of coal received, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of coal tons is maintained.
05, 06 34, 35	5c.	Fossil Fuel Storage Operations and Plant Roadways	Emission Unit 06 only - Shall maintain records of vehicle miles traveled, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of vehicle miles traveled is maintained. (see comment for 4c)
05, 06 34, 35	6. Specific Reporting Requirements	Fossil Fuel Storage Operations and Plant Roadways	See Section F		See Section F
05, 06 34, 35	7a. Specific Control Equipment Operating Conditions	Fossil Fuel Storage Operations and Plant Roadways	The dust water suppressant system for the stockpile operations shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		Controls are operated as necessary to maintain compliance with permit emission limits, manufacturer's specs, and/or GOP. Maintenance records are maintained.
05, 06 34, 35	7b.	Fossil Fuel Storage Operations and Plant Roadways	Emission Unit 06 only - Plant roadways shall be paved in asphalt and repaired or repaved and controlled with water or suitable chemical as necessary to comply with 401 KAR 63:010 [Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007].		Plant roadways that are required to be paved are paved in asphalt and repaired or repaved and controlled with water as necessary
05, 06 34, 35	7c.	Fossil Fuel Storage Operations and Plant Roadways	Records regarding the maintenance and use of the dust water suppressant system for the stockpile operations shall be maintained [401 KAR 52:020, Section 10].		Records are maintained

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05, 06 34, 35	7d.	Fossil Fuel Storage Operations and Plant Roadways	See Section E., Source Control Equipment Requirements		See Section E
07, 08, 09 37, 39	1. Operating Limitations	Fossil Fuel Storage Handling Operations	Shall utilize dust collectors as BACT for the reclaim hopper of EU 07-7 and for EU 39 (LG&E believes this is a typo, should be EU37 not EU39, this has been relayed to permit writer) [401 KAR 51:017].		Dust collector for 07-7 and 37 are utilize for BACT control
07, 08, 09 37, 39	2. Emission Limitations	Fossil Fuel Storage Handling Operations	Shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater [40 CFR 60.254]. Compliance Demonstration Method: Compliance with the opacity emission limit shall be demonstrated according to 4., Specific Monitoring Requirements.		QV's (weekly) did not exceed 20% during this reporting period. Examples are included in the Semi-Annual reports
07, 08, 09 37, 39	3. Testing Requirements	Fossil Fuel Storage Handling Operations	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
07, 08, 09 37, 39	4a. Specific Monitoring Requirements	Fossil Fuel Storage Handling Operations	Shall monitor the amount of coal received and processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Records, monthly, of coal received and processed are maintained
07, 08, 09 37, 39	4b.	Fossil Fuel Storage Handling Operations	Shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].		QV's (weekly) did not exceed 20% during this reporting period. Method 9's were not triggered. Examples are included in the Semi-Annual reports
07, 08, 09 37, 39	5a. Specific Recordkeeping Requirements	Fossil Fuel Storage Handling Operations	Shall maintain records of the amount of coal received and processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Records, monthly, of coal received and processed are maintained
07, 08, 09 37, 39	5b.	Fossil Fuel Storage Handling Operations	Shall maintain a log of qualitative visual observations and all compliance tests. The permittee shall record each week, the date and time of each observation and the results of visible emissions monitoring. In case of exceedances, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate exceedances [401 KAR 52:020, Section 10].		Records, weekly QV's and Method 9's if triggered are maintained
07, 08, 09 37, 39	6. Specific Reporting Requirements	Fossil Fuel Storage Handling Operations	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
07, 08, 09 37, 39	7a. Specific Control Equipment Operating Conditions	Fossil Fuel Storage Handling Operations	The enclosures/partial enclosures, baghouses, rotoclones, water spray equipment, bin vent filters, conveyor systems, fuel blending operations, fossil fuel storage silos, and stackout chutes shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 40 CFR 60, Subpart Y [401 KAR 50:055, Section 2].		Controls are maintained and operated in accordance with manufacture's specs and SOP.

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07, 08, 09 37, 39	7b.	Fossil Fuel Storage Handling Operations	Records regarding the maintenance and use/operation of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].		PM records are maintained.
07, 08, 09 37, 39	7c.	Fossil Fuel Storage Handling Operations	See Section E., Source Control Equipment Requirements.		See Section E
10	1a. Operating Limitations	Lime/Limestone Receiving & Storage	Reasonable precautions shall be taken to prevent PM from becoming airborne. Such precautions shall include, but not be limited to: (i-ii) 401 KAR 63:010, Section 3		Fugitive emissions are controlled by a water suppressant
10	1b.	Lime/Limestone Receiving & Storage	Discharge of visible fugitive dust emissions beyond the property line is prohibited 401 KAR 63:010, Section 3		No fugitive dust emissions beyond the property line during this reporting period
10	3. Testing Requirements	Lime/Limestone Receiving & Storage	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
10	4a. Specific Monitoring Requirements	Lime/Limestone Receiving & Storage	Shall monitor the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Records of lime/limestone received/processed are maintained monthly
10	4b.	Lime/Limestone Receiving & Storage	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
10	5. Specific Recordkeeping Requirements	Lime/Limestone Receiving & Storage	Shall maintain records of the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Records of lime/limestone received/processed are maintained
10	6. Specific Reporting Requirements	Lime/Limestone Receiving & Storage	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
10	7a. Specific Control Equipment Operating Conditions	Lime/Limestone Receiving & Storage	The wet spray low water surfactant and enclosures shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		Wet spray low water surfactant and enclosures are used to maintain compliance with applicable requirements, and in accordance with manufacturer's specs, and SOP
10	7b.	Lime/Limestone Receiving & Storage	Records regarding the maintenance and use of the wet spray low water surfactant and enclosures shall be maintained [401 KAR 52:020, Section 10].		Records regarding maintenance and use of water/enclosures are maintained
10	7c.	Lime/Limestone Receiving & Storage	See Section E., Source Control Equipment Requirements.		See Section E
13	2. Emission Limitations	Lime/Limestone Crushing & Milling	Fugitive emissions from building openings (except for vents as defined in 40 CFR 60.671) shall not exceed 7 percent opacity [40 CFR 60.672(e)(1)]. Compliance Demonstration Method: Compliance with the opacity limit shall be demonstrated according to 4.a., Specific Monitoring Requirements.		Monthly QV's have been performed. Method 9's were not triggered.
13	3. Testing Requirements	Lime/Limestone Crushing & Milling	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045, Section 4.		NA during this reporting period

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13	4a. Specific Monitoring Requirements	Lime/Limestone Crushing & Milling	Shall perform a qualitative visual observation of the opacity of emissions from each unit on a monthly basis and maintain a log of the observations. If visible emissions are seen, then an inspection shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate [401 KAR 52:020, Section 10].		Monthly QV's have been performed. Method 9's were not triggered.
13	4b.	Lime/Limestone Crushing & Milling	Shall monitor the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of lime/limestone received/processed are maintained.
13	5a. Specific Recordkeeping Requirements	Lime/Limestone Crushing & Milling	Shall maintain records of any Method 9 tests, if taken, and any corrective actions initiated according to 4.a, Specific Monitoring Requirements.		NA, Method 9's were not triggered during this reporting period
13	5b.	Lime/Limestone Crushing & Milling	Shall maintain records of the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of lime/limestone received/processed are maintained
13	6. Specific Reporting Requirements	Lime/Limestone Crushing & Milling	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
13	7a. Specific Control Equipment Operating Conditions	Lime/Limestone Crushing & Milling	The enclosure shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		Enclosure are used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specs and SOP
13	7b.	Lime/Limestone Crushing & Milling	Records regarding maintenance of the enclosure shall be maintained [401 KAR 52:020, Section 10].		Records of the maintenance of the enclosure are maintained
13	7c.	Lime/Limestone Crushing & Milling	See Section E., Source Control Equipment Requirements.		See Section E
14	2a. Emission Limitations	Lime/Limestone Handling and Processing	Fugitive emissions from transfer points, conveyor belts, or any other listed emissions unit shall not exceed 10 percent opacity [40 CFR 60.672(b), referencing Table 3]. Compliance Demonstration Method: Compliance with opacity limits shall be demonstrated according to 3., Testing Requirements.		Annual Method 22's were performed as required.
14	2b.	Lime/Limestone Handling and Processing	Fugitive emissions from building openings (except for vents as defined in 40 CFR 60.671) shall not exceed 7 percent opacity [40 CFR 60.672(e)(1)]. Compliance Demonstration Method: Compliance with opacity limits shall be demonstrated according to 3., Testing Requirements.		Annual Method 22's were performed as required.
14	3. Testing Requirements	Lime/Limestone Handling and Processing	Shall determine fugitive emissions while all emission units are operating in accordance with EPA Reference Method 22, on an annual basis [401 KAR 52:020, Section 10].		Annual Method 22's were performed as required.
14	4. Specific Monitoring Requirements	Lime/Limestone Handling and Processing	Shall monitor the amount of lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of lime/limestone received/processed (tons) are maintained

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14	5. Specific Recordkeeping Requirements	Lime/Limestone Handling and Processing	Shall maintain records of the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of lime/limestone received/processed (tons) are maintained
14	6a. Specific Reporting Requirements	Lime/Limestone Handling and Processing	Shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of observations using Method 22 to demonstrate compliance, according to 40 CFR 60.676.		Annual Method 22's were performed as required. Annual Method 22 was submitted in the Semi-Annual Reports.
14	6b.	Lime/Limestone Handling and Processing	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
14	7a. Specific Control Equipment Operating Conditions	Lime/Limestone Handling and Processing	Shall inspect the conveyor equipment covers and shields weekly and make repairs as necessary to assure compliance with opacity limits [401 KAR 52:020, Section 10].		Control equipment is inspected weekly
14	7b.	Lime/Limestone Handling and Processing	Partial enclosures on the limestone conveyor systems shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].		Partial enclosures are used as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specs and SOP
14	7c.	Lime/Limestone Handling and Processing	Records regarding maintenance of the enclosure shall be maintained [401 KAR 52:020, Section 10].		Records of the maintenance of partial enclosures are maintained
14	7d.	Lime/Limestone Handling and Processing	See Section E., Source Control Equipment Requirements.		See Section E
42	1. Operating Limitations	Fly Ash Storage Silos and Dust Control Devices	Shall utilize a dust collector on fly ash silo bins and pneumatic conveyances as BACT for the 1,200 ton fly ash silo [401 KAR 51:017].		Controls are operated as required
42	2a. Emission Limitations	Fly Ash Storage Silos and Dust Control Devices	Shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity [401 KAR 59:010, Section 3(1)]. Compliance Demonstration Method: Compliance with the opacity limit is demonstrated by 4., Specific Monitoring Requirements.		Emissions did not exceed 20% opacity. Weekly QV's were performed and Method 9's were not triggered during this reporting period.
42	2b.	Fly Ash Storage Silos and Dust Control Devices	Particulate matter emissions from the bin dust collectors shall not exceed [17.31P0.16] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour [401 KAR 59:010]. Compliance Demonstration Method: Compliance is demonstrated by 7.a., Specific Control Equipment Operating Conditions.		Weekly QV's were performed and calcs show that PM, based on max throughput, did not exceed the PM limit during this reporting period.
42	3. Testing Requirements	Fly Ash Storage Silos and Dust Control Devices	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
42	4a. Specific Monitoring Requirements	Fly Ash Storage Silos and Dust Control Devices	Shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].		Weekly QV's were performed, Method 9's were not triggered during this reporting period. Examples are included in the Semi-Annual reports
42	4b.	Fly Ash Storage Silos and Dust Control Devices	Shall monitor the amount of fly ash processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of flyash tons are maintained
42	5a. Specific Recordkeeping Requirements	Fly Ash Storage Silos and Dust Control Devices	Shall maintain a log of qualitative visual observations and all compliance tests. The permittee shall record each week, the date and time of each observation and the results of visible emissions monitoring. In case of exceedances, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate exceedances [401 KAR 52:020, Section 10].		QV records are maintained as required
42	5b.	Fly Ash Storage Silos and Dust Control Devices	Shall maintain records of the amount of fly ash processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of flyash tons are maintained
42	5c.	Fly Ash Storage Silos and Dust Control Devices	Shall record each week the date, time and results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance [401 KAR 52:020, Section 10].		QV records are maintained as required
42	6. Specific Reporting Requirements	Fly Ash Storage Silos and Dust Control Devices	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
42	7a. Specific Control Equipment Operating Conditions	Fly Ash Storage Silos and Dust Control Devices	The dust collector equipment shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the mission units are in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].		Dust collector is maintained and operated per manufacture and SOP.
42	7b.	Fly Ash Storage Silos and Dust Control Devices	Records regarding maintenance of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].		Records of control equipment maintenance is maintained.
42	7c.	Fly Ash Storage Silos and Dust Control Devices	See Section E., Source Control Equipment Requirements.		See Section E
44	1. Operating Limitations	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Shall utilize bin vent filters as BACT [401 KAR 51:017].		Control is operated as required

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	<p style="text-align: right;">Imber</p> The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
44	2a. Emission Limitations	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity [401 KAR 59:010, Section 3(1)]. Compliance Demonstration Method: Compliance with the opacity limit is demonstrated by 4., Specific Monitoring Requirements.		Weekly QV were performed and Method 9's were not triggered.
44	2b.	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Particulate matter emissions from the bin dust collectors shall not exceed [17.31P0.16] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour [401 KAR 59:010]. Compliance Demonstration Method: Compliance is demonstrated by 7.a., Specific Control Equipment Operating Conditions.		Weekly QV were performed and calcs show that PM, based on max throughput, does not exceed the PM limit.
44	3. Testing Requirements	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
44	4. Specific Monitoring Requirements	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Shall monitor the amount of PAC processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		QV are performed as required, Method 9's were not triggered during this reporting period.
44	4b.	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].		Weekly QV were performed and Method 9's were not triggered. Examples are included in the Semi-Annual reports
44	5a. Specific Recordkeeping Requirements	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Shall maintain records of the amount of PAC processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Monthly records of PAC tons is maintained
44	5b.	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Shall record each week the date, time and the results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance [401 KAR 52:020, Section 10].		QV records are maintained as required
44	6. Specific Reporting Requirements	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
44	7a. Specific Control Equipment Operating Conditions	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	The bin vent filters shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].		Bin vents are maintained and operated per manufacture and SOP.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMs
44	7b.	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	Records regarding maintenance of the bin vent filters shall be maintained [401 KAR 59:005, Section 3(4)].		Records of control equipment maintenance is maintained.
44	7c.	Powdered Activated Carbon (PAC) Silo and Dust Control Devices	See Section E., Source Control Equipment Requirements.		See Section E
45	1. Operating Limitations	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Shall utilize bin vent filters as BACT [401 KAR 51:017].		Control is operated as required
45	2a. Emission Limitations	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity [401 KAR 59:010, Section 3(1)]. Compliance Demonstration Method: Compliance with the opacity limit is demonstrated by 4., Specific Monitoring Requirements.		Weekly QV were performed and Method 9's were not triggered.
45	2b.	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Particulate matter emissions from the bin dust collectors shall not exceed [17.31P0.16] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour [401 KAR 59:010]. Compliance Demonstration Method: Compliance is demonstrated by 7.a., Specific Control Equipment Operating Conditions.		Weekly QV were performed and calcs show that PM, based on max throughput, does not exceed the PM limit.
45	3. Testing Requirements	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
45	4a. Specific Monitoring Requirements	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Shall monitor the amount of sorbent processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Records of sorbent (tons) is maintained
45	4b.	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].		Weekly QV were performed and Method 9's were not triggered. Examples are included in the Semi-Annual reports
45	5a. Specific Recordkeeping Requirements	Sorbent Storage Silos and Dust Control Devices for Emission Unit 37	Shall maintain records of the amount of sorbent processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].		Records of sorbent (tons) is maintained

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Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, cals, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
45	5b.	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Shall record each week the date, time and the results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance [401 KAR 52:020, Section 10].		QV records are maintained as required
45	6a. Specific Reporting Requirements	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Shall notify the Division's Florence Regional Office at least thirty (30) days prior to use of sorbent materials in the Sorbent storage silo other than hydrated lime [401 KAR 52:020, Section 10].		NA during this reporting period.
45	6b.	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	See Section F., Monitoring, Recordkeeping, and Reporting Requirements		See Section F
45	7a. Specific Control Equipment Operating Conditions	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	The bin vent filters shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].		Bin vents are maintained and operated per manufacture and SOP.
45	7b.	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	Records regarding maintenance of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].		Records of control equipment maintenance is maintained.
45	7c.	Sorbent Storage Silos and Dust Control Devices for Emission Unit 31	See Section E., Source Control Equipment Requirements		See Section E
20	1a. Operating Limitations	Natural Draft Cooling Tower for EU 31	Reasonable precautions shall be taken to prevent particulate matter from becoming airborne [401 KAR 63:010, Section 3].		Reasonable precautions were taken to prevent particulate matter from becoming airborne. Drift eliminators are utilized.
20	1b.	Natural Draft Cooling Tower for EU 31	Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3].		No visible emissions beyond the property line during this reporting period
20	3a. Testing Requirements	Natural Draft Cooling Tower for EU 31	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
20	4. Specific Monitoring Requirements	Natural Draft Cooling Tower for EU 31	Shall monitor the total dissolved solids content of the circulating water on a monthly basis [401 KAR 52:020, Section 10].		Total dissolved solids are monitored monthly. Records maintained of water circulation rate and monthly records of circulating water total dissolved solids are submitted with the semiannual reports.
20	5a. Specific Recordkeeping Requirements	Natural Draft Cooling Tower for EU 31	Shall maintain records of the manufacturer's design of the drift eliminators [401 KAR 52:020, Section 10].		Records of manufacturer's design of Drift Eliminators are maintained
20	5b. 401 KAR 52:020, Section 26	Natural Draft Cooling Tower for EU 31			Total dissolved solids are monitored monthly. Records maintained of water circulation rate and monthly records of circulating water total dissolved solids

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	5b.	Natural Draft Cooling Tower for EU 31	Shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content [401 KAR 59:005, Section 3(4)].		Monthly records of total dissolved solids and the water circulation rate are maintained and submitted with the semi-annual reports.
20	6. Specific Reporting Requirements	Natural Draft Cooling Tower for EU 31	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F
20	7a. Specific Control Equipment Operating Conditions	Natural Draft Cooling Tower for EU 31	The drift eliminators shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission unit is in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].		Drift eliminators are maintained and operated to ensure emission units are in compliance with applicable requirements and in accordance with manufacturer's specs and SOP
20	7b.	Natural Draft Cooling Tower for EU 31	Records regarding maintenance of the drift eliminators shall be maintained [401 KAR 59:005, Section 3(4)].		Records of the drift eliminators maintenance is maintained
20	7c.	Natural Draft Cooling Tower for EU 31	See Section E., Source Control Equipment Requirements.		See Section E
41	1a. Operating Limitations	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Reasonable precautions shall be taken to prevent particulate matter from becoming airborne [401 KAR 63:010, Section 3].		Reasonable precautions were taken to prevent particulate matter from becoming airborne. Drift eliminators are utilized.
41	1b.	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3].		No visible emissions beyond the property line during this reporting period
41	1c.	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	The cooling tower shall utilize 0.0005% drift eliminators [401 KAR 51:017].		The cooling tower utilizes 0.0005% drift eliminators
41	3. Testing Requirements	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.		NA during this reporting period
41	4. Specific Monitoring Requirements	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Shall monitor the total dissolved solids content of the circulating water on a monthly basis [401 KAR 52:020, Section 10].		Dissolved solids are monitored on a monthly basis
41	5a. Specific Recordkeeping Requirements	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Shall maintain records of the manufacturer's design of the drift eliminators [401 KAR 52:020, Section 10].		Manufacturer's design of the Drift Eliminators are maintained
41	5b.	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content [401 KAR 59:005, Section 3(4)].		Monthly records of total dissolved solids and the water circulation rate are maintained
41	6. Specific Reporting Requirements	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	See Section F., Monitoring, Recordkeeping, and Reporting Requirements.		See Section F

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMs
41	7a. Specific Control Equipment Operating Conditions	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	The drift eliminators shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission unit is in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].		Drift eliminators are maintained and operated to ensure emission units are in compliance with applicable requirements and in accordance with manufacturer's specs and SOP
41	7b.	Linear Mechanical Draft Cooling Tower (12 cells) for EU01	Records regarding maintenance of the drift eliminators shall be maintained [401 KAR 59:005, Section 3(4)].		Records of the drift eliminators maintenance is maintained
54	1a. Operating Limitations	Landfill Operations and Haul Trucks ash transportation and storage	Shall not accept any waste from the public. The landfill shall not receive any material other than gypsum and residual waste from the coal boilers [to preclude 40 CFR 60, Subpart WWW].		NA - Not currently in operation
54	1b	Landfill Operations and Haul Trucks ash transportation and storage	No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne [401 KAR 63:010, section 3(1)]. (i-vi)		NA - Not currently in operation
54	1c	Landfill Operations and Haul Trucks ash transportation and storage	Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3(2)].		NA - Not currently in operation
54	1d	Landfill Operations and Haul Trucks ash transportation and storage	When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from the landfill or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air [401 KAR 63:010, Section 3(3)].		NA - Not currently in operation
54	1e.	Landfill Operations and Haul Trucks ash transportation and storage	At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway [401 KAR 63:010, Section 4].		NA - Not currently in operation
54	2. Emission Limitations	Landfill Operations and Haul Trucks ash transportation and storage	shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the missions originate [401 KAR 63:010, Section 4]. Compliance Demonstration: The permittee shall demonstrate compliance with this requirement by good procedures listed above, posting a 15 mile per hour sign for each road way to be enforced as a speed limit, and meeting the requirements of sub-Section 4., Specific Monitoring Requirements.		NA - Not currently in operation

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
54	4. Specific Monitoring Requirements	Landfill Operations and Haul Trucks ash transportation and storage	Shall monitor actions taken (e.g. water usage for roads, enclosures are in good operating condition) to prevent the discharge of visible fugitive emissions beyond the property line for each unit on a monthly basis [401 KAR 52:020, Section 10].		NA - Not currently in operation
54	4b.	Landfill Operations and Haul Trucks ash transportation and storage	Shall monitor the rate of material hauled (tons, VMT, gallons/hr, etc.) for each unit or vehicle on paved and unpaved roadways on a monthly basis [401 KAR 52:020, Section 10].		NA - Not currently in operation
54	4c.	Landfill Operations and Haul Trucks ash transportation and storage	Visual observations shall be made each operating day to determine if fugitive dust is becoming airborne from associated operations as a result of vehicular traffic or windy conditions on paved and unpaved roadways [401 KAR 52:020, Section 10].		NA - Not currently in operation
54	5a Specific Recordkeeping Requirements	Landfill Operations and Haul Trucks ash transportation and storage	The permittee shall maintain records of the visual observations and actions taken to prevent the discharge of visible fugitive emissions beyond the property line on a monthly basis [401 KAR 52:020, Section 10].		NA - Not currently in operation
54	5b.	Landfill Operations and Haul Trucks ash transportation and storage	The permittee shall maintain records of the processing rate (tons, VMT, gallons/hr, etc.) for each vehicle or unit for paved and unpaved roadways on a monthly basis [401 KAR 52:020, Section 10].		NA - Not currently in operation
54	5c.	Landfill Operations and Haul Trucks ash transportation and storage	Records regarding the maintenance and use of the air pollution control equipment (spray nozzles) shall be maintained [401 KAR 52:020, Section 10].		NA - Not currently in operation
54	5d.	Landfill Operations and Haul Trucks ash transportation and storage	The permittee shall maintain records of the calculations to determine the fugitive emissions from paved and unpaved roads with all data used in calculations. Emission calculations shall be based on the most current AP-42 emission factors for paved and unpaved roadways for that year.		NA - Not currently in operation
54	6. Specific Reporting Requirements	Landfill Operations and Haul Trucks ash transportation and storage	See Section F,		NA - Not currently in operation
54	7. Specific Control Requirements	Landfill Operations and Haul Trucks ash transportation and storage	The associated air pollution control equipment for the emission unit shall be operated to maintain compliance with permitted emission limitations, consistent with manufacturer's specifications and standard operating practices [401 KAR 50:055].		NA - Not currently in operation
57,58, 59	1a. 40 CFR 63.7540(a)(11) and 40 CFR: 63, Table 3.2.1	Natural Gas Process Heaters/ Preheaters	The permittee shall conduct a tune-up of the process heaters biennially (every 2-years) as specified in 40 CFR 63.7540(a)(10)(i) through (vi). [40 CFR 63.7540(a)(11) and 40 CFR: 63, Table 3.2.1		The tune-ups for Unit 57, 58, and 59 were performed July 16, 2019.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
57,58, 59	1b. 40 CFR 63, Subpart DDDDD, Table 3 4	Natural Gas Process Heaters/ Preheaters	b. The permittee shall have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in 40 CFR 63, Table 3, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in 40 CFR 63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment shall include the following with extent of the evaluation for 40 CFR 63, Table 3 4. a. through e. appropriate for the on-site technical hours listed in 40 CFR 63.7575; [40 CFR 63, Subpart DDDDD, Table 3 4.]		The energy assessment was performed August 8, 2019 by Trinity Consultants.
57,58, 59	1c. 40 CFR 63.7500(a)(3)	Natural Gas Process Heaters/ Preheaters	Shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.		PMs are setup for tune-ups/inspections of the heaters.
57,58, 59	1d. 40 CFR 63.7500(e)	Natural Gas Process Heaters/ Preheaters	These units are not subject to the emission limits in 40 CFR 63, Subpart DDDDD Tables 1 and 2 or 11 through 13, or the operating limits in 40 CFR 63, Subpart DDDDD Table 4.	See Attachment 92	These units are not subject to the emission limits in 40 CFR 63, Subpart DDDDD Tables 1 and 2 or 11 through 13, or the operating limits in 40 CFR 63, Subpart DDDDD Table 4. See the attached "Notification of Compliance Status" report
57,58, 59	2a. 401 KAR 59:015, Section 4(l)(b)	Natural Gas Process Heaters/ Preheaters	The permittee shall not cause emissions of particulate matter in excess of 0.10 lb/MMBtu [401 KAR 59:015, Section 4(l)(b)]		These units are assumed to be in compliance with the applicable 401 KAR 59:015 particulate matter, sulfur dioxide, and opacity standards while burning natural gas. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.[40 CFR 63:7500(e)]
57,58, 59	2b. 401 KAR 59:015, Section 4(2)	Natural Gas Process Heaters/ Preheaters	Visible emissions shall not exceed 20 percent opacity except: [401 KAR 59:015, Section 4(2)]		These units are assumed to be in compliance with the applicable 401 KAR 59:015 particulate matter, sulfur dioxide, and opacity standards while burning natural gas. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.[40 CFR 63:7500(e)]

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
57,58, 59	2c. 401 KAR 59:015, Section 5(l)(b)1.	Natural Gas Process Heaters/ Preheaters	Emissions of sulfur dioxide from each unit shall not exceed 0.8 lb/MMBtu [401 KAR 59:015, Section 5(l)(b)1.]. These units are assumed to be in compliance with the applicable 401 KAR 59:015 particulate matter, sulfur dioxide, and opacity standards while burning natural gas.		These units are assumed to be in compliance with the applicable 401 KAR 59:015 particulate matter, sulfur dioxide, and opacity standards while burning natural gas. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, or the operating limits in Table 4 to this subpart.[40 CFR 63:7500(e)
57,58, 59	2d. 401 KAR 59:015, Section 5 (1) (b) 1.	Natural Gas Process Heaters/ Preheaters	See Section D., Source Emission Limitations and Testing Requirements.		NA
57,58, 59	3. 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4	Natural Gas Process Heaters/ Preheaters	Testing shall be conducted at such times as may be requested by the Cabinet.		NA during this reporting period.
57,58, 59	4a. 401 KAR 52:020, Section 10	Natural Gas Process Heaters/ Preheaters	The permittee shall monitor natural gas usage (MMscf) for each Unit, on a monthly basis.	See Attachment 90	Records of monthly gas usage is maintained.
57,58, 59	5. 4 01 KAR 52:020, Section 10	Natural Gas Process Heaters/ Preheaters	The permittee shall maintain records of fuel usage (MMscf) for each unit on a monthly basis	See Attachment 90	Records of monthly gas usage is maintained.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) Imber (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
57,58, 59	6a. 40 CFR 63.7550(b)(4)	Natural Gas Process Heaters/ Preheaters	a.The permittee shall submit a biennial compliance report as specified in 40 CFR 63.7550(b)(l) through (4). [40 CFR 63.7550(b)] i.The first compliance report shall cover the period beginning on the compliance date that is specified for each process heater in 40 CFR 63.7495 and ending on December 31, within 2 years after the compliance date that is specified for the source in 40 CFR 63.7495. [40 CFR 63.7550(b)(l)] ii.The first biennial compliance report shall be postmarked or submitted no later than January 31. [40 CFR 63.7550(b)(2)] iii.Biennial compliance reports shall cover the applicable 2-year periods from January 1 to December 31. [40 CFR 63. 7550(b)(3)] iv.Biennial compliance reports shall be postmarked or submitted no later than January 31. [40 CFR63.7550(b)(4)] Compliance Demonstration: The reporting requirements for 6a &6b can be satisfied by submitted the 6a & 6b reporting data in the Annual Title V Compliance Report. These units have work practices under 40 CFR 63 DDDDD; hence 6a(vi) is not triggered because there are no emission limits for these units under 40 CFR 63 DDDDD. These units have emission limits under 401 KAR 59:015 and are considered to be in compliance with particulate matter, sulfur dioxide, and opacity standards while burning natural gas.	See Attachment 91	The first compliance report is attached.
57,58, 59	6b. 40 CFR 63.7550(d)	Natural Gas Process Heaters/ Preheaters	The compliance report shall contain: i. Information required in 40 CFR 63.7750(c)(l) through (5); and ii. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to the permit and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in 40 CFR 63, Subpart DDDDD Table 3 that apply, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. iii. f you have a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report shall contain the information in 40 CFR 63.7550(d) Compliance Demonstration: The reporting requirements for 6a &6b can be satisfied by submitted the 6a & 6b reporting data in the Annual Title V Compliance Report. These units have work practices under 40 CFR 63 DDDDD; hence 6a(vi) is not triggered because there are no emission limits for these units under 40 CFR 63 DDDDD. These units have emission limits under 401 KAR 59:015 and are considered to be in compliance with particulate matter, sulfur dioxide, and opacity standards while burning natural gas.	91	The first compliance report is attached.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
57,58, 59	6c. 40 CFR 70.7550(b)	Natural Gas Process Heaters/ Preheaters	See Section F., Monitoring, Recordkeeping, and Reporting Requirements		NA
	Section C. 401 KAR 52:020, Section 6, 401 KAR 59:050, 401 KAR 59:010, 401 KAR 63:010, 401 KAR 68, 401 KAR 63:010	Insignificant Activities	<ol style="list-style-type: none"> 1. Two station #2 fuel oil tanks, each 100,000 gallons, and auxiliary boiler day tank storing #2 fuel oil with a size of 16,000 gallons; 2. Metal degreaser using parts washers; 3. 3,000 gallon unleaded gasoline storage tank; 4. 3,000 gallon diesel storage tank; 5. 1,100 gallon used oil storage tank; 6. 1,100 gallon #1 fuel oil tank; 7. Wet fly ash collection system; 8. Infrequent evaporation of boiler cleaning solutions; 9. Infrequent burning of de minimis quantities of used oil for energy recovery; 10. Paved and unpaved roads; 11. Preheater (for CTs Units 25 & 26) max heat input 10.9 mmBtu/hr 12. Preheater (for CTs Units 27 & 28) max heat input 10.9 mmBtu/hr 13. Preheater (for CTs Units 29 & 30) max heat input 10.9 mmBtu/hr 14. Gypsum storage piles 		Insignificant activities which are subject to opacity standards are inspected as required (monthly). Examples are included in the Semi-Annual reports
	Section C. 401 KAR 52:020, Section 6, 401 KAR 59:050, 401 KAR 59:010, 401 KAR 63:010, 401 KAR 68, 401 KAR 63:010	Insignificant Activities	<ol style="list-style-type: none"> 15. Coal (inactive outdoor) and limestone Storage Piles (active indoor) 16. Bottom Ash and Debris Collection Basin 17. Bottom Ash Reclaim Operation 18. Three bottom ash transport vehicles 19. Maintenance Shop Activities 20. Miscellaneous Water Storage Tanks 21. Anhydrous Ammonia Storage Tanks 22. Gypsum Barge Load-out Facility 23. Flyash Barge Load-out Facility (5,000 ton silo) 24. Emergency Limestone Stockpile (C2 and C2 Conveyors) 25. FGD Additive Chemical tank (22,000 gals.) 26. PAC Storage Silos 		Insignificant activities which are subject to opacity standards are inspected as required (monthly). Examples are included in the Semi-Annual reports

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section C. 401 KAR 52:020, Section 6, 401 KAR 59:050, 401 KAR 59:010, 401 KAR 63:010, 401 KAR 68, 401 KAR 63:010	Insignificant Activities	27. PAC Storage Silos (for TC1, For TC2 see EU44) 28. SO3 Mitigation System (for TC1) 29. Fuel Additive Facility (two silos, conveyors, mix and feed tanks) 30. Fuel Additive Facility Propane tank (1000 gallon) 31. Fuel Additive Facility Four Propane (indirect heat exchangers) water heaters (0.25 MMBtu/hr, each) 32. CCR Handling or Transport, Bottom Ash Handling Process 33. CCR Handling or Transport, Flyash Handling Process 34. CCR Handling or Transport, Gypsum Processing (no crushing or grinding) 35. CCR Handling or Transport, Flyash Separator Units (4) 36. CCR Handling or Transport, Flyash Storage Silos (2) 37. Landfill truck Loading Station 38. CCR Handling or Transport, Bottom Ash Transport 39. Liquid Hg Control Additives		Insignificant activities which are subject to opacity standards are inspected as required (monthly). Examples are included in the Semi-Annual reports
	Section C. 401 KAR 52:020, Section 6, 401 KAR 59:050, 401 KAR 59:010, 401 KAR 63:010, 401 KAR 68, 401 KAR 63:010	Insignificant Activities	40. (1) 4000 gallon #2 fuel oil tank 41. (2) 300 gallon #2 fuel oil tanks 42. Preheaters for High Pressure Natural Gas Regulating Station. Consists of (5) 0.77 MMBtu/hr. indirect heat exchangers and (1) 6000 Btu/hr catalytic heater for heating the pilot gas for the five indirect heat exchangers 43. (1) 500 gallon Odorant Storage Tank		Insignificant activities which are subject to opacity standards are inspected as required (monthly). Examples are included in the Semi-Annual reports
	Section D-1.	Source Emission Limitations and Testing Requirements	Compliance with annual emissions and processing limitations in permit shall be based on emissions and processing rates for any twelve (12) consecutive months		Records are maintained
	Section D-2.	Source Emission Limitations and Testing Requirements	Nitrogen oxides, sulfur dioxide, filterable particulate matter, opacity, mercury, volatile organic compounds, sulfuric acid mist, fluorides, lead, hydrochloric acid, and carbon monoxide emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan, shall not exceed the respective limitations specified herein.		Emission measurements and testing have been followed
	Section D-3.		The consecutive twelve (12)-month rolling total emissions in tons per year from Emission Units 31, 32, and 33 shall be less than: 1,523 for NOx, 3,264 for SO2 , 98 for VOC and 0.55 for lead [401 KAR 51:017]. Compliance Demonstration Method: The permittee shall gather data for each unit from CEMS if possible, or calculate monthly emissions for each unit based on emission factors from test data or AP-42 and operation records if necessary, and maintain a twelve (12)-month rolling total for the three units together [401 KAR 52:020, Section 10	See Attachment 57	2019 emissions from Emission Units 31, 32, and 33 were less than 1,523 NOx tons, 3,264 SO2 tons, 98 VOC tons, and 0.55 lead tons. Records were submitted in the semiannual report.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section D-4(1a).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	On or after February 9, 2016, the applicable pollutants selected by the permittee from table 2b of Section D and measured by the 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.		Units 1 and 31 meets the subpart UUUU emission requirements. Records were submitted in the semiannual report.
	Section D-4(1b).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, the permittee shall conduct a tune-up of the burner and combustion controls at least each thirty-six (36) calendar months, or each forty-eight (48) calendar months if neural network combustion optimization software is employed, as specified in 40 CFR 63.10021(e) [Item 1. of Table 3. of 40 CFR 63, Subpart UUUUU]. Compliance Demonstration Method: The permittee shall report the date of the first tune-up in hard copy to the Division's Florence Regional Office, and electronically to the U.S. EPA as required in 40 CFR 63.10031. Subsequent tune-ups shall only be reported electronically [40 CFR 63.10021(e)(9)(i)].		Initial Tune up for Unit 1 was completed 1/28/16; notice of compliance status report was submitted 8/4/16; most recent was completed 12/12/19. Tune up for Unit 31 was completed 5/22/15; notice of compliance status report was submitted 11/3/15 (revised due to PM data issues 12/3/15 and 2/17/16). Most recent tune-up completed 5/29/19.
	Section D-4(1c).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for startup of Emission Unit 01, and April 16, 2015, for startup of Emission Unit 31, the permittee shall use only distillate oil. Once the permittee converts to firing coal, the permittee shall engage all of the applicable control technologies except dry scrubber and SCR. The permittee shall start dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU]. Compliance Demonstration Method: The permittee shall keep records during periods of startup and shutdown. The permittee shall provide reports concerning activities and periods of startup, as specified in 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i) [Items 3. and 4. of Table 3. of 40 CFR 63, Subpart UUUUU].		In the proposed corrections to the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial Institutional Steam Generating Units (MATS Rule) published on February 17, 2015 (80 Fed. Reg. 8442), EPA stated that certain sections of the regulation (specifically, 40CFR63.10031(c)(5)) were only intended to be applicable to sources that intended to rely on paragraph (2) of the definition of "startup" in § 63.10042 (i.e., startup definition #2). Therefore, since Trimble Units 1 & 31 follow the definition of "startup" in § 63.10042, paragraph (1) (i.e., startup definition #1), no information 40CFR63.10020(e) and 40CFR63.10031(c)(5) is being supplied for Trimble County 1 and 31. Copies of the Semi-annual MATS "Summary Reports - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" were submitted in the Semi-Annual Monitoring Reports. The 2019 reports were included in the July 2019 and January 2020 Semi-Annual Monitoring Reports.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section D-4(1d).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, during shutdown of Emission Unit 01, and April 16, 2015, during shutdown of Emission Unit 31, the permittee shall operate all applicable control technologies. Shutdown ends when there is both no electricity being generated and no fuel being fired in the boiler [Item 4. of Table 3. of 40 CFR 63, Subpart UUUUU]. Compliance Demonstration Method: The permittee shall keep records during periods of startup and shutdown. The permittee shall provide reports concerning activities and periods of startup, as specified in 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i) [Items 3. and 4. of Table 3. of 40 CFR 63, Subpart UUUUU].		In the proposed corrections to the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial Institutional Steam Generating Units (MATS Rule) published on February 17, 2015 (80 Fed. Reg. 8442), EPA stated that certain sections of the regulation (specifically, 40CFR63.10031(c)(5)) were only intended to be applicable to sources that intended to rely on paragraph (2) of the definition of "startup" in § 63.10042 (i.e., startup definition #2). Therefore, since Trimble Units 1 & 31 follow the definition of "startup" in § 63.10042, paragraph (1) (i.e., startup definition #1), no information 40CFR63.10020(e) and 40CFR63.10031(c)(5) is being supplied for Trimble County 1 and 31. Copies of the Semi-annual MATS "Summary Reports - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" were submitted in the Semi-Annual Monitoring Reports. The 2019 reports were included in the July 2019 and January 2020 Semi-Annual Monitoring Reports.
	Section D-4(1e).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, at all times the permittee shall operate and maintain the coal-fired boilers, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.10000(b)].		The Unit 1 & 31 boilers, including associated air pollution control equipment and monitoring equipment, were operated in a manner consistent with safety and good air pollution control practices for minimizing emissions during this reporting period.
	Section D-4(1f).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, the permittee shall operate all continuous monitoring systems (CMS) during startup [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU] and shutdown [Item 4. of Table 3. of 40 CFR 63, Subpart UUUUU].		The Unit 1 & 31 boiler's continuous monitoring systems (CMS) during startup [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU] and shutdown [Item 4. of Table 3. of 40 CFR 63, Subpart UUUUU] were operated as required during this reporting period.

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Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section D-4(2a).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, the permittee shall comply with all applicable emission limits under 40 CFR 63, Subpart UUUUU at all times except for periods that meet the definitions of startup and shutdown in 40 CFR 63, Subpart UUUUU [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU]. Compliance Demonstration Method: The permittee shall keep records during periods of startup and shutdown. The permittee shall provide reports concerning activities and periods of startup and shutdown, as specified in 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i) [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU].		In the proposed corrections to the National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial Institutional Steam Generating Units (MATS Rule) published on February 17, 2015 (80 Fed. Reg. 8442), EPA stated that certain sections of the regulation (specifically, 40CFR63.10031(c)(5)) were only intended to be applicable to sources that intended to rely on paragraph (2) of the definition of "startup" in § 63.10042 (i.e., startup definition #2). Therefore, since Trimble Units 1 & 31 follow the definition of "startup" in § 63.10042, paragraph (1) (i.e., startup definition #1), no information 40CFR63.10020(e) and 40CFR63.10031(c)(5) is being supplied for Trimble County 1 and 31. The Semi-annual MATS "Summary Report - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" report for the 1st half of 2016 was submitted 7/28/16 and included in the Semi-Annual Monitoring Reports. The 2019 reports were included in the July 2019 and January 2020 Semi-Annual Monitoring Reports.
	Section D-4(2b).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, emissions from each unit shall not exceed the limitations in the table below [40 CFR 63 Subpart UUUUU, Table 2, Item 1]. For Emission Unit 31, compliance shall be demonstrated no later than October 13, 2015 [40 CFR 63.9984(f)]. For Emission Unit 01, compliance shall be demonstrated no later than August 7, 2016.		For Unit 1: Notification of compliance status submitted: 8/4/16 Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16 For Unit 31: Notification of compliance status submitted 11/03/15. (revised on 12/3/15 and 2/17/16) Initial performance test reports were submitted: SO2 - 7/17/15 Hg - 9/28/15 PM - 11/3/15
	Section D-4(3).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than August 7, 2016, for Emission Unit 01, and October 13, 2015, for Emission Unit 31, performance testing, which may include the use of CEMS in some cases, to demonstrate compliance with the requirements of 40 CFR 63, Subpart UUUUU shall be performed according to Table 5. of 40 CFR 63, Subpart UUUUU. Initial performance testing is required for all pollutants limited under 40 CFR 63, Subpart UUUUU [40 CFR 63.10000(c), 40 CFR 63.10011(a)]. Test protocols shall be submitted for the Division's approval a minimum of sixty (60) days prior to the scheduled test date [401 KAR 50:045, Section 1].		For Unit 1: Test protocols were submitted: SO2 - 1/8/16 Hg - 1/8/16 PM - 1/8/16 For Unit 1: Initial performance tests were submitted: SO2 - 5/5/16 Hg - 8/4/16 PM - 5/17/16 For Unit 31: Test protocols were submitted: SO2 - 3/24/15 Hg - 4/23/15 PM - 6/19/15 For Unit 31: Initial performance test reports were submitted: SO2 - 7/17/15 Hg - 9/28/15 PM - 11/3/15
	Section D-4(4).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, the permittee shall maintain records according to 40 CFR 63.10032 and 63.10033.		For Units 1 & 31 records are maintained according to 40 CFR 63.10032 and 63.10033.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, cals, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section D-4(5a).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	No later than February 9, 2016, for Emission Unit 01, and April 16, 2015, for Emission Unit 31, the permittee shall begin the schedule of submitting semi-annual compliance reports according to the requirements in 40 CFR 63.10031(b).		The 2019 Unit 1 & 31 MATS "Summary Reports - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" were included in the 2019 Semi-Annual Monitoring Reports (July 2019 and January 2020).
	Section D-4(5b).	Source Emission Limitations and Testing Requirements (Subpart UUUUU Requirements)	Emission Unit 01 becomes subject to the 40 CFR 63, Subpart UUUUU requirements on February 8, 2016, and Emission Unit 31 becomes subject to 40 CFR 63, Subpart UUUUU on April 16, 2015. The permittee shall submit Notification of Compliance Status reports according to 40 CFR 63.10030(e) [40 CFR 63.10011(e)].		For Unit 1: Notification of compliance status submitted: 8/4/16 For Unit 31 the notification of compliance status was submitted 11/03/15. The TC2 NOCS was re-submitted 12/3/2015 and 2/17/16 (correcting PM results).
	Section E.	Control Equipment Conditions	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.		Air pollution control equipment is operated in a manner consistent with good air pollution control practices. Records are maintained.
	Section F. 1.a - f	Monitoring, Record Keeping, and Reporting Requirements	Permittee shall compile records of required monitoring information including: a. Date, place as defined in permit, and time of sampling or measurements b. Analysis performance dates c. Company or entity that performed analysis d. Analytical techniques or methods used e. Analyses results, and f. Operating conditions during time of sampling or measurements		Records are maintained
	Section F. 2.	Monitoring, Record Keeping, and Reporting Requirements	Permittee shall retain for five years all records of required monitoring data and support information and all reports required by DAQ and made available for inspection		Records are maintained

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section F. 3.a - c.	Monitoring, Record Keeping, and Reporting Requirements	Permittee shall allow authorized cabinet reps to a. Enter premises to inspect facility, equipment, practice or operation during reasonable times b. To access and copy any records required by the permit, during reasonable times. c. Sample or monitor substances or parameters to assure compliance, during reasonable times. Reasonable times are defined as during all hours of operations, during normal office hours, or during an emergency		Records are maintained and available.
	Section F. 4.	Monitoring, Record Keeping, and Reporting Requirements	No person shall obstruct, hamper, or interfere with Cabinet reps while carrying out official duties. Refusal of entry may constitute grounds for revocation of permit and assessment of civil penalties		Records are maintained and available. Access has not been denied.
	Section F. 5.	Monitoring, Record Keeping, and Reporting Requirements	Summary reports of monitoring required by this permit shall be submitted every six months during life of permit unless otherwise stated. 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 no monitoring was performed during previous six months because emission unit was not in operation		Semi-annual Monitoring reports have been submitted during this reporting period.
	Section F. 6. 401 KAR 59:005, Section 3(3) 401 KAR 52:020 Section 23	Monitoring, Record Keeping, and Reporting Requirements	The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020, Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.		Semi-annual Monitoring reports have been submitted by the required due dates and the CEM data has been reported to the Technical Service Branch.
	Section F. 7.a - b. 401 KAR 50:055, Section 1	Monitoring, Record Keeping, and Reporting Requirements	Owner or operator shall notify DAQ 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 planned shutdown, or immediately following the decision to shutdown, if shutdown is due to events which could have been foreseen three (3) days before shutdown. b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of standard, notification shall be made promptly by telephone and written notice submitted upon request		Reporting of SSM have been reported as required.
	Section F. 8. 401 KAR 52:020, Section 26	Monitoring, Record Keeping, and Reporting Requirements	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 thirty (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		Reporting of exceedances have been reported as required.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section F. 9.a - f. 401 KAR 52:020, Section 21	Monitoring, Record Keeping, and Reporting Requirements	Permittee shall certify compliance by completing and returning a Compliance Certification Form (DEP 7007CC) which a. Identification of the term or condition b. Compliance status of each term or condition of the permit c. Whether compliance was continuous or intermittent d. The method used for determining compliance status for the source, currently and over the reporting period e. Identifying any unit which was under construction or had not commenced operation at the end of the 12 month period covered by the certification and compliance will be demonstrated w/in timeframes specified in permit f. Certification shall be postmarked by January 30th of each year and mailed to addresses listed in permit		Permittee has certified compliance and has followed the requirements of DEP7007CC/Title V Permit.
	Section F. 10. 401 KAR 52:020, Section 22	Monitoring, Record Keeping, and Reporting Requirements	Permittee shall provide DAQ with information to determine its subject emissions w/in 30 days of date the KYEIS emission survey is mailed to permittee		KYEIS data has been submitted as required.
	Section G.1a. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	Permittee shall comply with all conditions of permit. Non-compliance shall be grounds for termination, revocation and reissuance, revision or denial of permit		Permittee has complied with the conditions in the permit; deviations have been reported as applicable.
	Section G.1b. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	Filing of a request for permit revision, revocation, reissuance, or termination, or notification of planned change or anticipated noncompliance shall not stay any permit condition		NA

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's, records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section G.1c. 1-4 401 KAR 52:020, Section 19, 401 KAR 52:020, Section 12	General Provisions (General Compliance Requirements)	Permit may be revised, revoked, reopened and reissued or terminated for cause. Permit will be reopened for cause and revised under the following circumstances: 1. If additional applicable requirements become applicable to the source and the remaining permit term is 3 years or longer. In this case, reopening shall be completed no later than 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 2. Cabinet or EPA determines the permit must be revised or revoked 3. Cabinet or EPA determines the permit contains a material mistake or inaccurate statements were made in establishing emissions standards or conditions of permit 4. New requirements become applicable to a source subject to the Acid Rain program. Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts which cause it to reopen. Reopening shall be made as expeditiously as practicable. Reopening shall not be initiated before a notice of intent to reopen as provided to the source by the DAQ at least thirty (30) days in advance of the date the permit is to be reopened, except that the DAQ may provide a shorter time in the case of an emergency.		NA
	Section G.1d. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	Permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing or terminating the permit; or compliance with the conditions of the permit		NA
	Section G.1e. 401 KAR 52:020, Section 3(1)(c)	General Provisions (General Compliance Requirements)	Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the DAQ		NA
	Section G.1f. 401 KAR 52:020, Section 7(1)	General Provisions (General Compliance Requirements)	Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in permit application, shall promptly submit facts or corrected information to permitting authority		NA
	Section G.1g. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	Any condition or portion of this permit suspended or ruled invalid as a result of a legal or other action shall not invalidate any portion or condition of this permit		NA
	Section G.1h. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	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		NA

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section G.1i. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	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.		NA
	Section G.1j. 401 KAR 52:020, Section 26, 401 KAR 50:038, Section 3(6)	General Provisions (General Compliance Requirements)	Permit shall be subject to suspension if permittee fails to pay all emissions fees w/in 90 days after date of notice		Fees have been paid within the specified timeframe; record maintained.
	Section G.1k. 401 KAR 52:020, Section 11(3)(2)	General Provisions (General Compliance Requirements)	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		NA
	Section G.1l. 401 KAR 52:020, Section 26	General Provisions (General Compliance Requirements)	This permit does not convey property rights or exclusive privileges		NA
	Section G.1m.	General Provisions (General Compliance Requirements)	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		NA
	Section G.1n. 401 KAR 52:020, Section 11(3)(4)	General Provisions (General Compliance Requirements)	Nothing in this permit shall alter or affect the authority of EPA to obtain information, inspections, monitoring, or entry		NA
	Section G.1o. 401 KAR 52:020, Section 11(3)(1)	General Provisions (General Compliance Requirements)	Nothing in this permit shall alter or affect the authority of EPA to impose emergency orders		NA
	Section G.1p.	General Provisions (General Compliance Requirements)	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		Compliance under this permit, is being certified for the 2019 reporting period
	Section G.1q. 401 KAR 52:020, Section 11	General Provisions (General Compliance Requirements)	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 issuance. Compliance with the conditions of a permit shall be considered compliance with: 1. applicable requirements that are included and specifically identified in the permit and 2. non-applicable requirements expressly identified in this permit		NA

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section G.2a. 401 KAR 52:020, section 12	General Provisions (Permit Expiration and Reapplication Requirements)	Permit shall remain in effect for a term of five (5) years following date of issuance. Permit expiration shall terminate the source's right to operate unless timely and complete renewal application is submitted at least six months prior to expiration. A permit shield shall remain in effect beyond the expiration date until the renewal permit is issued or denied		NA
	Section G.2b. 401 KAR 52:020 Section 8(2)	General Provisions (Permit Expiration and Reapplication Requirements)	Authority to operate granted shall cease to apply if source fails to submit additional information requested after the completeness determination has been made on the application		NA
	Section G.3a. 401 KAR 52:020, Section 14(2)	General Provisions (Permit Revisions)	Minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent these procedures are provided for in the SIP		NA
	Section G.3b.	General Provisions (Permit Revisions)	Permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from DAQ and new permit may be processed as administrative amendment and must be submitted to DAQ w/in 10 days following transfer		NA
	Section G.4.	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	Pursuant to a duly submitted application DAQ hereby authorizes construction of the equipment described herein, emission units 50, 51, and 52 in accordance with the terms and conditions of this permit.		See Units 50-52, construction notifications have been submitted as required.
	Section G.4a.	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	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		NA
	Section G.4b. (1-3)	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	Within thirty (30) days following commencement of construction and within fifteen (15) days following startup and attainment of max production rate, or within fifteen (15) days following issuance date of permit, permittee shall furnish a copy 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 max production rate specified in the permit application was achieved		Data has been submitted via letters dated: Aug 13, 2014 (EU50 -EU52) construction commencement notification Dec. 4, 2014 (EU50 -EU52) startup and max production notification

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section G.4c. 401 KAR 52:020, Section 3(2)	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	Unless construction commenced w/in 18 months after permit was 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 when construction was not completed shall immediately become invalid. Upon written request, the DAQ may extend these periods if the source shows good cause		NA
	Section G.4d. 401 KAR 50:055	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	A source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with applicable standards has been demonstrated. If compliance not demonstrated, source shall operate only for the purpose of demonstrating compliance		NA
	Section G.4e. 401 KAR 50:055	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	Permit shall allow time for initial start-up, operation, and compliance demonstration of the affected facilities listed. Within sixty (60) days after achieving max production rate but not later than 180 days after initial start-up, permittee shall conduct either a performance demonstration or test as required. Permittee must furnish to DAQ written report of results of such performance test		NA
	Section G.4f. 401 KAR 51:017, 401 KAR 51:052	General Provisions (Construction, Start-Up, and Initial Compliance Demonstration Requirements)	Terms and conditions in this permit established pursuant to the construction authority in applicable regs shall not expire		NA
	Section G.5a. 401 KAR 50:045, Section 2, 401 KAR 50:045, Section 7	General Provisions (Testing Requirements)	A source required to conduct a performance test shall submit a completed Compliance Test Protocol Form or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet to DAQ's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. DAQ shall be notified of the actual test date at least thirty (30) days prior to the test.		Notification has been submitted as required.

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section G.5b. 401 KAR 50:045, Section 5	General Provisions (Testing Requirements)	In order to demonstrate a source is capable of continuous compliance, a performance test shall be conducted under normal conditions representative of the source's operations and create the highest rate of emissions. If/when max production rate represents source's highest emissions rate and a performance test is conducted at less than max production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during 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 DAQ may waive these requirements on a case-by-case basis if the source demonstrates to the DAQ's satisfaction that the source is in compliance with all requirements.		Testing, has been performed as required.
	Section G.5c.	General Provisions (Testing Requirements)	Results of performance tests required by permit shall be submitted to DAQ w/in 45 days or sooner if required by an applicable standard, after completion of fieldwork		Reporting Performance tests were submitted within the 45-day window.
	Section G.6a.	General Provisions (Acid Rain Program Requirements)	If an applicable requirement of 42 USC 7401 - 7671q is more stringent than an applicable requirement promulgated pursuant to 42 USC 7651 - 7651o, both provisions shall apply and both are enforceable		Permittee complies with the Acid Rain requirements
	Section G.6b.	General Provisions (Acid Rain Program Requirements)	The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.		Permittee complies with the Acid Rain requirements
	Section G.7a (1 - 5). 401 KAR 52:020 Section 24(1) 401 KAR 50:055 KRS 224.01-400	General Provisions (Emergency Provisions)	An emergency shall constitute an affirmative defense to an action brought for noncompliance with technology based emission limitations if the permittee demonstrates: 1. An emergency occurred and the permittee can identify the cause 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 standards or requirements in the permit 4. the permittee notified DAQ as promptly as possible and submitted written notice of the emergency when emission limits were exceeded. the notice shall include steps to mitigate emissions and corrective actions taken 5. this requirement does not relieve the source of other local, state, or federal notification requirements		NA

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section G.7b. 401 KAR 52:020, Section 24(3)	General Provisions (Emergency Provisions)	Emergency conditions listed in General Condition G.7a. above are in addition to any emergency or upset provision contained in an applicable requirement		NA
	Section G.7c. 401 KAR 52:020, Section 24(2)	General Provisions (Emergency Provisions)	In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof		NA
	Section G.8a. (1 - 6) 40 CFR 82, Subpart F and Subpart B, 40 CFR 82.156 40 CFR 82.158 40 CFR 82.166 40 CFR 82.161	General Provisions (Ozone Depleting Substances)	Permittee shall comply with the standards for recycling and emissions reduction except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B: 1. Persons opening appliances for maintenance, service, repair, or disposal 2. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with standards for recycling and recovery equipment 3. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program 4. Persons disposing of small appliances, MVACs, and MVAC-like appliances shall comply with recordkeeping requirements 5. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements 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 regs		Permittee and/or contractor follows standards for recycling and emission reduction.
	Section G.8b. 40 CFR 82, Subpart B	General Provisions (Ozone Depleting Substances)	If permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements		Permittee and/or contractor follows applicable requirements.
	Section G.9a. 401 KAR 68	General Provisions (Risk Management Provisions)	Permittee shall comply with all applicable requirements of Chemical Accident Prevention of 401 KAR 68 and if applicable, submit a Risk Management Plan to: RMP Reporting Center P.O. Box 10162 Fairfax, VA 22038		Permittee complies with the RMP requirements
	Section G.9b.	General Provisions (Risk Management Provisions)	If requested, submit additional relevant information to DAQ or EPA		NA
	Section J.1	Acid Rain (Statutory and Regulatory Authority)	In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality issues this permit pursuant to 401 KAR 52:020, Title V Permits, 401 KAR 52:060, Acid Rain Permits, and 40 CFR Part 76.		Permittee complies with the Acid Rain requirements

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section J.2	Acid Rain - Permit Requirements	This Acid Rain Permit covers Acid Rain Units 1, 2, and 5-10 (Emission Units 01, 31, and 25-30). Emission Units 01 and 31 are coal-fired base load electric generating units. Emission Units 25-30 are natural gas-fired combustion turbines. The Acid Rain Permit Application and NOx Compliance Plan received on November 6, 2012 are hereby incorporated into and made part of this permit and the permittee shall comply with the standard requirements and special provisions set forth in the application [40 CFR 72.9(a)(2)].		Permittee complies with the Acid Rain requirements
	Section J.3 (i-iii)	Acid Rain (Acid Rain Program Emission and Operating Limitations)	The applicable Acid Rain emission limitations for the permittee are set in 40 CFR 73.10, Table 2, 40 CFR 76.5, and 40 CFR 76.11 and they are tabulated in the table below: (i-iii)		Permittee complies with the Acid Rain requirements
	Section J.4a.	Acid Rain - Compliance Plan	Shall operate in compliance with the requirements contained in the Acid Rain application and incorporated into this permit [40 CFR 72.9].		Permittee complies with the Acid Rain requirements
	Section J.4b.	Acid Rain - Compliance Plan	The Division approves the NOx Average Plan submitted for these units for the NOx Emissions Compliance Plan, effective for the duration of this permit. Under this plan, a unit's NOx emissions shall not exceed the applicable annual average alternative contemporaneous emissions limitation (ACEL) listed in Subsection 3(a). [40 CFR 76] (1) The actual Btu-weighted annual average NOx emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emission rate for (2) For each unit, if the designated representative demonstrates that the requirement of Subsection 4(b)(1) is met for the plan year, then the unit shall be deemed to be in compliance for the year with its ACEL and associated heat input limit in Subsection 3. (3) If the designated representative cannot make the demonstration in Subsection 4(b)(1), according to 40 CFR 76.11(d)(1)(ii), for the plan year and if a unit fails to meet the annual average ACEL or has a heat input greater than the applicable value listed in Subsection 3, then excess emissions of NOx have occurred during the year for that unit. (4) As an alternative means of compliance demonstration, this emission unit shall not cause the system weighted average to exceed the applicable emission rate in accordance with 40 CFR 76.11(d)(B)(ii). the same unit had it been operated, during the same period of time, in compliance with the individual applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7 and listed in Subsection		Permittee complies with the Acid Rain requirements
	Section K.1. KRS224.10-100, 401 KAR 52:020, 401 KAR 51:210, 401 KAR 51:200, 401 KAR 51:230,	Clean Air Interstate Rule - Statement of Basis	In accordance with appropriate regs, the Kentucky Energy and Environment Cabinet issues this permit		Permittee complies with the applicable CAIR requirements
	Section K.2 401 KAR 52:020	Clean Air Interstate Rule - CAIR Application	The CAIR application for eight (8) electrical generating units was submitted to the Division and received on July 3, 2007. Requirements contained in that application are hereby incorporated into and made part of this CAIR Permit. Pursuant to applicable regs, the source shall operate in compliance with those requirements.		Permittee complies with the applicable CAIR requirements

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. (such as test methods, monitoring procedures, recordkeeping and reporting) (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section K.3	Clean Air Interstate Rule - Comments, notes etc.	Affected units are two (2) pulverized coal-fired steam generators (Emission Units 1 and 31) and six (6) 150-megawatt natural gas fired simple cycle combustion turbines (Emission Units 25 through 30) used for peak electrical power combustion. Each unit has a nameplate capacity to generate greater than 25 megawatts of electricity, which is offered for sale. The units use coal and natural gas as fuel source, and are authorized as base load electric generating units.		Permittee complies with the applicable CAIR requirements
	Section K.4. 401 KAR 52:100	Clean Air Interstate Rule - Summary of Actions	The CAIR Permit is being issued as part of the Title V permit for this source. Public, affected states, and U.S. EPA review will follow procedures specified in 401 KAR 52:100. Following the remand of the case to the D.C. Circuit, EPA requested that the court lift the CSAPR stay and toll the CSAPR compliance deadlines by three years. On October 23, 2014, the D.C. Circuit granted EPA's request. CSAPR Phase I implementation is now in place and replaces requirements under EPA's 2005 Clean Air Interstate Rule.		Permittee complies with the applicable CAIR requirements
	Section L.	Cross-State Air Pollution Rule (CSAPR)	The TR subject unit(s), and the unit-specific monitoring provisions, at this source are identified in the following table(s). These unit(s) are subject to the requirements for the TR NOX Annual Trading Program, TR NOX Ozone Season Trading Program, and TR SO2 Group 1 Trading Program.		Permittee complies with the applicable CSAPR requirements
	Section L.1.	Cross-State Air Pollution Rule (CSAPR)	The monitoring, recordkeeping and reporting requirements applicable to each unit are included below in the standard conditions for the applicable TR trading programs.		Permittee complies with the applicable CSAPR requirements
	Section L.2.	Cross-State Air Pollution Rule (CSAPR)	Owners and operators must submit to the Administrator a monitoring plan for each unit in accordance with 40 CFR 75.53, 75.62 and 75.73, as applicable.		Permittee complies with the applicable CSAPR requirements
	Section L.3.	Cross-State Air Pollution Rule (CSAPR)	Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR part 75, subpart E and 40 CFR 75.66 and 97.435 (TR NOX Annual Trading Program), 97.535 (TR NOX Ozone Season Trading Program), and/or 97.635 (TR SO2 Group 1 Trading Program).		Permittee complies with the applicable CSAPR requirements

Emission Unit/Permit ID#	Permit Term, Condition or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement	Actual Emissions or status of requirements	The method used for Determining Compliance over the reporting period and whether the method provided continuous or intermittent data. <i>(such as test methods, monitoring procedures, recordkeeping and reporting)</i> (Compliance methods are intermittent (Method 9's , records, calcs, etc.) and noted below, except for Units 1 & 31, which have CEMs & the CTs (25-30) which have NOx CEMS
	Section L.4.	Cross-State Air Pollution Rule (CSAPR)	Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR part 75, subpart E and 40 CFR 75.66 and 97.435 (TR NOX Annual Trading Program), 97.535 (TR NOX Ozone Season Trading Program), and/or 97.635 (TR SO2 Group 1 Trading Program) must submit to the Administrator a petition requesting approval of the alternative in accordance with 40 CFR 75.66 and 97.435 (TR NOX Annual Trading Program), 97.535 (TR NOX Ozone Season Trading Program), and/or 97.635 (TR SO2 Group 1 Trading Program).		Permittee complies with the applicable CSAPR requirements
	Section L.5.	Cross-State Air Pollution Rule (CSAPR)	The descriptions of monitoring applicable to the unit included above meet the requirement of 40 CFR 97.430 through 97.434 (TR NOX Annual Trading Program), 97.530 through 97.534 (TR NOX Ozone Season Trading Program), and 97.630 through 97.634 (TR SO2 Group 1 Trading Program), and therefore minor permit modification procedures, in accordance with 40 CFR 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B), may be used to add or change this unit's monitoring system description.		Permittee complies with the applicable CSAPR requirements

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units Subject to Future Compliance Dates

10b) Emission Units Subject to Future Compliance Dates. *The following emission units will achieve compliance on a timely basis and maintain compliance with future compliance dates as they become applicable during the permit term. If additional space is required, reproduce this page as needed.*

Emission Unit/Permit ID#	Future Compliance Schedule	Emission Unit Description	Reason for Future Compliance Date

NA DURING THIS REPORTING PERIOD

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units Not in Continuous Compliance

10c)(1) Emission Units Not in Continuous Compliance. *The following emission units were not in continuous compliance with each permit term or condition and applicable requirements listed here, such as emission standards, emission control requirements, emission testing, court requirements, work practices, or enhanced monitoring, based on the compliance methods specified below. If additional space is required, reproduce this page as needed.*

Emission Unit/Permit ID#	Permit Term, Condition, or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement/'Actual Emissions or Status of Requirement	The method used for determining compliance over the reporting period, and whether compliance was continuous or intermittent. <i>(such as test methods, monitoring procedures, recordkeeping and reporting)</i>
01/6b.	401 KAR 59:005, Section 4(3)	TC1 Indirect Heat Exchanger	Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division's Florence Regional Office. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information in i-v	Quarterly reports were not submitted as required. All except for the 2nd quarterly report were submitted as required. It was discovered in Dec. 2019 that the data from the CTs overwrote the TC1 and TC2 data in the initial submittal. The 2nd quarterly report was resubmitted in Dec. 2019. Report/Intermittent
31/2a. Fluorides	401 KAR 51:017	TC2 Indirect Heat Exchanger	a. 1.55 lbs/hr, 3-hour rolling average AND b. 1.55 lbs/hr, 30- day rolling average 401 KAR 51:017 SO2 CEMS, see table 4.I See 2.b.	SO2 CEM Fluorides - 1.55 lbs/hr, 3-hour rolling average AND 1.55 lbs/hr, 30-day rolling average were not exceeded during this reporting period. The SO2 CEM did exceed 1.738 lb/MWh on a 3-hr rolling average. See Attachments 30 and 31 CEM/Intermittent

Emission Unit/Permit ID#	Permit Term, Condition, or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement/'Actual Emissions or Status of Requirement	The method used for determining compliance over the reporting period, and whether compliance was continuous or intermittent. (such as test methods, monitoring procedures, recordkeeping and reporting)
31/4l.	40 CFR 64.6	TC2 Indirect Heat Exchanger	Monitoring for H2SO4 and Fluoride is shown in the table [40 CFR 64.6].	SO2 CEM and the WESP and FGD are indicators for H2SO4 and Fluoride compliance. Emission data is submitted in the Semi-Annual Reports. The highest SO2 lb/MW hr for this time period was 2.44, which was above the excursion limit of 1.738 lb/MW hr. SO2 went above the 1.738 limit while the unit was coming off line. See Attachment 31 CEM/Intermittent
31/6a.	40 CFR 64.51 Da, 401 KAR 59:005	TC2 Indirect Heat Exchanger	Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division's Florence Regional Office. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information: (i-xi)	Quarterly reports were not submitted as required. All except for the 2nd quarterly report were submitted as required. It was discovered in Dec. 2019 that the data from the CTs overwrote the TC1 and TC2 data in the initial submittal. The 2nd quarterly report was resubmitted in Dec. 2019. Report/Intermittent
32/1e.	401 KAR 52:020, Section 10	"Limited Use" Auxiliary Steam Boiler	The auxiliary steam boiler, except for testing purposes, shall only operate during periods when Emission Unit 01 OR Emission Unit 31 are operating at less than 50 percent load [401 KAR 52:020, Section 10]. Compliance Demonstration Method: Compliance shall be demonstrated by 6.d., Specific Reporting Requirements.	The Aux Boiler not not operated as required. The Aux boiler did operate while TC1 or TC2 were above 50% load. See Attachment 74 Operation/intermittent
32/6d.	401 KAR 52:020, Section 10	"Limited Use" Auxiliary Steam Boiler	Shall report any violation of 1.e., Operating Limitations.	Aux boiler was operated while TC1 or TC2 were above 50% load. See Attachment 74 Operation/intermittent

Emission Unit/Permit ID#	Permit Term, Condition, or Applicable Regulation	Emission Unit Description	Permit Limit or Requirement/'Actual Emissions or Status of Requirement	The method used for determining compliance over the reporting period, and whether compliance was continuous or intermittent. <i>(such as test methods, monitoring procedures, recordkeeping and reporting)</i>
25-30/2b.	401 KAR 52:020, Section 10	6 Combustion Turbines (TC5 - TC10)	Except during periods of startup, shutdown, or malfunction, the CO emission level in the exhaust gas shall not exceed 9 ppm by volume at 15 % oxygen, on a dry basis, during any three (3)-hour averaging period [401 KAR 51:017]. Compliance Demonstration Method: Compliance with this limit shall be demonstrated by CEMS according to 4.d., Specific Monitoring Requirements [401 KAR 52:020, Section 10].	For Unit 26 (TC6) only. Please noted that Units 25 and 27-30 were in compliance. CEMS for CO CO exceeded the limit on 3/4/19 for Unit 26. See Attachment 15. CEM/intermittent

Section CC.3: Identification of Emission Units & Each Term or Condition of the Permit

Emission Units Not in Continuous Compliance (continued)

10c)(2) Emission Units Not in Continuous Compliance. For the emission units and requirements listed in 10c)(1) that were not in continuous compliance since the last reporting period, state the duration, magnitude, and reason or reasons for non-compliance. Each row of 10c)(2) must relate to the corresponding row of 10c)(1). If additional space is required, reproduce this page as needed.

Emission Unit/Permit ID#	Description of duration, magnitude, and reason(s) for non-compliance and corrective steps taken or planned.
01/6b.	Quarterly reports were not submitted as required. All except for the 2nd quarterly report were submitted as required. It was discovered in Dec. 2019 that the data from the CTs overwrote the TC1 and TC2 data in the initial submittal. The 2nd quarterly report was resubmitted in Dec. 2019.
31/2a. Fluorides	SO2 CEM Fluorides - 1.55 lbs/hr, 3-hour rolling average AND 1.55 lbs/hr, 30-day rolling average were not exceeded during this reporting period. The SO2 CEM did exceed 1.738 lb/MWh on a 3-hr rolling average. See Attachments 30 and 31
31/4l.	SO2 CEM and the WESP and FGD are indicators for H2SO4 and Fluoride compliance. Emission data is submitted in the Semi-Annual Reports. The highest SO2 lb/MWhr for this time period was 2.44, which was above the excursion limit of 1.738 lb/MWhr. SO2 went above the 1.738 limit while the unit was coming off line. See Attachment 31
31/6a.	Quarterly reports were not submitted as required. All except for the 2nd quarterly report were submitted as required. It was discovered in Dec. 2019 that the data from the CTs overwrote the TC1 and TC2 data in the initial submittal. The 2nd quarterly report was resubmitted in Dec. 2019.
32/1e.	The Aux Boiler not not operated as required. The Aux boiler did operate while TC1 or TC2 were above 50% load. See Attachment 74
32/6d.	Aux boiler was operated while TC1 or TC2 were above 50% load. See Attachment 74
25-30/2b.	CEMS for CO for Unit 26. Units 25 and 27-30 were in compliance. CO exceeded the limit on 3/4/19. See Attachment 15

ATTACHMENTS

See Semi-Annual Monitoring Reports for Additional Emission Data

Average Data

Plant: TRIMBLE COUNTY GENERATING STATION

Interval: 12 Month

Type: Roll

Report Period: 01/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Attachment 13

Source Parameter Unit	TC1	
	NOXTONS (TONS)	SO2TONS (TONS)
01/19	1,524.60745	2,391.97478
02/19	1,575.83660	2,485.20593
03/19	1,612.55530	2,647.47498
04/19	1,622.93970	2,619.35624
05/19	1,632.84580	2,578.78032
06/19	1,606.18280	2,616.37409
07/19	1,601.01160	2,672.56462
08/19	1,591.71015	2,700.97090
09/19	1,598.03545	2,691.64864
10/19	1,510.58800	2,487.98394
11/19	1,406.34190	2,326.52769
12/19	1,358.65030	2,204.03160
Average	1,553.44209	2,535.24114
Minimum	1,358.65030	2,204.03160
Maximum	1,632.84580	2,700.97090
Summation	18,641.30505	30,422.89373
Geometric Mean	1,551.02211	2,530.51146
Included Data Points	12	12
Total number of Data Points	12	12

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted** **I = Invalid**
M = Maintenance **T = Out Of Control** *** = Suspect** **U = Startup** **D = Shutdown**

Exceedance Events

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 01/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Source: TC6

Standard Limit: 9.499

Parameter: CO_CORR

Interval: 003H

Event ID	Date/Time	Value	Reason Code - Description
1	03/04/19 22:00	9.6	10 - Other Known Causes EE

Max Value: 9.6**Min Value:** 9.6**Number of Events:** 1

Attachment 30: TC2 FLR#/HR Permit 720H Average – Shutdown Limit 1.55 Lbs/Hr

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 Through 12/31/2019

Flag(s) Filtered: IsNotMissing

TC2	FLR#HRSH	Average	0.257849
		Minimum	0.252384
		Maximum	0.277052
		Summation	5.672684

Attachment 30: TC2 FLR#/HR Permit 720H Average – Startup Limit 1.55 Lbs/Hr

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 Through 12/31/2019

Flag(s) Filtered: IsNotMissing

TC2	FLR#HRST	Average	0.265310
		Minimum	0.251288
		Maximum	0.278651
		Summation	2.122477

Attachment 30: TC2 SAM#/HR Permit 720H Average – Shutdown Limit 26.6 Lbs/Hr

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 Through 12/31/2019

Flag(s) Filtered: IsNotMissing

TC2	SAM#HRSH	Average	3.666386
		Minimum	3.588677
		Maximum	3.939429
		Summation	80.660493

Attachment 30: TC2 SAM#/HR Permit 720H Average – Startup Limit 26.6 Lbs/Hr

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 Through 12/31/2019

Flag(s) Filtered: IsNotMissing

TC2	SAM#HRST	Average	3.772468
		Minimum	3.573089
		Maximum	3.962175
		Summation	30.179741

Attachment 30: TC2 VOC#/HR Permit 720H Average – Shutdown Limit 22 Lbs/Hr

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 Through 12/31/2019

Flag(s) Filtered: IsNotMissing

TC2	VOC#HRSH	Average	4.123182
		Minimum	4.035790
		Maximum	4.430243
		Summation	90.709999

Attachment 30: TC2 VOC#/HR Permit 720H Average – Startup Limit 22 Lbs/Hr

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 Through 12/31/2019

Flag(s) Filtered: IsNotMissing

TC2	VOC#HRST	Average	4.242480
		Minimum	4.018260
		Maximum	4.455823
		Summation	33.939840

Exceedance Events

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Attachment 31

Source: TC2

Standard Limit: 1.738499

Parameter: SO2#MWHR

Interval: 003H

Event ID	Date/Time	Value	Reason Code - Description Action Code - Description
1	08/19/19 16:00	2.2070	00 - Unacknowledged 00 - None
2	08/19/19 17:00	2.4415	00 - Unacknowledged 00 - None
3	08/19/19 18:00	1.7661	00 - Unacknowledged 00 - None

Max Value: 2.4415

Min Value: 1.7661

Number of Events: 3

Exceedance Events

Plant: TRIMBLE COUNTY GENERATING STATION

Report Period: 07/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Attachment 32

No Excess Emissions found during the report period for:

Source (s): TC2
Parameter(s): CO#/HR
Interval: 3 Hour
Reason Code(s): 00, 01, 02, 03, 05, 06, 07, 08, 10, 91, 92, 93, 94

2019 Trimble County Unit 2

Emissions ID: Unit 31
 Annual Startup Data Log

Event	Date Off Line	"Shutdown event start time" <375MW or shutdown initiated	"Shutdown event end time (Fires out)"	Duration (10hrs)	"Startup event start time" Fires in Boiler	"Unit Online Time"	"Startup event end time" 225-300 MW	Duration (24hrs)	1st Stage Calculated Temp @ Roll (deg F)	Type of Startup (cold, warn, hot)	Operated as Per Startup Procedures?	Comments
1	1/9/2019	1/9/2019 6:11	1/9/2019 6:11	0:00:00	1/9/2019 15:58	1/9/2019 2:23	1/9/2019 5:17	10:41:00	979	HOT	Yes	The unit experienced a forced outage due to a leak that developed on the "2D" generator hydrogen cooling water piping and caused the Closed Cooling tank level to drop.
2	3/15/2019	3/15/2019 16:05	3/15/2019 20:24	4:19:00	5/4/2019 10:20							TC2 has been placed on the Spring 2019 Planned Outage for unit maintenance and improvement. This outage has multiple scopes with the main scope being planned overhaul work to the Low Pressure Turbines.
3	5/5/2019		5/5/2019 0:35		5/5/2019 3:14							The unit was placed on a forced outage for repairs to Generator Bearing #11, which sustained damage during start-up from a lack of oil flow to the bearing due to an install issue by GE.
4	5/5/2019		5/5/2019 3:28		5/5/2019 4:09							The unit failed to complete startup due to high vibration levels on Turbine Bearing #7.
5	5/5/2019		5/5/2019 5:16		5/9/2019 16:58							The unit failed to complete startup due to high vibration levels on Turbine Bearing #7.
6	5/10/2019		5/10/2019 13:18		5/10/2019 14:13							The unit failed to complete startup due to high vibration levels on Turbine Bearing #7.
7	5/10/2019		5/10/2019 19:46		5/11/2019 20:18							The unit failed to complete startup due to high vibration levels on Turbine Bearing #7.
8	5/12/2019		5/12/2019 5:49		5/13/2019 2:49	5/13/2019 12:02	5/13/2019 13:59	11:10:00	489	COLD	Yes	The unit failed to complete startup due to high vibration levels on Turbine Bearing #7.
9	5/13/2019	N/A	5/13/2019 14:04		5/13/2019 19:12	5/14/2019 4:29	N/A	N/A	590	WARM	Yes	The unit tripped offline due to vibration levels in Generator Bearing #11.
10	5/14/2019	N/A	5/14/2019 5:31		5/14/2019 8:36	5/14/2019 14:33	N/A	N/A	582	WARM	Yes	The unit tripped offline due to vibration levels in Generator Bearing #11.
11	5/14/2019	N/A	5/14/2019 14:48		5/15/2019 18:13	5/16/2019 1:30	5/16/2019 4:13	10:00:00	512	COLD	Yes	The unit tripped due to issues with the flame scanning equipment on D2 burner.
12	5/16/2019	N/A	5/16/2019 6:53		5/16/2019 10:03	5/16/2019 14:52	5/16/2019 15:49	5:46:00	884	HOT	Yes	The unit failed to start when the Motor Driven Boiler Feed Pump experienced issues with the Voith Drive scoop tube.
13	5/16/2019	N/A	5/16/2019 17:05		5/18/2019 3:48	5/18/2019 10:13	5/18/2019 12:06	8:18:00	561	WARM	Yes	The unit tripped on low feedwater flow when the Motor Driven Boiler Feed Pump experienced issues with the Voith Drive scoop tube.
14	5/22/2019	5/22/2019 3:26	5/22/2019 7:42	4:16:00	5/25/2019 8:34	5/25/2019 22:26	5/26/2019	15:57:00	505	COLD	Yes	The unit was placed on a Maintenance Outage for corrections to the vibration on generator bearing #11.
15	7/13/2019	7/13/2019 3:45	7/13/2019 3:46	0:01:00	7/13/2019 6:54	7/13/2019 12:26	7/13/2019 13:49	6:55:00	888	HOT	Yes	TC2 B TDBFP Feedwater Control Valve servo went full-open, which caused excessive feedwater flow and a discrepancy between feedwater flow and steam flow setpoints, resulting in a trip of the unit.
16	7/27/2019	7/27/2019 13:55	7/27/2019 17:01	3:06:00	7/30/2019 11:52	7/30/2019 19:28						The unit was taken offline for repairs to boiler tube leaks in the primary reheater, assembly 98.
17	7/30/2019	7/30/2019 22:11	7/30/2019 22:11	0:00:00	7/30/2019 23:03	7/31/2019 6:32	7/31/2019 7:54	8:51:00	837	HOT	Yes	The unit was taken offline after two mills' flame scanner indication signals were lost and tripped the mills causing the boiler pressure to decay so the unit was removed from service to protect the asset.
18	8/10/2019	8/10/2019 9:12	8/10/2019 13:47	4:35:00	8/12/2019 9:42	8/12/2019 18:02	8/12/2019 21:54	12:12:00	596	WARM	Yes	
19	10/16/2019	10/16/2019 22:51	10/16/2019 23:00	0:09:00	10/24/2019 5:02	10/24/2019 9:35	10/24/2019 13:14	8:12:00	498	COLD	Yes	The unit was coming down because of a tube leak in the waterwall. While the unit was coming down the feedwater controls tripped the unit because of lack of feedwater flow.

Average Data

Plant: TRIMBLE COUNTY GENERATING STATION

Interval: 12 Month

Type: Roll

Report Period: 01/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Attachment 34

Source Parameter Unit	TC2	
	NOXTON12 (TONS)	SO2TON12 (TONS)
01/19	815.3138	1,379.82395
02/19	827.4413	1,410.03082
03/19	870.3650	1,486.92097
04/19	870.3650	1,486.92097
05/19	884.0574	1,508.19698
06/19	893.4713	1,574.77144
07/19	884.1402	1,538.43378
08/19	883.9728	1,536.00653
09/19	901.3402	1,564.34518
10/19	880.4362	1,553.36038
11/19	876.1315	1,576.16075
12/19	885.4275	1,578.03504

F = Unit Offline **E = Exceedance** **C = Calibration** **S = Substituted** **I = Invalid**
M = Maintenance **T = Out Of Control** *** = Suspect** **U = Startup** **D = Shutdown**

Emission Unit: EU32
Source: Auxiliary Boiler

Month	Hours of Operation	Rolling 12-month Total/Hours	Fuel Oil Usage (Gallons)	Natural Gas (SCF)	MMBtu/month	Fuel Oil Rolling 12-Month Total	12-Month Rolling Capacity Factor (%)	Rolling 12 month total MMBtu (Limit = 87,565)
Jan-19	0.00	193.56		-	-		0.29	2,496
Feb-19	1.06	190.22		11,153.80	11.38		0.28	2,459
Mar-19	0.00	190.22		-	-		0.28	2,459
Apr-19	0.00	180.66		-	-		0.25	2,156
May-19	15.18	184.27		150,345.00	153.35		0.21	1,867
Jun-19	8.83	193.10		88,000.00	89.76		0.22	1,957
Jul-19	17.15	210.25		565,000.00	576.30		0.29	2,533
Aug-19	0.00	205.78		-	-		0.28	2,488
Sep-19	2.19	207.97		22,000.00	22.44		0.29	2,511
Oct-19	369.82	577.79		8,920,000.00	9,098.40		1.33	11,609
Nov-19	543.00	957.57		5,545,000.00	5,655.90		1.78	15,611
Dec-19	0.00	957.23		-	-		1.78	15,608

ATTACHMENT 42

Case No. 2022-00402

Attachment 2 to Response to JI-1 Question No. 1.102(i)

Average Data

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Plant: TRIMBLE COUNTY GENERATING STATION

Imber

Interval: 12 Month

Type: Roll

Report Period: 01/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Source Parameter Unit	TC10	TC5	TC6	TC7	TC8	TC9
	NOXCORR (PPM)	NOXCORR (PPM)	NOXCORR (PPM)	NOXCORR (PPM)	NOXCORR (PPM)	NOXCORR (PPM)
01/19	8.1	8.5	8.56	8.0	7.4	8.1
02/19	8.1	8.5	8.52	8.1	7.4	8.0
03/19	8.1	8.5	8.46	8.2	7.5	8.0
04/19	8.1	8.5	8.48	8.2	7.5	8.1
05/19	8.0	8.5	8.45	8.3	7.5	8.2
06/19	8.0	8.5	8.42	8.3	7.6	8.3
07/19	8.0	8.4	8.42	8.3	7.6	8.3
08/19	8.0	8.5	8.38	8.4	7.6	8.3
09/19	7.9	8.5	8.37	8.4	7.7	8.3
10/19	7.9	8.6	8.38	8.4	7.8	8.3
11/19	7.9	8.5	8.42	8.4	7.7	8.3
12/19	7.9	8.5	8.38	8.4	7.7	8.3
Average	8.0	8.5	8.44	8.3	7.6	8.2
Minimum	7.9	8.4	8.37	8.0	7.4	8.0
Maximum	8.1	8.6	8.56	8.4	7.8	8.3
Summation	96.0	102.0	101.24	99.4	91.0	98.5
Geometric Mean	8.0	8.5	8.44	8.3	7.6	8.2
Included Data Points	12	12	12	12	12	12
Total number of Data Points	12	12	12	12	12	12

F = Unit Offline

E = Exceedance

C = Calibration

S = Substituted

I = Invalid

M = Maintenance

T = Out Of Control

* = Suspect

U = Startup

D = Shutdown

Exceedance Events

Plant: TRIMBLE COUNTY GENERATING STATION
Report Period: 01/01/2019 00:00 Through 12/31/2019 23:59
Time Online Criteria: 1 minute(s)

No Excess Emissions found during the report period for:

Source (s): TCCTS
Parameter(s): CH2OTONS
Interval: 12 Month
Reason Code(s): 00, 01, 02, 03, 05, 06, 07, 08, 10, 91, 92, 93, 94

Average Data

Plant: TRIMBLE COUNTY GENERATING STATION

Imber

Interval: 12 Month

Type: Roll

Report Period: 01/01/2019 00:00 Through 12/31/2019 23:59

Time Online Criteria: 1 minute(s)

Source	TCCTS
Parameter Unit	CH2OTONS (TONS)

01/19	0.908
02/19	0.922
03/19	0.838
04/19	0.789
05/19	0.771
06/19	0.746
07/19	0.760
08/19	0.723
09/19	0.745
10/19	0.804
11/19	0.839
12/19	0.839

Average	0.807
Minimum	0.723
Maximum	0.922
Summation	9.684
Geometric Mean	0.805
Included Data Points	12
Total number of Data Points	12

F = Unit Offline
 E = Exceedance
 C = Calibration
 S = Substituted
 I = Invalid
M = Maintenance
 T = Out Of Control
 * = Suspect
 U = Startup
 D = Shutdown

EU31-33

	EU 31-33 NOx Tons Limit = 1,523 tons 12-month rolling total	EU31-33 SO2 Tons Limit = 3,264 tons 12-month rolling total	EU31-33 VOC's Limit = 98 tons 12-month rolling total	EU31-33 Lead Limit = .55 tons 12-month rolling total
January-19	791.5	1,661.2	13.63	0.13
February-19	803.8	1,681.9	13.80	0.13
March-19	846.3	1,758.8	14.56	0.14
April-19	846.3	1,758.8	14.56	0.14
May-19	855.2	1,573.7	14.74	0.14
June-19	868.1	1,634.8	14.86	0.14
July-19	853.6	1,597.9	14.64	0.14
August-19	851.4	1,594.5	14.04	0.14
September-19	868.8	1,622.3	14.08	0.14
October-19	844.9	1,610.9	13.76	0.13
November-19	844.2	1,637.2	13.95	0.14
December-19	855.2	1,645.8	14.17	0.14

Date/Hour	TC1 AUXFLOW Value	TC2 LOADMW Value	TC1 UNITLOAD Value	Testing	Comments
07/24/2019 21	379	765	447	X	Uncarded Aux boiler and filled to firing level. Test fired in preparation for TC1 to come off line.
07/24/2019 22	2226	738	448	X	
07/24/2019 23	2107	735	447	X	
09/17/2019 20	1102	786	320	X	Fired Aux boiler in preparation for TC1 to come off line.
10/09/2019 12	859	779	487	X	Test fired on the Aux boiler
10/11/2019 12	535	792	508	X	Fired Aux boiler in preparation for TC1 to come off line.
10/11/2019 13	1679	789	507	X	
10/11/2019 14	3213	773	507	X	
10/11/2019 15	964	758	497	X	
10/11/2019 17	659	758	459	X	
10/11/2019 18	1947	759	457	X	
10/11/2019 19	1512	759	386	X	
11/17/2019 18	10045	794	287		Unit one came online but was not stable. Unit tripped back off on 11/17/19 @ 21:229
11/17/2019 19	10041	796	310		
11/17/2019 20	10038	795	318		
11/18/2019 09	10042	798	308		Unit was back online 11/18/19 @ 00:23 and Aux boiler was removed from service when TC1 was stable.
11/18/2019 10	1051	795	349		
11/24/2019 03	10039	434	299		Unit was back online 11/23/19 @ 22:53 and back off line 11/24/19 @ 10:03
11/24/2019 05	10039	589	295		
11/24/2019 06	10040	680	300		
11/24/2019 07	10040	750	305		
11/24/2019 08	10039	754	313		Unit was back on line 11/26/19 @ 20:18. Aux boiler was brought off line when TC1 reached 360 MW and was stable.
11/27/2019 01	10041	755	282		
11/27/2019 02	10039	752	321		
11/27/2019 03	10039	755	331		
11/27/2019 04	10042	754	334		
11/27/2019 05	10041	754	328		
11/27/2019 06	10037	753	333		
11/27/2019 07	10043	755	355		
11/27/2019 08	7621	777	360		

Combustion Turbine Gas Heater Fuel Usage

Gas Usage (MSCF)	EU 57 (CT 5/6)	EU 58 (CT 7/8)	EU 59 (CT 9/10)
Jan-19	943.15	1,465.01	422.25
Feb-19	1,156.12	597.33	1,035.41
Mar-19	968.72	728.27	615.07
Apr-19	1,578.97	1,333.84	1,335.17
May-19	1,342.98	786.85	288.97
Jun-19	739.80	333.60	582.74
Jul-19	1,492.93	1,438.38	684.59
Aug-19	985.89	385.48	379.79
Sep-19	1,518.34	993.30	900.91
Oct-19	2,618.79	2,292.31	810.59
Nov-19	2,727.59	2,379.32	2,673.08
Dec-19	1,036.05	1,617.47	1,197.79
Totals (cubic Feet)	17,109.33	14,351.16	10,926.36

ATTACHMENT 91

First Compliance Report TRIMBLE COUNTY Process Heaters Units 57 - 59


40 CFR 63.7550(b)(1) – (4)

Company and Facility name and address 40 CFR 63.7550(c)(5)(i)	Louisville Gas & Electric Company - Trimble County Generating Station 487 Corn Creek Road Bedford, KY 40006
Process Unit information 40 CFR 63.7550(c)(5)(i)(i)	Unit 57, NG Process Heater, 8.8 MMBtu/hr. Unit 58, NG Process Heater, 8.0 MMBtu/hr. Unit 59, NG Process Heater, 8.0 MMBtu/hr.
Emission limits 40 CFR 63.7550(c)(5)(ii)	These units are not subject to the emission limits in 40 CFR 63, Subpart DDDDD Tables 1 and 2 or 11 -13. These units are assumed to be in compliance with the applicable 401 KAR 59:015 particulate matter, sulfur dioxide, and opacity stds while burning NG. Units have only burned NG during this reporting period.
Operating parameter limitations 40 CFR 63.7550(c)(5)(ii)	Most recent tune-ups were completed July 16, 2019. Energy Assessment was completed August 8, 2019; the final report was issued January 2020. Units are operated/maintained as required.
Date of Report and beginning and ending dates of the reporting period. 40 CFR 63.7550(c)(5)(iii)	January 30, 2020 1/31/16 – 12/31/19
Most recent tune-up, burner inspection 40 CFR 63.7550(c)(5)(xvi)	Most recent tune-ups were completed July 16, 2019. The next tune-up for Unit 57 -59, must be conduct by July 16, 2021. Burner inspections were conducted with the tune-ups July 16, 2019.

Certification

Date: 1/30/2020
Reporting Period: 1/31/16 – 12/31/2019

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A RESPONSIBLE OFFICIAL. I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE STATEMENTS AND INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE.



AUTHORIZED SIGNATURE

Ralph Bowling

TYPED NAME OF SIGNATORY

Vice President Power Production.

TITLE OF SIGNATORY

01/24/2020

DATE

ATTACHMENT 92

Notification of Compliance Status TRIMBLE COUNTY Process Heaters Units 57 - 59

40 CFR 63.7545(e)

If you are not required to conduct an initial compliance demonstration as specified in 40 CFR 63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs **(e)(1) and (8)** of this section and must be submitted within 60 days of the compliance date specified at 40 CFR 63.7495(b).

The three Trimble County Units, 57-59, are not subject to the emission limits in 40 CFR 63, DDDDD Tables 1 and 2 or 1 through 13; hence, only the “Notification of Compliance Status” is required.

40 CFR 63.7545(e)

- (1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under CFR 241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of CFR 241.5 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.

Natural Gas Process Heaters

Unit	57 (CT 25 & 26)	58 (CT 27 & 28)	59 (CT 29 & 30)
Description	NG Preheater GasTech Engineering Corp.	NG Preheater GasTech Engineering Corp.	NG Preheater GasTech Engineering Corp.
Max Continuous Rating (heat input)	8.8 MMBtu/hr.	8.0 MMBtu/hr.	8.0 MMBtu/hr.
Fuel	Natural Gas	Natural Gas	Natural Gas
Secondary Fuel	NA	NA	NA
Add on Controls	NA	NA	NA

(8) In addition to the information required in CFR 63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) “This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR part 63 subpart DDDDD at this site according to the procedures in § 63.7540(a)(10)(i) through (vi).”

(ii) “This facility has had an energy assessment performed according to CFR 63.7530(e).”

(iii) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the

Clean Air Act include the following: “No secondary materials that are solid waste were combusted in any affected unit.”

This facility completed the required initial tune-ups for all the process heaters covered under 40 CFR part 63 subpart DDDDD. The tune-ups were completed according to the procedures in § 63.7540(a)(10)(i) through (vi) July 16, 2019.

This facility had an energy assessment performed August 8, 2019. The final report was received September 2019.

These units only burn NG. No secondary materials that are solid waste were combusted in these units.

A permit modification was submitted May 1, 2019 to have these units moved from the insignificant activities list, to Section B. KDAQ deemed the application complete, 5/16/19. Permittee assumes that Units 57 -59, will be noted in the next permit revision and/or renewal permit.

40 CFR 63.9(h)(2)

Notification of compliance status.

40 CFR 63.9(h)(2)

Unit	57 (CT 25 & 26); 58 (CT 27 & 28); 59 (CT 29 & 30)
Methods that were used to determine compliance (2)(i)(A)	Monitoring, Recordkeeping, Reporting
Results of Performance Tests, opacity, QVs (2)(i)(B)	NA – Compliance is assumed while burning NG.
Methods Use to Determine Continuous Compliance (2)(i)(C)	Use of NG, monitoring and recordkeeping of NG usage, retain records of notifications, semi-annual reports.
Type and Quantity of HAPs emitted (2)(i)(D)	NA – Work practices
Relevant stds. that apply (2)(i)(E)	NA
Air Pollution Equipment (2)(i)(F)	NA
Statement (2)(i)(G)	The affected sources, Units 57 - 59, comply with the applicable requirements.
Opacity test (2)(ii)	NA – Initial performance tests and or opacity observation are not required. Compliance via use of NG.

As required by the CAA, Section 112(j)(3) and State regulation, 401 KAR 63:015, LG&E submitted a MACT notification for Trimble County, March 11, 2005. The three process heaters (CT preheaters/10.9 MMBtu/hr. each) were noted on the submittal and are currently ID as insignificant activities (IA) 11, 12, and 13. The heat input was corrected in the May 1, 2019 permit revision.

Certification

Date: 1/24/2020

Reporting Period: 1/31/16 – 12/31/2019

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A RESPONSIBLE OFFICIAL. I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE STATEMENTS AND INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE.



AUTHORIZED SIGNATURE

Ralph Bowling

TYPED NAME OF SIGNATORY

Vice President Power Production

TITLE OF SIGNATORY

01/24/2020

DATE

DEP7007DD

Division for Air Quality
300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007DD
Insignificant Activities

Section DD.1: Table of Insignificant Activities
Section DD.2: Signature Block
Section DD.3: Notes, Comments, and Explanations

Source Name: Louisville Gas & Electric - Trimble County Generating Station
KY EIS (AFS) #: 21-223-00002
Permit #: V-14-017 R3
Agency Interest (AI) ID: 4045
Date: April 2020

Section DD.1: Table of Insignificant Activities

*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
1	Two station #2 oil tanks, each 100,00 gals		401 KAR 59:050 40 CFR 60. 116 b(a) and (b)	
2	Metal degreaser using parts washers (about 1 gal/yr each)		NA	
3	3,000 gal unleaded gasoline storage tank		NA	
4	3,000 gal diesel storage tank		NA	
5	1,100 gal used oil storage tank		NA	
6	1,100 gal #1 fuel oil tank		NA	
7	Wet fly ash collection system		401 KAR 59:010	
8	Infrequent evaporation of boiler cleaning solutions		NA	
9	Infrequent burning of De Minimis quantities used oil for energy recovery		NA	
10	Paved and unpaved roads		401 KAR 63.010	See DEP7007DD Emissions Calculations
11	Gypsum Storage Piles		401 KAR 63.010	See DEP7007DD Emissions Calculations
12	Coal (inactive outdoor) and limestone Storage Piles (active indoor)		401 KAR 63.010	See DEP7007DD Emissions Calculations
13	Bottom ash and debris collection basin		401 KAR 63.010	See DEP7007DD Emissions Calculations
14	Bottom ash reclaim operation		401 KAR 63.010	See DEP7007DD Emissions Calculations
15	Bottom ash transport vehicles		401 KAR 59:010	
16	Maintenance shop activities		NA	
17	Miscellaneous water storage tanks		NA	
18	Anhydrous ammonia storage tanks		401 KAR 68	
19	Gypsum barge load-out facility		401 KAR 63.010	See DEP7007DD Emissions Calculations
20	Flyash barge load-out facility		401 KAR 63.010	See DEP7007DD Emissions Calculations
21	5,000 ton flyash silo		401 KAR 63.010	This was approved to go to Section B/Unit 42 Dec 14, 2011.
22	Emergency limestone stockpile		401 KAR 63.010	See DEP7007DD Emissions Calculations
23	FGD additive chemical tank (22,000 gal)		NA	
24	PAC storage silos		401 KAR 59:010	See DEP7007DD Emissions Calculations
25	SO3 mitigation system (for TC1)			
26	Fuel additive facility (two silos, conveyors, mix and feed tanks)		401 KAR 63.010	See DEP7007DD Emissions Calculations
28	Fuel additive facility four propane (indirect heat exchangers) water heaters (0.25 MMBtu/hr, each)		NA	

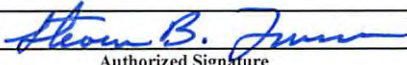
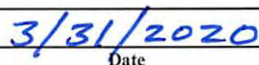
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
29	CCR handling or transport, Bottom Ash handling process		401 KAR 63.010	See DEP7007DD Emissions Calculations
30	CCR handling or transport, Flyash handling process		401 KAR 63.010	See DEP7007DD Emissions Calculations
31	CCR handling or transport, gypsum processing (no crushing or grinding)		401 KAR 63.010	See DEP7007DD Emissions Calculations
32	CCR handling or transport, flyash separator units (4)		401 KAR 63.010	See DEP7007DD Emissions Calculations
33	CCR handling or transport, flyash storage silos (2)		401 KAR 63.010	See DEP7007DD Emissions Calculations
34	Landfill truck loading station		401 KAR 63.010	See DEP7007DD Emissions Calculations
35	CCR handling or transport, bottom ash transport		401 KAR 63.010	See DEP7007DD Emissions Calculations
36	Liquid Hg Control additives		NA	
37	(1) 4000 gallon #2 fuel oil tank		NA	
38	(2) 300 gallon #2 fuel oil tanks		NA	
39	Preheaters for high pressure Natural Gas Regulating Station. Consists of (5) 0.77 MMBtu/hr. indirect heat exchangers and (1) 6000 Btu/hr catalytic heater for heating the pilot gas for the five indirect heat exchangers		NA	
40	(1) 500 gallon odorant storage tank		NA	
41	Process Water System Hydrated Lime Silo(s)		401 KAR 59.010	See DEP7007DD Emissions Calculations
42	Process Water System Solid Material Handling		402 KAR 59.010	See DEP7007DD Emissions Calculations
43	Process Water System Solid Material Piles (wind erosion)		403 KAR 59.010	See DEP7007DD Emissions Calculations
44	Process Water System Solids Material Transport Operation (Haul Trucks)		404 KAR 59.010	See DEP7007DD Emissions Calculations

08/2018

DEP7007DD

Section DD.2: Signature Block

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

By:	 Authorized Signature	 Date	
	Steven Turner	V. P. Power Production	
	Type/Print Name of Signatory	Title of Signatory	

IA 10 - Paved & Unpaved Roads

Paved Roads

Emission Unit	PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	Total VMT/yr	PM Factor (lb/VMT)	PM10 Factor (lb/VMT)	PM2.5 Factor (lb/VMT)
Paved Plant	0.360056	0.072011	0.017675	5,000	0.14402255	0.02880451	0.007070198

WRAP Handbook (9/7/2006) Table 6-6 in WRAP Handbook. Actual potential miles are assumed to be significantly less but an estimate of 5000 miles was used to show that emissions from trucking of bulk processed material are significantly less than 5 tons/year for PM. Paved road emissions are also included in other emission units or IA calculations for emergency road usage. As an example 06 is for emergency trucking of coal if delivery via barge is not available. Truck roads are paved.

IA 11 - Gypsum Storage Piles

Gypsum Storage Area	Emission IA#11	Exposed Active Surface Area (acres)	PM Emission Factor (lb/a cre-yr)	PM10 Emission Factor (lb/a cre-yr)	PM2.5 Emission Factor (lb/a cre-yr)	Control Efficiency	PM Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)
Gypsum Storage Pile	11 (R3)	1	2,515	1,258	188.6	90%	0.12575	0.0629	0.01

IA 12 - Coal and Limestone Storage Piles (indoor)

Storage Areas	Emission Unit ID	Exposed Active Surface Area (acres)	PM Emission Factor (lb/ acre-yr)	PM10 Emission Factor (lb/ acre-yr)	PM2.5 Emission Factor (lb/a cre-yr)	Control Efficiency	PM Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)
Coal (inactive)	12 (R3)	1	2,515	1,258	188.6	90%	0.12575	0.0629	0.01
Limestone (indoor)	12 (R3)	0.10	2,515	1,258	188.6	99%	0.0012575	0.00629	0.00

IA 13 - Bottom Ash & Debris Collection Basin; IA 14 - Bottom Ash Reclaim Operation ; IA 15 - Bottom Ash Transport Vehicles (3)

PM emissions for conveyor transfer and drop points can be estimated using Equation 1 from AP42 Section 13.2.4, Aggregate Handling and Storage Piles. Under this methodology, PM emissions are calculated as a function of the mean wind speed and material moisture content.

$$E \text{ (lb/ton)} = 0.0032 * k * (U/5)^{1.3} / (M/2)^{1.4}$$

where:

k	=	Particle Size Multiplier (lb/VMT)	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">PM</td> <td style="padding: 2px 10px;">PM10</td> <td style="padding: 2px 10px;">PM2.5</td> </tr> <tr> <td style="padding: 2px 10px; color: blue;">0.74</td> <td style="padding: 2px 10px; color: blue;">0.35</td> <td style="padding: 2px 10px; color: blue;">0.053</td> </tr> </table>	PM	PM10	PM2.5	0.74	0.35	0.053	AP42 13.2.4
PM	PM10	PM2.5								
0.74	0.35	0.053								
U	=	Mean Wind Speed (mph)	8.0	Average of 2005-2009 surface data at NWS Station 72421 (CVG Airport in Boone County).						
M	=	Material Moisture Content (%)								

Because most of the conveyor and other transfer points will be located indoors or under conveyor shrouds, these points are less influenced by wind. For transfer points that occur out in the open, the mean wind speed based on meteorological data from the nearest NWS station is used. For transfer points located inside a building enclosure, the wind speed for the AP42 equation is set to 1.0 mph to more realistically account for the enclosure. For shrouded or partially enclosed transfer points, the wind speed is set to half the ambient wind speed.

Transfer Point Description						Material Moisture (%)	Wind Speed (mph)	PM Factor (lb/ton)	PM10 Factor (lb/ton)	PM2.5 Factor (lb/ton)
Bottom Ash Handling										
IA 13 - Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX						25	1.0	8.51E-07	4.03E-07	6.10E-08
IA 13 - Secondary Conveyor to Storage Bunker						25	1.0	8.51E-07	4.03E-07	6.10E-08
IA 14 - Transfer from Bunker by Front-end Loader to Truck (TC2)						13	4.0	1.29E-05	6.10E-06	9.23E-07

Transfer Point Description						Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Bottom Ash Handling										
IA 13 - Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX						50	44,400	8.51E-07	4.26E-05	1.89E-05
IA 13 - Secondary Conveyor to Storage Bunker						50	44,400	3.55E-01	1.77E+01	7.88E+00
IA 14 - Transfer from Bunker by Front-end Loader to Truck (TC2)						50	44,400	3.55E-01	1.77E+01	7.88E+00

Transfer Point Description	Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Bottom Ash Handling					
IA 13 - Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX	50	44,400	4.03E-07	2.01E-05	8.94E-06
IA 13 - Secondary Conveyor to Storage Bunker	50	44,400	4.03E-07	2.01E-05	8.94E-06
IA 14 - Transfer from Bunker by Front-end Loader to Truck (TC2)	50	44,400	6.10E-06	3.05E-04	1.35E-04

Transfer Point Description	Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)
Bottom Ash Handling					
IA 13 - Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX	50	44,400	6.10E-08	3.05E-06	1.35E-06
IA 13 - Secondary Conveyor to Storage Bunker	50	44,400	6.10E-08	3.05E-06	1.35E-06
IA 14 - Transfer from Bunker by Front-end Loader to Truck (TC2)	50	44,400	9.23E-07	4.62E-05	2.05E-05

Secondary Conveyor to Storage Bunker	50	37000	6.10E-07	3.05E-05	2.256E-05
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IA 15

Transport Vehicle Type	Empty Weight (tons)	Full Weight (tons)	Material Carried per Load (tons)
Landfill Haul Trucks for Mixed Materials	36.5	73.2	36.7
Front End Loaders	27.7	33.6	6
Total volume of bottom ash processed			

44,400 ton/yr

Transport Operation	Maximum Annual Volume (ton/yr)	Annual Trips (trips/yr)	Paved Distance Per Trip (mi)	Unpaved Distance Per Trip (mi)	Paved Distance Traveled (VMT/yr)	Unpaved Distance Traveled (VMT/yr)
Bottom Ash Transport						
IA 15 --TC2 Bottom Ash Trucks to Bottom Ash Pond	44,400	1210	2		2419.618529	
IA 15- Full Front End Loader from Bottom Ash Dewatering Station to Truck		7400	0.1		740	

The methodology presented in AP-42 Section 13.2.1 (1/2011) was used to derive fugitive PM emission factors for truck traffic on paved road surfaces within the plant. The following emission factor equation applies: (Equation 2 in AP43 13.2.1)

$$E \text{ (lb/VMT)} = (k)(sL/2)^{0.91}(W)^{1.02}(1-P/4N)$$

where:

		PM	PM10	PM2.5	
k	= Particle Size Multiplier (lb/VMT)	0.011	0.0022	0.00054	AP42 Table 13.2.1-1
sL	= Silt Loading (g/m2)	3	AP42 Table 13.2.1-3 (1/2011); Selected based on range of values for quarries in Table 13.2.1-3.		
P	= Days with Precipitation	129	Average of 2005-2009 surface data at NWS Station 72421 (CVG Airport in Boone County).		
N	= Number of days in averaging period	365	Days per year		

A control efficiency is applied to account for road maintenance and dust suppression methods such as periodic watering.

Transport Operation	Truck Weight (tons)	Control Efficiency (%)	PM Factor (lb/VMT)	PM10 Factor (lb/VMT)	PM2.5 Factor (lb/VMT)
Bottom Ash Transport					
IA 15 --TC2 Bottom Ash Trucks to Bottom Ash Pond	33.7	7.00E-01	0.157	0.031	0.008
Full Front End Loader from Bottom Ash Dewatering Station to Truck	27.7	7.00E-01	0.129	0.026	0.006
Transport Operation					
	Paved Distance Traveled (VMT/yr)		PM (tpy)	PM10 (tpy)	PM2.5 (tpy)
Bottom Ash Transport					
IA 15 --TC2 Bottom Ash Trucks to Bottom Ash Pond	2420		0.00E+00	0.00E+00	0.00E+00
Full Front End Loader from Bottom Ash Dewatering Station to Truck	740		0.00E+00	0.00E+00	0.00E+00
Total =			0.00E+00	0.00E+00	0.00E+00

IA 19 - Gypsum Barge Load-out Facility

Summary of PM/PM10/PM2.5 Emissions from Gypsum Barge Load-Out Facility

Based on the PM emission factors derived above, the maximum short-term and annual emission estimates for PM are tabulated below. Using the total annual process rate for each transfer point results in an elevated and conservative estimate of potential emissions.

PM Emissions Table

Transfer Point Description						Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Gypsum Barge Load-out Facility										
Truck unload to Dump Hopper						750	602000	4.58E-04	3.44E-01	1.38E-01
Dump Hopper to Conveyor Belt						750	602000	1.86E-04	1.40E-01	5.60E-02
Shuttle Conveyor to Telescopic Chute						750	602000	1.86E-04	1.40E-01	5.60E-02
Telescopic Chute to Barge						750	602000	1.86E-04	1.40E-01	5.60E-02
TOTAL									9.31E-01	3.81E-01

PM10 Emissions Table

Transfer Point Description						Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Gypsum Barge Load-out Facility										
Truck unload to Dump Hopper						750	602000	2.17E-04	1.63E-01	6.53E-02
Conveyor Belt to Shuttle Conveyor						750	602000	8.80E-05	6.60E-02	2.65E-02
Shuttle Conveyor to Telescopic Chute						750	602000	8.80E-05	6.60E-02	2.65E-02
Telescopic Chute to Barge						750	602000	8.80E-05	6.60E-02	2.65E-02
TOTAL									4.40E-01	1.80E-01

PM2.5 Emissions Table

Transfer Point Description						Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)
Gypsum Barge Load-out Facility										
Truck unload to Dump Hopper						750	602000	3.28E-05	2.46E-02	9.88E-03
Dump Hopper to Conveyor Belt						750	602000	1.33E-05	1.00E-02	4.01E-03
Conveyor Belt to Shuttle Conveyor						750	602000	1.33E-05	1.00E-02	4.01E-03
Shuttle Conveyor to Telescopic Chute						750	602000	1.33E-05	1.00E-02	4.01E-03
Telescopic Chute to Barge						750	602000	1.33E-05	1.00E-02	4.01E-03
TOTAL									6.67E-02	2.73E-02

IA 20 - Flyash Barge Load-out Facility (FAB - see FAB truck roads and FAB Drop Load)

70 tons/hr * PM EF. 0.61 lb/ton (AP-42 11-17-4) * 8760 hr/yr * ton/2000 lbs * 0.004 (CF of 99.6%) = 0.75 PM tons/year
0.0014516 lb/ton * 8760 hr/yr * 70 ton/hr * ton/2000 lbs) = 0.45 tons/year
8.815697 lb/day * 365 days/yr * ton/2000 lbs* 0.1) = 0.16 tons/year

ID	POLLUTANT	RATE	UNITS	CONTROL DEVICE	CONTROL EFF	EF	UNITS	FACTOR REFERENCE	EMISSION		FACTOR REFERENCE	EMISSION	
									UNCONT. EMISSIONS			CONTROL EMISSIONS	
									LBS/HR	TONS/YR		LBS/HR	TONS/YR
uncontrolled													
1. Barge (Pneumatic barge loading)	PM/PM ₁₀	70	tons/hour	Dust Collector	99.6%	0.61	lbs/ton	AP-42 11.17-4	42.7	187.026	AP-42 11.17-4	0.17	0.75
2. Loading (Drop loading through chute)	PM/PM ₁₀	70	tons/hour	Extendable Chute		0.001452	lbs/ton	AP-42 13.2.4	0.102	0.445	AP-42 13.2.4	0.10	0.45
Roads	PM/PM ₁₀	1	Vehicle Miles Traveled	Sweeping & Dust Suppression	90.0%	8.815697	lbs/day	AP-42 13.2.1 & AP-42 13.2.2	0.367	1.609	AP-42 13.2.1 & AP-42 13.2.2	0.04	0.16

IA 22 - Emergency Limestone Stockpile

Storage Areas	Emission Unit ID	Exposed Active Surface Area (acres)	PM Emission Factor(lb/acre-yr)	PM10 Emission Factor(lb/acre-yr)	PM2.5 Emission Factor(lb/acre-yr)	Control Efficiency	PM Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)
Limestone (Emergency)	22 (R3)	0.10	2,515	1,258	188.6	90%	0.012575	0.0629	0.00

IA 24 - PAC Silos

PAC is not currently being used

$$E \text{ (lb/hr)} = (L \times Q \times 1 \text{ lb}/7,000 \text{ gr} \times 60 \text{ min/hr})$$

Where:		TC1 Silo	TC2 Silo	
E	= PM/PM10 emissions (lb/hr)			
L	= maximum exit grain loading (gr/acf)	0.01	0.01	assumed
Q	equals flow capacity (acfm)/bin vent	2,086,243	2,314,200	

Silo capacity - Each 7200 cubic feet

Design throughput of PAC TC1 - 400 pph (lb/hr flow) or 4.8 ton/day with a max of 984 pph

Design throughput of PAC TC2 - 570 pph (lb/hr flow) or 6.84 ton/day with a max (assumed) of 984 pph

E	178.8208	lb/hr	TC1	
E	198.36	lb/hr	TC2	TC1 Silo
Example	(178.821 lb/hr)(8760 hr/yr)(ton/2000 lb)(0.00099 lb/ton)(ton/2000 lb) =			0.000387701 PM Tons
				0.00013315 PM 10 Tons
Emission Factors:	0.00099	PM	(lb/ton)	1.95809E-05 PM 2.5 Tons
	0.00034	PM 10	(lb/ton)	
	0.00005	PM 2.5	(lb/ton)	TC2 Silo
PAC is pneumatically conveyed and each silo has an inherent bin vent				0.000430064 PM Tons
				0.000147699 PM 10 Tons
				2.17204E-05 PM 2.5 Tons

Guidance on Emission Factors for the Mining Industry



Nevada Division of Environmental Protection
 Bureau of Air Pollution Control (BAPC)
 Permitting Branch
 901 South Stewart Street, Suite 4001
 Carson City, Nevada 89701-5249
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 May 31, 2017

2.3. Table of General Mining Material Processes Emission Factors (continued)

Reference to Flow Diagram	Activity	Emission Factor			Emission Factor Reference	Description of Material Type(s)	Scope of Emission Factor	Note / Comments
		PM (lb/ton)	PM ₁₀ (lb/ton)	PM _{2.5} (lb/ton)				
	Lime Silo Loading	0.73	0.47	0.07	AP-42 Table 11.12-2: Cement Unloading to Elevated Storage Silo [Pneumatic] (Uncontrolled) PM _{2.5} = PM ₁₀ *(0.053/0.35)	Lime, including pelletized lime.	These emission factors apply to silos whose emissions during silo loading are not controlled.	Note that AP-42 Chapter 11.17 provides emissions factors for Lime Manufacturing Raw Material and Product Processing and Handling, but does not address end use. Additionally, multipliers for PM _{2.5} are based on AP-42 Chapter 13.2.4.
		0.00099	0.00034	0.00005	AP-42 Table 11.12-2: Cement Unloading to Elevated Storage Silo [Pneumatic] (Controlled) PM _{2.5} = PM ₁₀ *(0.053/0.35)		These emission factors apply to silos whose emissions during silo loading are controlled with a bin vent or baghouse.	

IA 26 - Fuel Additive Facility

Inputs		Comments
Average Truck Load:	20 tons	
Truck Loaded:	36 tons	
Truck Unloaded:	16 tons	
Coal Usage:	6,000,000 tpy	
M45PC A Usage:	0.225 % wt. coal	(0.15 Mg, 0.075 Urea) = 0.225: 0.15 Water add rate
M45PC A Usage:	13,500 tpy	
Moisture M45PC Additives:	3.0 %	Minimum moisture content for M45PC A1 & A2
Capacity of M45PC A feed hopper	9.1 tons	Mg and Urea in hopper
Paved Road (delivery trucks) :	2,220 feet	One Way
Unpaved Road (delivery trucks):	- feet	One Way
Number of days with 0.01" of precipitation:	110 dy/yr	Taken from Figure 13.2.1-2 in AP-42
Mean wind speed:	7.0 mph	NOAA Recorded Avg. Wind Speed

M45PC A Handling Emissions

Delivery Trucks

AP-42 Unpaved Road Equations 13.2.2

Delivery Truck Traffic on Unpaved Plant Roads

$$E = k(sL)^a [W/3]^b [(365-P)/365]$$

E = emission factor (lb/VMT)		
k = PM size multiplier (lb/VMT)	4.90	Taken from Table 13.2.2-2 in AP-42
k = PM ₁₀ size multiplier (lb/VMT)	1.50	Taken from Table 13.2.2-2 in AP-42
k = PM _{2.5} size multiplier (lb/VMT)	0.15	Taken from Table 13.2.2-2 in AP-42
s = surface material silt content (%)	5.10	Taken from Table 13.2.2-1 in AP-42 Western surface coal mining plant road
W = mean vehicle weight (tons)	26	
P = number of days with 0.01" of precipitation	110	Taken from Figure 13.2.1-2 in AP-42
a for PM =	0.70	Taken from Table 13.2.2-2 Industrial Roads
b for PM =	0.45	Taken from Table 13.2.2-2 Industrial Roads
a for PM ₁₀ =	0.90	Taken from Table 13.2.2-2 Industrial Roads
b for PM ₁₀ =	0.45	Taken from Table 13.2.2-2 Industrial Roads
a for PM _{2.5} =	0.90	Taken from Table 13.2.2-2 Industrial Roads
b for PM _{2.5} =	0.45	Taken from Table 13.2.2-2 Industrial Roads

AP-42 Paved Road Equations 13.2.1

Delivery Truck Traffic on Paved Plant Roads

$$E = [k^*(sL)^{0.91} * (W)^{1.02}] * (1-P/4N)$$

E = emission factor (lb/VMT)		
k = PM size multiplier (lb/VMT)	0.011	Taken from Table 13.2.1-1 in AP-42
k = PM ₁₀ size multiplier (lb/VMT)	0.0022	Taken from Table 13.2.1-1 in AP-42
k = PM _{2.5} size multiplier (lb/VMT)	0.00054	Taken from Table 13.2.1-1 in AP-42
sL = silt loading (g/m ²)	1	Best estimate (2001, Golder Port Trans. Study)
W = mean vehicle weight (tons)	26	
P = number of days with 0.01" of precipitation	110	
N = number of days in averaging period	365	

Haul Roads (Delivery Trucks)

Unloaded Truck Weight (ton)	16
Loaded Truck Weight (ton)	36
Paved Trip Length (miles)	0.84
Unpaved Trip Length (miles)	0

	VMT (VMT/yr)	PM Emission Factor (lb/VMT)	PM ₁₀	PM _{2.5}	Control Efficiency	PM Emissions		PM ₁₀ Emissions		PM _{2.5} Emissions	
			Emission (lb/VMT)	Emission (lb/VMT)		(%)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)
Paved Haul Road	567.6136364	0.282258099	0.0565	0.0139		0.2374	0.0801	0.0475	0.016	0.0117	0.0039
Unpaved Haul Road	0	4.969916464	1.2821	0.1282		0	0	0	0	0	0

M45PC A Handling Emissions

VMT/yr. 567.6 M45PCA 13500 Avg Truck Load 20

Summary						
	PM		PM10		PM2.5	
Haul Roads	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Paved (delivery trucks)	0.237	0.080	0.047	0.016	0.012	0.004
Unpaved (delivery trucks)	0.000	0.000	0.000	0.000	0.000	0.000
Total Haul Roads	0.237	0.080	0.047	0.016	0.012	0.004

M45PC A Handling Emissions

Silo Vent Filter

From Aggregate and Handling Storage Piles AP-42.13.2.4
 $E = k_f \cdot 0.032 \cdot U^{1.3} / (M^2)^{1.4}$

E = emissions factor (lb/ton)
k = PM particulate size multiplier 0.74 SH
k = PM₁₀ particulate size multiplier 0.35 SH
k = PM_{2.5} particulate size multiplier 0.053 SH
U = mean wind speed (mph) 7 JM
M = material moisture content (%) 3 SH

	Bin Vents	Controlled	99% Efficiency	Controlled	Roll-up door	50% Efficiency	Uncontrolled
E _{PM}	2.08E-05 lb/ton	E _{PM}	1.04E-03 lb/ton	E _{PM}	2.08E-03 lb/ton		
E _{PM10}	9.83E-06 lb/ton	E _{PM10}	4.92E-04 lb/ton	E _{PM10}	9.83E-04 lb/ton		
E _{PM2.5}	1.49E-06 lb/ton	E _{PM2.5}	7.44E-05 lb/ton	E _{PM2.5}	1.49E-04 lb/ton		

Description	Hourly Thruput	Annual Thruput	PM Emission Factor	PM Emissions		PM ₁₀ Emission Factor	PM ₁₀ Emissions		PM _{2.5} Emission Factor	PM _{2.5} Emissions		Notes
	(lb/hr)	(tpy)	(lb/ton)	(lb/hr)	(tpy)	(lb/ton)	(lb/hr)	(tpy)	(lb/ton)	(lb/hr)	(tpy)	
Truck load-in to silo A1/silo venting	20,000.00	4,500.00	2.08E-05	0.000	0.000	9.83E-06	0.000	0.000	1.49E-06	0.000	0.000	Hourly Thruput = truck delivery rate
Truck load-in to silo A2/silo venting	20,000.00	9,000.00	2.08E-05	0.000	0.000	9.83E-06	0.000	0.000	1.49E-06	0.000	0.000	Hourly Thruput = truck delivery rate
Silo A1 to feed hopper	6,066.67	4,500.00	1.04E-03	0.003	0.002	4.92E-04	0.001	0.001	7.44E-05	0.000	0.000	Hourly Thruput = 1/3 hopper capacity; assume 50% control
Silo A2 to feed hopper	12,133.33	9,000.00	1.04E-03	0.006	0.005	4.92E-04	0.003	0.002	7.44E-05	0.000	0.000	Hourly Thruput = 2/3 hopper capacity; assume 50% control

Summary						
	PM		PM10		PM2.5	
Handling	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Truck load-in to silo A1/ silo venting	0.000	0.000	0.000	0.000	0.000	0.000
Truck load-in to silo A2/ silo venting	0.000	0.000	0.000	0.000	0.000	0.000
Silo A1 to feed hopper	0.003	0.002	0.001	0.001	0.000	0.000
Silo A2 to feed hopper	0.006	0.005	0.003	0.002	0.000	0.000
Total Handling	0.010	0.007	0.005	0.003	0.001	0.001
Total =	0.25	0.09	0.05	0.02	0.01	0.00

Description	Hourly Throughput	Annual Throughput
	(lb/hr)	(tpy)
Truck load-in to silo A1/silo venting	20000	4500
Truck load-in to silo A2/silo venting	20000	9000
Silo A1 to feed hopper	6067	4500
Silo A2 to feed hopper	12133	9000

IA 29 (Formerly 32) - CCR Handling or Transport, Bottom Ash Handling Process

2.3 Summary of PM/PM10/PM2.5 Emissions from Bottom Ash Handling Operations

Based on the PM emission factors derived above, the maximum short-term and annual emission estimates for PM are tabulated below. Note that some of the bottom ash transfer operations occur in parallel, with the ash at any one time taking only one of the available paths. Using the total annual process rate for each transfer point results in an elevated and conservative estimate of potential emissions.

PM Emissions Table

Transfer Point Description							Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Bottom Ash Handling											
Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX							50	74000	8.5123E-06	0.000425615	0.000315
Secondary Conveyor to Storage Bunker							50	74000	8.5123E-06	0.000425615	0.000315
Transfer from Bunker by Front-end Loader to Truck (TC1)							50	74000	0.00012892	0.006445995	0.00477
Truck to Apron Belt Feeder AF8 (TC1 & TC2)							450	74000	2.12639E-05	0.009568735	0.0007868
Apron Belt Feeder AF-8 to Transfer Tower TT-1							450	74000	2.12639E-05	0.009568735	0.0007868
Transfer Tower TT-1 to Transfer Conveyor BC-9							450	74000	2.12639E-05	0.009568735	0.0007868
Transfer Conveyor BC-9 to Transfer Tower TT-4							450	74000	2.12639E-05	0.009568735	0.0007868
Transfer Tower TT-4 to Pipe Conveyor PC-11A							450	74000	2.12639E-05	0.009568735	0.0007868
TOTAL										0.055140898	0.0093338

PM10 Emissions Table

Transfer Point Description							Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Bottom Ash Handling											
Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX							50	74000	4.02609E-06	0.000201304	0.000149
Secondary Conveyor to Storage Bunker							50	74000	4.02609E-06	0.000201304	0.000149
Transfer from Bunker by Front-end Loader to Truck (TC1)							50	74000	6.09756E-05	0.003048782	0.0022561
Truck to Apron Belt Feeder AF8 (TC1 & TC2)							450	74000	1.00572E-05	0.004525753	0.0003721
Apron Belt Feeder AF-8 to Transfer Tower TT-1							450	74000	1.00572E-05	0.004525753	0.0003721
Transfer Tower TT-1 to Transfer Conveyor BC-9							450	74000	1.00572E-05	0.004525753	0.0003721
Transfer Conveyor BC-9 to Transfer Tower TT-4							450	74000	1.00572E-05	0.004525753	0.0003721
Transfer Tower TT-4 to Pipe Conveyor PC-11A							450	74000	1.00572E-05	0.004525753	0.0003721
TOTAL										0.026080154	0.0044146

PM2.5 Emissions Table

Transfer Point Description							Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)
Bottom Ash Handling											
Sub Chain Conveyor SCC-1 to Secondary Chain Conveyor XX-XX							50	74000	6.09664E-07	3.04832E-05	2.256E-05
Secondary Conveyor to Storage Bunker							50	74000	6.09664E-07	3.04832E-05	2.256E-05
Transfer from Bunker by Front-end Loader to Truck (TC1)							50	74000	9.23345E-06	0.000461673	0.0003416
Truck to Apron Belt Feeder AF8 (TC1 & TC2)							450	74000	1.52295E-06	0.000685328	5.635E-05
Apron Belt Feeder AF-8 to Transfer Tower TT-1							450	74000	1.52295E-06	0.000685328	5.635E-05
Transfer Tower TT-1 to Transfer Conveyor BC-9							450	74000	1.52295E-06	0.000685328	5.635E-05
Transfer Conveyor BC-9 to Transfer Tower TT-4							450	74000	1.52295E-06	0.000685328	5.635E-05
Transfer Tower TT-4 to Pipe Conveyor PC-11A							450	74000	1.52295E-06	0.000685328	5.635E-05
TOTAL										0.003949281	0.0006685

IA 30 (Formerly 33) - CCR Handling or Transport, Flyash Handling Process

3.3 Summary of PM/PM10/PM2.5 Emissions from Fly Ash Handling Operations

Based on the PM emission factors derived above, the maximum short-term and annual emission estimates for PM are tabulated below. Note that some of the ash transfer operations occur in parallel, with the ash at any one time taking only one of the available paths. Using the total annual process rate for each transfer point results in an elevated and conservative estimate of potential emissions.

PM Emissions Table								
Transfer Point Description				Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Fly Ash Handling								
Silo 0A1 Pug Mill Mixer to Shuttle Conveyor BC-10D				375	386000	3.0702E-05	0.01151314	0.00592543
Shuttle Conveyor BC-10D to Wet Outlet Truck				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0A1 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0A Using Dry Outlet to Truck				375	386000	8.5788E-05	0.03217038	0.01655702
Silo 0A2 Pug Mill Mixer to Shuttle Conveyor BC-10C				375	386000	3.0702E-05	0.01151314	0.00592543
Shuttle Conveyor BC-10C to Wet Outlet Truck				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0A2 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0B1 Pug Mill Mixer to Shuttle Conveyor BC-10B				375	386000	3.0702E-05	0.01151314	0.00592543
Shuttle Conveyor BC-10B to Wet Outlet Truck				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0B1 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0B Using Dry Outlet to Truck				375	386000	8.5788E-05	0.03217038	0.01655702
Silo 0B2 Pug Mill Mixer to Shuttle Conveyor BC-10A				375	386000	3.0702E-05	0.01151314	0.00592543
Shuttle Conveyor BC-10A to Wet Outlet Truck				375	386000	3.0702E-05	0.01151314	0.00592543
Silo 0B2 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	3.0702E-05	0.01151314	0.00592543
TOTAL							0.2024985	0.10421923

PM10 Emissions Table								
Transfer Point Description				Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Fly Ash Handling								
Silo 0A1 Pug Mill Mixer to Shuttle Conveyor BC-10D				375	386000	1.4521E-05	0.00544541	0.00280257
Shuttle Conveyor BC-10D to Wet Outlet Truck				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0A1 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0A Using Dry Outlet to Truck				375	386000	4.0575E-05	0.01521572	0.00783102
Silo 0A2 Pug Mill Mixer to Shuttle Conveyor BC-10C				375	386000	1.4521E-05	0.00544541	0.00280257
Shuttle Conveyor BC-10C to Wet Outlet Truck				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0A2 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0B1 Pug Mill Mixer to Shuttle Conveyor BC-10B				375	386000	1.4521E-05	0.00544541	0.00280257
Shuttle Conveyor BC-10B to Wet Outlet Truck				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0B1 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0B Using Dry Outlet to Truck				375	386000	4.0575E-05	0.01521572	0.00783102
Silo 0B2 Pug Mill Mixer to Shuttle Conveyor BC-10A				375	386000	1.4521E-05	0.00544541	0.00280257
Shuttle Conveyor BC-10A to Wet Outlet Truck				375	386000	1.4521E-05	0.00544541	0.00280257
Silo 0B2 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	1.4521E-05	0.00544541	0.00280257
TOTAL							0.09577632	0.04929288

PM2.5 Emissions Table								
Transfer Point Description				Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)
Fly Ash Handling								
Silo 0A1 Pug Mill Mixer to Shuttle Conveyor BC-10D				375	386000	2.1989E-06	0.00082459	0.00042439
Shuttle Conveyor BC-10D to Wet Outlet Truck				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0A1 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0A Using Dry Outlet to Truck				375	386000	6.1443E-06	0.00230409	0.00118584
Silo 0A2 Pug Mill Mixer to Shuttle Conveyor BC-10C				375	386000	2.1989E-06	0.00082459	0.00042439
Shuttle Conveyor BC-10C to Wet Outlet Truck				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0A2 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0B1 Pug Mill Mixer to Shuttle Conveyor BC-10B				375	386000	2.1989E-06	0.00082459	0.00042439
Shuttle Conveyor BC-10B to Wet Outlet Truck				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0B1 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0B Using Dry Outlet to Truck				375	386000	6.1443E-06	0.00230409	0.00118584
Silo 0B2 Pug Mill Mixer to Shuttle Conveyor BC-10A				375	386000	2.1989E-06	0.00082459	0.00042439
Shuttle Conveyor BC-10A to Wet Outlet Truck				375	386000	2.1989E-06	0.00082459	0.00042439
Silo 0B2 Pug Mill Mixer to Pipe Conveyor PC-11A				375	386000	2.1989E-06	0.00082459	0.00042439
TOTAL							0.01450327	0.00746435

IA 31 (Formerly 34) - CCR Handling or Transport, Gypsum Processing (no crushing or grinding)

Summary of PM/PM10/PM2.5 Emissions from Gypsum Handling Operations

Based on the PM emission factors derived above, the maximum short-term and annual emission estimates for PM are tabulated below. Note that some of the gypsum transfer operations occur in parallel, with the gypsum at any one time taking only one of the available paths. Using the total annual process rate for each transfer point results in an elevated and conservative estimate of potential emissions.

PM Emissions Table							Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Gypsum Processing											
Vacuum Filters (VF-0A, VF-0B) to Shuttle Conveyors BC-1A, BC-1B							142	602000	3.07017E-05	0.004359644	0.0092412
Shuttle Conveyors BC-1A & BC-1B to Belt Conveyor BC-2A & BC-2B							142	602000	3.07017E-05	0.004359644	0.0092412
Belt Conveyor BC-2A & BC-2B to Transfer Tower TT-2							142	602000	3.07017E-05	0.004359644	0.0092412
Transfer Tower TT-2 to Bypass Chute							142	602000	3.07017E-05	0.004359644	0.0092412
Bypass Chute to stacking and dewatering pile (storage)							142	602000	3.07017E-05	0.004359644	0.0092412
Transfer Tower TT-2 to Shuttle Conveyor BC-3A							142	602000	3.07017E-05	0.004359644	0.0092412
Transfer Tower TT-2 to Shuttle Conveyor BC-3B							142	602000	3.07017E-05	0.004359644	0.0092412
Shuttle Conveyor BC-3A to stacking and dewatering pile (storage)							142	602000	3.07017E-05	0.004359644	0.0092412
Shuttle Conveyor BC-3B to stacking and dewatering pile (storage)							142	602000	3.07017E-05	0.004359644	0.0092412
Shuttle Conveyor BC-3A to Gypsum Reclaim Conveyor BC-4							400	602000	3.07017E-05	0.012280687	0.0092412
Shuttle Conveyor BC-3B to Gypsum Reclaim Conveyor BC-4							400	602000	3.07017E-05	0.012280687	0.0092412
Storage Pile to Portal Scraper Reclaimer PRS-1							750	602000	3.07017E-05	0.023026289	0.0092412
Portal Scraper Reclaimer PRS-1 to Conveyor BC-5							750	602000	3.07017E-05	0.023026289	0.0092412
Storage Pile to Reclaim Hopper/Dual Augers RH-4/DA-4							400	602000	3.07017E-05	0.012280687	0.0092412
Reclaim Hopper/Dual Auger RH-4/DA-4 to Gypsum Reclaim Conveyor BC-4							400	602000	3.07017E-05	0.012280687	0.0092412
Reclaim Conveyor BC-4 to Transfer Conveyor BC-5							750	602000	3.07017E-05	0.023026289	0.0092412
Transfer Conveyor BC-5 to Transfer Tower TT-3							750	602000	3.07017E-05	0.023026289	0.0092412
Transfer Tower TT-3 to Transfer Conveyor BC-6							750	602000	3.07017E-05	0.023026289	0.0092412
Transfer Conveyor BC-6 to Shuttle Conveyor BC-7							750	602000	3.07017E-05	0.023026289	0.0092412
Shuttle Conveyor BC-7 to Trucks							750	602000	3.07017E-05	0.023026289	0.0092412
Transfer Conveyor BC-6 to Pipe Conveyor PC-11A							750	602000	3.07017E-05	0.023026289	0.0092412
TOTAL										0.272569857	0.1940656

PM10 Emissions Table											
Transfer Point Description							Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Gypsum Processing											
Vacuum Filters (VF-0A, VF-0B) to Shuttle Conveyors BC-1A, BC-1B							142	602000	1.45211E-05	0.002061994	0.0043708
Shuttle Conveyors BC-1A & BC-1B to Belt Conveyor BC-2A & BC-2B							142	602000	1.45211E-05	0.002061994	0.0043708
Belt Conveyor BC-2A & BC-2B to Transfer Tower TT-2							142	602000	1.45211E-05	0.002061994	0.0043708
Transfer Tower TT-2 to Bypass Chute							142	602000	1.45211E-05	0.002061994	0.0043708
Bypass Chute to stacking and dewatering pile (storage)							142	602000	1.45211E-05	0.002061994	0.0043708
Transfer Tower TT-2 to Shuttle Conveyor BC-3A							142	602000	1.45211E-05	0.002061994	0.0043708
Transfer Tower TT-2 to Shuttle Conveyor BC-3B							142	602000	1.45211E-05	0.002061994	0.0043708
Shuttle Conveyor BC-3A to stacking and dewatering pile (storage)							142	602000	1.45211E-05	0.002061994	0.0043708
Shuttle Conveyor BC-3B to stacking and dewatering pile (storage)							142	602000	1.45211E-05	0.002061994	0.0043708
Shuttle Conveyor BC-3A to Gypsum Reclaim Conveyor BC-4							400	602000	1.45211E-05	0.005808433	0.0043708
Shuttle Conveyor BC-3B to Gypsum Reclaim Conveyor BC-4							400	602000	1.45211E-05	0.005808433	0.0043708
Storage Pile to Portal Scraper Reclaimer PRS-1							750	602000	1.45211E-05	0.010890812	0.0043708
Portal Scraper Reclaimer PRS-1 to Conveyor BC-5							750	602000	1.45211E-05	0.010890812	0.0043708
Storage Pile to Reclaim Hopper/Dual Augers RH-4/DA-4							400	602000	1.45211E-05	0.005808433	0.0043708
Reclaim Hopper/Dual Auger RH-4/DA-4 to Gypsum Reclaim Conveyor BC-4							400	602000	1.45211E-05	0.005808433	0.0043708
Reclaim Conveyor BC-4 to Transfer Conveyor BC-5							750	602000	1.45211E-05	0.010890812	0.0043708
Transfer Conveyor BC-5 to Transfer Tower TT-3							750	602000	1.45211E-05	0.010890812	0.0043708
Transfer Tower TT-3 to Transfer Conveyor BC-6							750	602000	1.45211E-05	0.010890812	0.0043708
Transfer Conveyor BC-6 to Shuttle Conveyor BC-7							750	602000	1.45211E-05	0.010890812	0.0043708
Shuttle Conveyor BC-7 to Trucks							750	602000	1.45211E-05	0.010890812	0.0043708
Transfer Conveyor BC-6 to Pipe Conveyor PC-11A							750	602000	1.45211E-05	0.010890812	0.0043708
TOTAL										0.128918176	0.0917878

PM2.5 Emissions Table											
Transfer Point Description							Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)
Gypsum Processing											
Vacuum Filters (VF-0A, VF-0B) to Shuttle Conveyors BC-1A, BC-1B							142	602000	2.19891E-06	0.000312245	0.0006619
Shuttle Conveyors BC-1A & BC-1B to Belt Conveyor BC-2A & BC-2B							142	602000	2.19891E-06	0.000312245	0.0006619
Belt Conveyor BC-2A & BC-2B to Transfer Tower TT-2							142	602000	2.19891E-06	0.000312245	0.0006619
Transfer Tower TT-2 to Bypass Chute							142	602000	2.19891E-06	0.000312245	0.0006619
Bypass Chute to stacking and dewatering pile (storage)							142	602000	2.19891E-06	0.000312245	0.0006619
Transfer Tower TT-2 to Shuttle Conveyor BC-3A							142	602000	2.19891E-06	0.000312245	0.0006619
Transfer Tower TT-2 to Shuttle Conveyor BC-3B							142	602000	2.19891E-06	0.000312245	0.0006619
Shuttle Conveyor BC-3A to stacking and dewatering pile (storage)							142	602000	2.19891E-06	0.000312245	0.0006619
Shuttle Conveyor BC-3B to stacking and dewatering pile (storage)							142	602000	2.19891E-06	0.000312245	0.0006619
Shuttle Conveyor BC-3A to Gypsum Reclaim Conveyor BC-4							400	602000	2.19891E-06	0.000879563	0.0006619
Shuttle Conveyor BC-3B to Gypsum Reclaim Conveyor BC-4							400	602000	2.19891E-06	0.000879563	0.0006619
Storage Pile to Portal Scraper Reclaimer PRS-1							750	602000	2.19891E-06	0.00164918	0.0006619
Portal Scraper Reclaimer PRS-1 to Conveyor BC-5							750	602000	2.19891E-06	0.00164918	0.0006619
Storage Pile to Reclaim Hopper/Dual Augers RH-4/DA-4							400	602000	2.19891E-06	0.000879563	0.0006619
Reclaim Hopper/Dual Auger RH-4/DA-4 to Gypsum Reclaim Conveyor BC-4							400	602000	2.19891E-06	0.000879563	0.0006619
Reclaim Conveyor BC-4 to Transfer Conveyor BC-5							750	602000	2.19891E-06	0.00164918	0.0006619
Transfer Conveyor BC-5 to Transfer Tower TT-3							750	602000	2.19891E-06	0.00164918	0.0006619
Transfer Tower TT-3 to Transfer Conveyor BC-6							750	602000	2.19891E-06	0.00164918	0.0006619
Transfer Conveyor BC-6 to Shuttle Conveyor BC-7							750	602000	2.19891E-06	0.00164918	0.0006619
Shuttle Conveyor BC-7 to Trucks							750	602000	2.19891E-06	0.00164918	0.0006619
Transfer Conveyor BC-6 to Pipe Conveyor PC-11A							750	602000	2.19891E-06	0.00164918	0.0006619
TOTAL											
									0.019521895	0.0138993	

IA 32 & 33 (formerly 35 & 36) - CCR Handling or Transport, Flyash Separator Units (4) and Flyash Storage Silos(2)

Fly Ash Separators and Storage Silos - Passive Filters on Pneumatic Conveyance Systems

PM emissions from the Fly Ash Separators and Fly Ash Storage Silos are documented in this section.

Emission Unit Nomenclature and Process Rates

Dry fly ash is delivered from each boiler to a Separator Unit via enclosed pneumatic conveyance. The ash is then transferred via pneumatic conveyance to one of two Fly Ash Storage Silos. Each silo is equipped with an integrated passive filter system to capture and retain fly ash in the silos. Each separator and fly ash silo vent is a PM emission point.

The maximum process rates for each separator and silo are listed below. Fly Ash Silos A and B are equipped to receive, at any time, the full load of fly ash being generated in the two utility boilers (120 tph).

Maximum Short-Term Process Rates

Filter/Vent Description	ProcessRate(ton/hr)
Fly Ash Separators	
Unit 1 Fly Ash Separator, 1A & 1B - Both go to both 0A & 0B Silos	55
Unit 2 Fly Ash Separator, 2A & 2B - Both go to both 0A & 0B Silos	65
Total Process Rate for Fly Ash System	120
Fly Ash Storage Silos	
Fly Ash Storage Silo 0A	120
Fly Ash Storage Silo 0B	120

Maximum Annual Process Rates

Estimated maximum quantity of fly ash generated at Trimble per year: 386000 tons/yr

PM Emission Calculation Methodology and Summary of PM/PM10 Emissions

Maximum Short-Term PM/PM10 Emissions

PM that may be generated at the separator units and storage silos is minimized through the presence of integrated passive filter systems associated with this equipment. The filters are integral parts of the pneumatic conveyance systems. The short-term PM emissions are calculated based on a maximum exit grain loading and exhaust fan flow rate as shown in the sample calculation below.

$$E \text{ (lb/hr)} = (L \times Q \times 1 \text{ lb}/7,000 \text{ gr} \times 60 \text{ min/hr})$$

Where:

- E = PM/PM10 emissions (lb/hr)
- L = maximum exit grain loading (gr/acf)
- Q = flow capacity of fabric filter system (acfm)

Teflon membrane type bags will be used in the separator units and silo filter systems. Based on information from the filter supplier, these filter systems will achieve an exit grain loading of 0.005 gr/acf or less.

Filter/Vent Description	Blower Design Flowrate (acfm)	PM/PM10 Exit Grain Loading	PM/PM10 Maximum Emission Rate
Fly Ash Separators			
Unit 1 Fly Ash Separator, 1A & 1B - Both go to both 0A & 0B Silos	2922	0.005	0.12522857
Unit 2 Fly Ash Separator, 2A & 2B - Both go to both 0A & 0B Silos	2922	0.005	0.12522857
Fly Ash Storage Silos			
Fly Ash Storage Silo 0A	25724	0.005	1.10245714
Fly Ash Storage Silo 0B	25724	0.005	1.10245714

Sample Calculations: (For Unit 1 Fly Ash Separator)

$$\text{PM/PM10 Maximum Emission Rate (lb/hr)} = 2922 \text{ acfm} \times 0.005 \text{ gr/cf} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 0.13 \text{ lb/hr}$$

Potential Annual Emissions of PM/PM10

The Fly Ash Separators operate independently and it is possible for any individual or all Separators to be operating simultaneously. However, because the Separators are sized to process a much higher ash transfer rate in the short term (55 tph) than is necessary to accommodate the hourly average transfer rate (11.02 tph per Separator), these units will not operate continuously.

The potential annual PM emissions from all four Separators combined are inherently limited by the maximum amount of fly ash that will be generated at the station per year. This calculation is shown below.

PM/PM10 emission factor for Fly Ash Filter Separators:	2.28E-03	lb/ton	= 0.13 lb/hr / 55 tph
Potential annual PM/PM10 emissions from Fly Ash Filter Separators:	0.44	tpy	= 0.00228 lb/ton x 386000 tons fly ash/year / 2000 lb/ton

For the Fly Ash Silos, the pneumatic conveyance flowrate used to transfer fly ash from the Separators to the Silos is proportional to the mass transferred. The maximum amount of material that can be transferred at any one time is 55 tph from each separator, or 120 tph total.

Both Silo A and Silo B are designed to receive up to 120 tph at a time from the pneumatic conveying system. The Silo A and Silo B design flow rate of 25724 acfm is the flow rate corresponding to the conveyance of the full 120 tph. Since the flow rate is proportional to the process rate, and the emissions are proportional to the flow rate, the emissions can be expressed directly as a function of process rate.

As with the Filter Separators, the potential annual PM emissions from all three Silos combined are inherently limited by the maximum amount of fly ash that will be generated at the station per year. This calculation is shown below.

PM/PM10 emission factor for Fly Ash Silos A & B:	0.01	lb/ton	= 1.1 lb/hr / 120 tph
Potential annual PM/PM10 emissions from Fly Ash Silos:	1.77	tpy	= 0.00919 lb/ton x 386000 tons fly ash/year / 2000 lb/ton

Summary of PM2.5 Emissions from Fly Ash Separators and Fly Ash Storage Silos

In the absence of specific test data, a reasonable but conservative assumption is made that PM2.5 will be 70% of the PM/PM10 emissions. This corresponds to an exit loading of 0.0035 gr/cf.

Maximum Short-Term PM2.5 Emissions

Filter/Vent Description	Design Fan PM2.5 Exit PM2.5 Maximum Emission Rate (lb/hr)
Fly Ash Separators	
Unit 1 Fly Ash Separator, 1A & 1B - Both go to both 0A & 0B Silos	0.0035 0.08766
Unit 2 Fly Ash Separator, 2A & 2B - Both go to both 0A & 0B Silos	0.0035 0.08766
Fly Ash Storage Silos *	
Fly Ash Storage Silo 0A	25724 0.0035 0.77172
Fly Ash Storage Silo 0B	25724 0.0035 0.77172

Potential Annual Emissions of PM2.5

PM2.5 emission factor for Fly Ash Filter Separators:	0.00	lb/ton	= 0.09 lb/hr / 55 tph
Potential annual PM2.5 emissions from Fly Ash Filter Separators:	0.31	tpy	= 0 lb/ton x 25724 tons fly ash/year / 2000 lb/ton
PM2.5 emission factor for Fly Ash Silos A & B:	0.01	lb/ton	= 0.77 lb/hr / 120 tph
Potential annual PM2.5 emissions from Fly Ash Silos:	1.24	tpy	= 0.00643 lb/ton x 386000 tons fly ash/year / 2000 lb/ton

IA 34 - Landfill Truck Loading Station

6.3 Summary of PM/PM10/PM2.5 Emissions from Landfill Material Transfer Operations

Based on the PM emission factors derived above, the maximum short-term and annual emission estimates for PM are tabulated below.

Material received in the Landfill Truck Loading Station from the conveyor pipe can only be distributed to one of three locations: (1) to conveyor segment BC-16A and its corresponding truck loadout, (2) conveyor segment BC-16B and its corresponding truck loadout, or (3) conveyor segment BC-16C, which then feeds the temporary storage pile. Therefore, it would be overly conservative to quantify total emissions assuming the same amount of material passed through each segment.

Instead, as a reasonable estimate for short-term emissions, it is assumed that one-third of the maximum process rate passes through each segment. For annual emission calculations, an estimate for the amount of material that may pass through the temporary storage pile is multiplied by the emission factor for that segment. The estimated temporary pile annual process rate is subtracted from the total annual process rate, and the balance is split equally between the two truck loadout segments and applied to their emission factors.

PM Emissions Table

Transfer Point Description					Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Landfill Truck Loading Station									
Pipe Conveyor PC-11A to Shuttle Conveyor BC-12					1200	504450	3.0702E-05	0.036842062	0.007743741
Shuttle Conveyor BC-12 to Discharge Chute 1, 2 or 3/Transfer Tower TT-5					1200	504450	3.0702E-05	0.036842062	0.007743741
Discharge chute 1 to Loading Conveyor BC-13A					400	504450	3.0702E-05	0.012280687	0.007743741
Loading Conveyor BC-13A to Truck					400	504450	3.0702E-05	0.012280687	0.007743741
Discharge chute 2 to Loading Conveyor BC-13B					400	504450	3.0702E-05	0.012280687	0.007743741
Loading Conveyor BC-13B to Truck					400	504450	3.0702E-05	0.012280687	0.007743741
Discharge chute 3 to Emergency Stacking Conveyor BC-13C					400	53100	3.0702E-05	0.012280687	0.000815131
Emergency Stacking Conveyor BC-13C to Emergency Storage Pile					400	53100	3.0702E-05	0.012280687	0.000815131
Emergency Pile to Truck via Front-end Loader					20	1062000	3.0702E-05	0.000614034	0.016302613
Truck Unloading to Active Landfill Site					1200	1062000	0.00046047	0.552565439	0.244510207
TOTAL								0.700547723	0.308905526

PM10 Emissions Table

Transfer Point Description	Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Landfill Truck Loading Station					
Pipe Conveyor PC-11A to Shuttle Conveyor BC-12	1200	504450	1.4521E-05	0.0174253	0.00366258
Shuttle Conveyor BC-12 to Discharge Chute 1, 2 or 3/Transfer Tower TT-5	1200	504450	1.4521E-05	0.0174253	0.00366258
Discharge chute 1 to Loading Conveyor BC-13A	400	504450	1.4521E-05	0.005808433	0.00366258
Loading Conveyor BC-13A to Truck	400	504450	1.4521E-05	0.005808433	0.00366258
Discharge chute 2 to Loading Conveyor BC-13B	400	504450	1.4521E-05	0.005808433	0.00366258
Loading Conveyor BC-13B to Truck	400	504450	1.4521E-05	0.005808433	0.00366258
Discharge chute 3 to Emergency Stacking Conveyor BC-13C	400	53100	1.4521E-05	0.005808433	0.000385535
Emergency Stacking Conveyor BC-13C to Emergency Storage Pile	400	53100	1.4521E-05	0.005808433	0.000385535
Emergency Pile to Truck via Front-end Loader	20	1062000	1.4521E-05	0.000290422	0.007710695
Truck Unloading to Active Landfill Site	1200	1062000	0.00021779	0.261348519	0.115646719
TOTAL				0.069991621	0.030457246

PM2.5 Emissions Table

Transfer Point Description	Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)
Landfill Truck Loading Station					
Pipe Conveyor PC-11A to Shuttle Conveyor BC-12	1200	504450	2.1989E-06	0.002638688	0.000554619
Shuttle Conveyor BC-12 to Discharge Chute 1, 2 or 3/Transfer Tower TT-5	1200	504450	2.1989E-06	0.002638688	0.000554619
Discharge chute 1 to Loading Conveyor BC-13A	400	504450	2.1989E-06	0.000879563	0.000554619
Loading Conveyor BC-13A to Truck	400	504450	2.1989E-06	0.000879563	0.000554619
Discharge chute 2 to Loading Conveyor BC-13B	400	504450	2.1989E-06	0.000879563	0.000554619
Loading Conveyor BC-13B to Truck	400	504450	2.1989E-06	0.000879563	0.000554619
Discharge chute 3 to Emergency Stacking Conveyor BC-13C	400	53100	2.1989E-06	0.000879563	5.8381E-05
Emergency Stacking Conveyor BC-13C to Emergency Storage Pile	400	53100	2.1989E-06	0.000879563	5.8381E-05
Emergency Pile to Truck via Front-end Loader	20	1062000	2.1989E-06	4.39781E-05	0.00116762
Truck Unloading to Active Landfill Site	1200	1062000	3.298E-05	0.039575633	0.017512218
TOTAL				0.050174364	0.022124315

IA 41 - Process Water System Hydrated Lime Silo(s)

Potential Annual Emissions of PM/PM10 based to 1800 tons

The Trimble PWS Hydrated Lime Silo(s) is designed to receive up to 0.21 tph at a time from the pneumatic conveying system. The silo's bin vent exhaust fan design flow rate of 1491 acfm is the flow rate corresponding to the conveyance of the full 0.21 tph. Since the flow rate is proportional to the process rate, and the emissions are proportional to the flow rate, the emissions can be expressed directly as a function of process rate.

The potential annual PM emissions from the Trimble PWS Hydrated Lime Silo(s) is inherently limited by the maximum amount of hydrated lime expected to be delivered to the station per year. This calculation is shown below.

PM/PM10 emission factor for Trimble PWS Hydrated Lime Silo(s):	0.61344	lb/ton	= 0.13 lb/hr / 0.21 tph		
Potential annual PM/PM10 emissions from Trimble PWS Hydrated Lime Silo(s):	0.552096	tpy	= 0.6134 lb/ton x 1800 tons lime/year / 2000 lb/ton		

Summary of PM2.5 Emissions from Trimble PWS Hydrated Lime Silo(s)

In the absence of specific test data, a reasonable but conservative assumption is made that PM2.5 will be 70% of the PM/PM10 emissions. This corresponds to an exit loading of 0.007 gr/cf.

Maximum Short-Term PM2.5 Emissions

Filter/Vent Description	Design Fan	PM2.5 Exit	PM2.5 Maximum Emission Rate (lb/hr)
Trimble Process Water System PWS Hydrated Lime Storage Silo(s)	1491	0.007	0.08946

Potential Annual Emissions of PM2.5

PM2.5 emission factor for Trimble PWS Hydrated Lime Silo(s):	0.429408	lb/ton	= 0.09 lb/hr / 0.21 tph		
Potential annual PM2.5 emissions from Trimble PWS Hydrated Lime Silo(s):	0.3864672	tpy	= 0.4294 lb/ton x 1800 tons fly ash/year / 2000 lb/ton		

IA 42 - Process water System Solid Material Handling

Summary of PM/PM10/PM2.5 Emissions from Landfill Material Transfer Operations

Based on the PM emission factors derived above, the maximum short-term and annual emission estimates for PM are tabulated below.

PM Emissions Table

Transfer Point Description						Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Hourly Emissions (lb/hr)	PM Annual Emissions (tpy)
Drop points for Trimble Process Water System										
Drop from Filter Press to Pile						14	50000	4.8153E-05	0.000674139	0.00120382
Pile to Truck via Front-end Loader						20	50000	4.8153E-05	0.000963056	0.00120382
Truck Unloading to Active Landfill Site						14	50000	4.8153E-05	0.000674139	0.00120382
TOTAL									0.002311335	0.003611461

PM10 Emissions Table

Transfer Point Description						Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Hourly Emissions (lb/hr)	PM10 Annual Emissions (tpy)
Drop points for Trimble Process Water System										
Drop from Filter Press to Pile						14	50000	2.2775E-05	0.00031885	0.000569374
Pile to Truck via Front-end Loader						20	50000	2.2775E-05	0.0004555	0.000569374
Truck Unloading to Active Landfill Site						14	50000	2.2775E-05	0.00031885	0.000569374
TOTAL									0.001093199	0.001708123

PM2.5 Emissions Table										
Transfer Point Description					Process Rate (ton/hr)	Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Hourly Emissions (lb/hr)	PM2.5 Annual Emissions (tpy)	
Drop points for Trimble Process Water System										
Drop from Filter Press to Pile					14	50000	3.4488E-06	4.8283E-05	8.62196E-05	
Pile to Truck via Front-end Loader					20	50000	3.4488E-06	6.89757E-05	8.62196E-05	
Truck Unloading to Active Landfill Site					14	50000	3.4488E-06	4.8283E-05	8.62196E-05	
TOTAL								0.000165542	0.000258659	

IA 43 Process water System Solid Material Piles (wind erosion)

Summary of PM/PM10/PM2.5 Emissions from Wind Erosion at Landfills/Storage Piles

Based on the PM emission factors derived above, the annual and hourly average emission estimates for PM are tabulated below. Based on the particle size multipliers used in AP42 13.2.5-2, which outlines an alternate methodology for estimating wind erosion emissions from aggregate storage piles, PM10 is assumed to be 50% of PM and PM2.5 is assumed to be 7.5% of PM.

PM Emissions Table

Storage Pile Description					Annual Process Rate (ton/yr)	PM Factor (lb/ton)	PM Annual Emissions (tpy)	PM Hourly Emissions (lb/hr)
PWS Solids Temporary Storage Pile (Wind Erosion)					50000	0	0	0
PWS Solids at Landfill (Wind Erosion)					50000	0.015719756	0.392993895	0.0897246
TOTAL							0.392993895	0.0897246

PM10 Emissions Table

Storage Pile Description					Annual Process Rate (ton/yr)	PM10 Factor (lb/ton)	PM10 Annual Emissions (tpy)	PM10 Hourly Emissions (lb/hr)
PWS Solids Temporary Storage Pile (Wind Erosion)					50000	0	0	0
PWS Solids at Landfill (Wind Erosion)					50000	0.007859878	0.196496948	0.0448623
TOTAL							0.196496948	0.0448623

PM2.5 Emissions Table

Storage Pile Description								Annual Process Rate (ton/yr)	PM2.5 Factor (lb/ton)	PM2.5 Annual Emissions (tpy)	PM2.5 Hourly Emissions (lb/hr)
PWS Solids Temporary Storage Pile (Wind Erosion)								50000	0	0	0
PWS Solids at Landfill (Wind Erosion)								50000	0.001178982	0.029474542	0.0067293
TOTAL										0.029474542	0.0067293

IA 44 - Process water System Solid Material Transport Operation (Haul Trucks)

Annual Fugitive PM Emissions Per Route Segment

Transport Operation							Paved Distance Traveled (VMT/yr)	Unpaved Distance Traveled (VMT/yr)	PM (tpy)	PM10 (tpy)	PM2.5 (tpy)
Loading and Hauling Operations for PWS Solids											
Travel of Front End Loader In/Around PWS solids to load trucks							350	0	0.027529779	0.005505956	0.0013515
Full PWS Solids Trucks from PWS Solids pile to Active Area of Landfill							4950	725	0.887509944	0.198723803	0.0318163
Empty PWS Solids Trucks from Active Area of Landfill to PWS Solids pile							4950	725	0.504796567	0.11557533	0.0166868

Consolidated Annual Fugitive PM Emissions Per Category

Emission Unit					PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	Total Material Processed	PM Factor (lb/1000ton)	PM10 Factor (lb/1000ton)	PM2.5 Factor (lb/1000ton)
Loading and Hauling Operations for PWS Solids					1.419836	0.31980509	0.04985455	50000	56.79345161	12.79220355	1.9941822

DEP7007EE

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007EE</h2> <h3 style="margin: 0;">Internal Combustion Engines</h3> <p>___ Section EE.1: General Information</p> <p>___ Section EE.2: Operating Information</p> <p>___ Section EE.3: Design Information</p> <p>___ Section EE.4: Fuel Information</p> <p>___ Section EE.5: Emission Factor Information</p> <p>___ Section EE.6: Notes, Comments, and Explanations</p>	<div style="text-align: right; font-weight: bold; font-size: small;">Imber</div> <h4 style="text-align: center; margin: 0;">Additional Documentation</h4> <p>___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG</p> <p>___ Attach EPA certification of the engine</p>
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Source Name: Louisville Gas & Electric Company (Trimble County Generating Station)

KY EIS (AFS) #: 21- 223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: 4054

Date: April-2020

Section EE.1: General Information										
Emission Unit #	Emission Unit Name	Control Device ID	Stack ID	Manufacturer	Model Number	Model Year	Date of Manufacture	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Date Reconstructed/Modified	List Applicable Regulations
18	Emergency Diesel Generator Engine	NA	18	Caterpillar	3306 PC	Assumed 1993 or earlier	Assumed 1993 or earlier	5/11/1994 (Installed)	NA	401 KAR 63:002 40 CFR 63, Suppart ZZZZ
33	Emergency Generator Engine (Tier II Certified)	NA Tier II	33	Caterpillar	3512-GD	Assumed 2007 or earlier	2007	Dec 2010 (Installed)	NA	401 KAR 60:005 40 CFR 60, Suppart III 401 KAR 63:002 40 CFR 63, Suppart ZZZZ 401 KAR 51:017

Emission Unit #	Emission Unit Name	Control Device ID	Stack ID	Manufacturer	Model Number	Model Year	Date of Manufacture	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Date Reconstructed/Modified	Imber List Applicable Regulations
50	Emergency Generator Engine (Tier II Certified)	NA Tier II	50	Cummins	QSK23-G7NR2	Assumed 2014 or earlier	Assumed 2014 or earlier	Dec. 2014 (startup/max production) Construction 8/11/14	NA	401 KAR 60:005 40 CFR 60, Suppart III 401 KAR 63:002 40 CFR 63, Suppart ZZZZ
51	Emergency Generator Engine (Tier II Certified)	NA Tier II	51	Cummins	QSK23-G7NR3	Assumed 2014 or earlier	Assumed 2014 or earlier	Dec. 2014 (startup/max production) Construction 8/11/14	NA	402 KAR 60:005 40 CFR 60, Suppart III 401 KAR 63:002 40 CFR 63, Suppart ZZZZ
52	Emergency Generator Engine (Tier II Certified)	NA Tier II	52	Cummins	QSK23-G7NR4	Assumed 2014 or earlier	Assumed 2014 or earlier	Dec. 2014 (startup/max production) Construction 8/11/14	NA	403 KAR 60:005 40 CFR 60, Suppart III 401 KAR 63:002 40 CFR 63, Suppart ZZZZ
53	Emergency Fire Pump Engine	NA	53	Cummins	NT-855-F2	Assumed 1982 or earlier	Assumed 1982 or earlier	1982	NA	401 KAR 60:002 40 CFR 63, Suppart ZZZZ
55	Emergency Blackstart Diesel Engine (Tier II Certified)	NA Tier II	55	Cummins	QSK95-G9	Assumed 2016	Assumed 2016	Mar-2017	NA	40 CFR 60, subpart III 40 CFR 63, subpart ZZZZ
56	Emergency Blackstart Diesel Engine (Tier II Certified)	NA Tier II	56	Cummins	QSK95-G9	Assumed 2016	Assumed 2016	Mar-2017	NA	40 CFR 60, subpart III 40 CFR 63, subpart ZZZZ
NA - Not Available or Not Applicable										

Section EE.2: Operating Information					Imber
Emission Unit #	Engine Purpose (Identify if Non-Emergency, Emergency, Fire/Water Pump, Black-start engine for combustion turbine, Engine Testing)	Hours Operated	Is this engine a rental? (Yes/No)	Rental Time Period (hrs)	Alternate Operating Scenarios (Describe any operating scenarios in which the engine may be used in a different configuration)
18	Emergency Generator for TC1	Emergency/Maintenance	No	NA	NA
33	Emergency Generator for TC2	Emergency/Maintenance	No	NA	NA
50	Emergency Generator for CT	Emergency/Maintenance	No	NA	NA
51	Emergency Generator for CT	Emergency/Maintenance	No	NA	NA
52	Emergency Generator for CT	Emergency/Maintenance	No	NA	NA
53	Emergency Diesel Fire Pump Engine	Emergency/Maintenance	No	NA	NA
55	Emergency Blackstart	Emergency/Maintenance	No	NA	NA
56	Emergency Blackstart	Emergency/Maintenance	No	NA	NA
NA - Not Applicable					

Section EE.3: Design Information							Imber
Emission Unit #	Engine Type (Identify all that apply: Commercial, Institutional, Stationary, Non-Road)	Ignition Type (Identify if either Compression or Spark Ignition)	Engine Family (Identify all that apply: 2-stroke, 4-stroke, Rich Burn, Lean Burn)	Maximum Engine Power (bhp)	Maximum Engine Speed (rpm)	Total Displacement (L)	Number of Cylinders
18	Stationary	Compression Ignition	4-stroke lean burn	227	1800	10.5	6
33	Stationary	Compression Ignition	4-stroke lean burn	2206	1800	51.8	12
50	Stationary	Compression Ignition	4-stroke lean burn	1220 (nameplate)	1800 @ stated load	23.2	6
51	Stationary	Compression Ignition	4-stroke lean burn	1221 (nameplate)	1800 @ stated load	23.2	6
52	Stationary	Compression Ignition	4-stroke lean burn	1222 (nameplate)	1800 @ stated load	23.2	6
53	Stationary	Compression Ignition	6-stroke lean burn	380	2100	14.01 L or 855 cu. inches	6
55	Stationary	Compression Ignition	4-stroke lean burn	5051 HP (nameplate) 3500kWe	1800 @ stated load	95.3	16
56	Stationary	Compression Ignition	4-stroke lean burn	5051 HP (nameplate) 3500kWe	1800 @ stated load	95.3	16

Section EE.4: Fuel Information

Imber

Emission Unit #	Identify if Primary, Secondary, or Tertiary Fuel	Fuel Type (Identify if Diesel, Gasoline, Natural Gas, Liquefied Petroleum Gas (LPG), Landfill/Digester Gas, or Other)	Fuel Grade	Percent Time Used (%)	Maximum Fuel Consumption	Heat Content	Sulfur Content (%)	SCC Code	SCC Units
18	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons
33	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons
50	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons
51	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons
52	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons
53	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20300101	1000 Gallons
55	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons
56	Primary	Diesel	#2 ULSD	100	NA/ Emergency/Emissions Based on 500 hrs.	138 MMBtu/Mgal	15 ppm 0.0015%	20200102	1000 Gallons

Section EE.5: Emission Factor Information					Imber
Emission factors expressed here are based on the potential to emit.					
Emission Unit #	Fuel	Pollutant	Emission Factor	Emission Factor Units	Source of Emission Factor
18	Diesel/ULSD				See Attachment N Supplemental Form
33	Diesel/ULSD				See Attachment N Supplemental Form
50	Diesel/ULSD				See Attachment N Supplemental Form
50	Diesel/ULSD	CO	0.22	g/hp-hr	Cummins/Tier II Certified
50	Diesel/ULSD	Nox	5.9	g/hp-hr	Cummins/Tier II Certified
50	Diesel/ULSD	PM	0.05	g/hp-hr	Cummins/Tier II Certified
50	Diesel/ULSD	PM10	0.05	g/hp-hr	Cummins/Tier II Certified
50	Diesel/ULSD	PM2.5	0.05	g/hp-hr	Cummins/Tier II Certified
51	Diesel/ULSD				See Attachment N Supplemental Form
51	Diesel/ULSD	CO	0.22	g/hp-hr	Cummins/Tier II Certified

Emission Unit #	Fuel	Pollutant	Emission Factor	Emission Factor Units	Source of Emission Factor
51	Diesel/ULSD	Nox	5.9	g/hp-hr	Cummins/Tier II Certified
51	Diesel/ULSD	PM	0.05	g/hp-hr	Cummins/Tier II Certified
51	Diesel/ULSD	PM10	0.05	g/hp-hr	Cummins/Tier II Certified
51	Diesel/ULSD	PM2.5	0.05	g/hp-hr	Cummins/Tier II Certified
52	Diesel/ULSD	See Attachment N Supplemental Form			
52	Diesel/ULSD	CO	0.22	g/hp-hr	Cummins/Tier II Certified
52	Diesel/ULSD	Nox	5.9	g/hp-hr	Cummins/Tier II Certified
52	Diesel/ULSD	PM	0.05	g/hp-hr	Cummins/Tier II Certified
52	Diesel/ULSD	PM10	0.05	g/hp-hr	Cummins/Tier II Certified
52	Diesel/ULSD	PM2.5	0.05	g/hp-hr	Cummins/Tier II Certified
53	Diesel/ULSD	See Attachment N Supplemental Form			

Emission Unit #	Fuel	Pollutant	Emission Factor	Emission Factor Units	Source of Emission Factor
55	Diesel/ULSD	See Attachment N Supplemental Form			
55	Diesel/ULSD	CO	0.4	g/hp-hr	Cummins/Tier II Certified
55	Diesel/ULSD	Nox	6.09	g/hp-hr	Cummins/Tier II Certified
55	Diesel/ULSD	PM	0.018	g/hp-hr	Cummins/Tier II Certified
55	Diesel/ULSD	PM10	0.018	g/hp-hr	Cummins/Tier II Certified
55	Diesel/ULSD	PM2.5	0.018	g/hp-hr	Cummins/Tier II Certified
55	Diesel/ULSD	SO2	0.1	g/hp-hr	Cummins/Tier II Certified
55	Diesel/ULSD	VOC	0.1	g/hp-hr	Cummins/Tier II Certified
56	Diesel/ULSD	See Attachment N Supplemental Form			
56	Diesel/ULSD	CO	0.4	g/hp-hr	Cummins/Tier II Certified
56	Diesel/ULSD	Nox	6.09	g/hp-hr	Cummins/Tier II Certified

Emission Unit #	Fuel	Pollutant	Emission Factor	Emission Factor Units	Source of Emission Factor
56	Diesel/ULSD	PM	0.018	g/hp-hr	Cummins/Tier II Certified
56	Diesel/ULSD	PM10	0.018	g/hp-hr	Cummins/Tier II Certified
56	Diesel/ULSD	PM2.5	0.018	g/hp-hr	Cummins/Tier II Certified
56	Diesel/ULSD	SO2	0.1	g/hp-hr	Cummins/Tier II Certified
56	Diesel/ULSD	VOC	0.1	g/hp-hr	Cummins/Tier II Certified

DEP7007GG

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007GG
Control Equipment

Additional Documentation

- ___ Complete Sections GG.1 through GG.12, as applicable
- ___ Attach manufacturer's specifications for each control device
- ___ Complete DEP7007AI

Source Name: Louisville Gas & Electric Company (Trimble County Generating Station)

KY EIS (AFS) #: 21- 223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: AI#4054

Date: April-2020

Section GG.1: General Information - Control Equipment

Control Device ID #	Control Device Name	Cost	Manufacturer	Model Name/ Serial #	Date Installed	Inlet Gas Stream Data For <u>All</u> Control Devices					Inlet Gas Stream Data For Condensers, Adsorbers, Afterburners, Incinerators, Oxidizers <u>Only</u>			Equipment Operational Data For <u>All</u> Control Devices		
						Temperature (°F)	Flowrate (scfm @ 68°F)	Average Particle Diameter (µm)	Particle Density (lb/ft ³) or Specific Gravity	Gas Density (lb/ft ³)	Gas Moisture Content (%)	Gas Composition	Fan Type	Pressure Drop Range (in. H ₂ O)	Pollutants Collected/ Controlled	Pollutant Removal (%)
Unit 01/ DESP	Unit 01/ DESP	100,000,000.00	Combustion Engineering Inc.	1 P8C23D5F	Sept. 1990	300	1,402,906	NA	4.95 grain/ft ³ particulate load	NA	NA	NA	NA	NA - Dry ESP	PM/PM10/P M2.5	Varies based on inlet loading (see appendix D)
Unit 31/ DESP	Unit 31/ DESP	Part of TC2 construction	Wheelabrator/Siemens	Harde	July 2006 (TC2 Construction)	300-340	1,695,523	<10 microns	NA	0.049	NA	NA	NA	2.5 - 3.5	PM10/Hg	Varies based on inlet loading (see appendix D)
Unit 31/ WESP	Unit 31/ WESP	Part of TC2 construction	Wheelabrator/Siemens	NA	July 2006 (TC2 Construction)	125 -135	1,695,523	<10 microns	NA	0.0648	NA	NA	NA	1 - 3	PM10. H2SO4, Hg	Varies based on inlet loading (see appendix D)
Unit 01/ FGD	Unit 01/ FGD	1,450,000,000	Combustion Engineering Inc.	Combustion Engineering/ Custom Built	Sept. 1990	300	1402906	NA	NA	NA	NA	NA	NA	NA	SO ₂	Varies based on inlet loading (see appendix D)

11/2018

Control Device ID #	Control Device Name	Cost	Manufacturer	Model Name/ Serial #	Date Installed	Inlet Gas Stream Data For <u>All</u> Control Devices					Inlet Gas Stream Data For Condensers, Adsorbers, Afterburners, Incinerators, Oxidizers Only			Imber Equipment Operational Data For <u>All</u> Control Devices		
						Temperature (°F)	Flowrate (scfm @ 68°F)	Average Particle Diameter (µm)	Particle Density (lb/ft ³) or Specific Gravity	Gas Density (lb/ft ³)	Gas Moisture Content (%)	Gas Composition	Fan Type	Pressure Drop Range (in. H ₂ O)	Pollutants Collected/ Controlled	Pollutant Removal (%)
Unit 31/ FGD	Unit 31/ FGD	Part of TC2 construction	Wheelabrator/Siemens	NA	July 2006 (TC2 Construction)	320	1,695,523	NA	NA	0.0523	NA	NA	NA	NA	SO ₂	Varies based on inlet loading (see appendix D)
Unit 01/ PJFF	Unit 01 PJFF with PAC injection System	NA	Clyde Bergemann	PJFF/no model or serial #	Constructed 2014	Ambient	1,402,906	NA	NA	0.0492	NA	NA	NA	NA	PM/PM10/P M2.5/Hg	Varies based on inlet loading (see appendix D)
Unit 31/ PJFF	Unit 31 PJFF with PAC injection System	Part of TC2 construction	Wheelabrator/Siemens	Pulse Jet/ Size 3038 RA Model 315 VIP PJFF	July 2006 (TC2 Construction)	Ambient	1,695,523	NA	150	0.0492	NA	NA	NA	4 - 8	PM,PM10,Hg	Varies based on inlet loading
Unit 01/ SCR	Unit 01/ SCR	\$39,090,000.00	Babcock Borsig Power	SCR/Custom Built	4/1/2012	707	1,130,343 (wet) 1,018,939 (dry)	NA	NA	0.34	NA	NA	NA	~ 7 inches water column	NOx, Hg	Varies based on inlet loading
Unit 031/ SCR	Unit 031/ SCR	Part of TC2 construction	Hitachi	Plate	July 2006(TC2 Construction)	700	1,695,523	NA	NA	0.0338	NA	NA	NA	3-5 inches water column	NOx, Hg	Varies based on inlet loading
Unit 07/Dust Collectors	Unit 07/Dust Collectors	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA
Unit 08/Rotoclone	Unit 08/Rotoclone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA
Unit 09/Dust Collectors	Unit 09/Dust Collectors	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA
Unit 37/Dust Collectors	Unit 37/Dust Collectors	Part of TC2 construction	Air Cure	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA

11/2018

Control Device ID #	Control Device Name	Cost	Manufacturer	Model Name/ Serial #	Date Installed	Inlet Gas Stream Data For <u>All</u> Control Devices					Inlet Gas Stream Data For Condensers, Adsorbers, Afterburners, Incinerators, Oxidizers Only			Imber Equipment Operational Data For <u>All</u> Control Devices		
						Temperature (°F)	Flowrate (scfm @ 68°F)	Average Particle Diameter (µm)	Particle Density (lb/ft ³) or Specific Gravity	Gas Density (lb/ft ³)	Gas Moisture Content (%)	Gas Composition	Fan Type	Pressure Drop Range (in. H ₂ O)	Pollutants Collected/ Controlled	Pollutant Removal (%)
Unit 39/Dust Collectors	Unit 39/Dust Collectors	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA	
Unit 42/bin vents	Unit 42 (1200 ton silo)	Part of TC2 construction	NA	NA	2007	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA	
Unit 44/bin vents	Unit 44/bin vents	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA	
Unit 45/bin vents	Unit 45/bin vents	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA	
Unit 25/CT - Dry Low NOx Combuster	Unit 25/CT - Dry Low NOx Combuster	Included in CT construction cost	General Electric	PG7241(FA) Simple Cycle	5/2002	NA	913,539	NA	NA	NA	NA	NA	NA	NOx	NA	
Unit 26/CT - Dry Low NOx Combuster	Unit 26/CT - Dry Low NOx Combuster	Included in CT construction cost	General Electric	PG7241(FA) Simple Cycle	5/2002	NA	913,539	NA	NA	NA	NA	NA	NA	NOx	NA	
Unit 27/CT - Dry Low NOx Combuster	Unit 27/CT - Dry Low NOx Combuster	Included in CT construction cost	General Electric	PG7241(FA) Simple Cycle	6/2004	NA	913,539	NA	NA	NA	NA	NA	NA	NOx	NA	
Unit 28/CT - Dry Low NOx Combuster	Unit 28/CT - Dry Low NOx Combuster	Included in CT construction cost	General Electric	PG7241(FA) Simple Cycle	6/2004	NA	913,539	NA	NA	NA	NA	NA	NA	NOx	NA	
Unit 29/CT - Dry Low NOx Combuster	Unit 29/CT - Dry Low NOx Combuster	Included in CT construction cost	General Electric	PG7241(FA) Simple Cycle	7/2004	NA	913,539	NA	NA	NA	NA	NA	NA	NOx	NA	

11/2018

Control Device ID #	Control Device Name	Cost	Manufacturer	Model Name/ Serial #	Date Installed	Inlet Gas Stream Data For <u>All</u> Control Devices					Inlet Gas Stream Data For Condensers, Adsorbers, Afterburners, Incinerators, Oxidizers Only			Imber Equipment Operational Data For <u>All</u> Control Devices		
						Temperature (°F)	Flowrate (scfm @ 68°F)	Average Particle Diameter (µm)	Particle Density (lb/ft ³) or Specific Gravity	Gas Density (lb/ft ³)	Gas Moisture Content (%)	Gas Composition	Fan Type	Pressure Drop Range (in. H ₂ O)	Pollutants Collected/ Controlled	Pollutant Removal (%)
Unit 30/CT - Dry Low NOx Combuster	Unit 30/CT - Dry Low NOx Combuster	Included in CT construction cost	General Electric	PG7241(FA) Simple Cycle	7/2004	NA	913,539	NA	NA	NA	NA	NA	NA	NOx	NA	
Unit 33/Engine - NSCR	Unit 33/Engine - NSCR	Included in Emergency Engine Cost	Caterpillar	3512C-GD	Dec. 2010/Mfg 2007	NA	NA	NA	NA	NA	NA	NA	NA	NOx	NA	
Unit 20/Drift Eliminators	Unit 20/Drift Eliminators	Included in TC1 construction cost	NA	SPX TU12C Eliminator Pack - Part #92-3679	Sept. 1990	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA	
Unit 41/Drift Eliminators	Unit 41/Drift Eliminators	Included in TC2 construction cost	NA	Brentwood CDX-080 Drift Eliminator	7/2006	NA	NA	NA	NA	NA	NA	NA	NA	PM	NA	

NA - Not Available

Imber

Section GG.4: Electrostatic Precipitator (ESP) □

Control Device ID #	Identify all Emission Units and Control Devices that Feed to ESP	Identify Type: Dry negative corona, Wet negative corona or Wet positive corona	Number of Stages	Number of Plates per Stage	Plate Spacing (in)	ESP Total Width (ft)	ESP Total Height (ft)	Collection Plate Height (ft)	Length of Collection Plate (ft)	Particle Migration (Drift) Velocity (specify units)	Particle Resistivity (specify units)	Primary and Secondary Voltage Across Plates (volts)	Primary and Secondary Current (amperes)
Unit 01/ DESP	Unit 01	Dry Negative Corona	5 Electric Fields	24	NA	49	56	49	12	NA	NA	59,500 Volts	Primary: 0-40 Secondary: 0-150
Unit 31/ DESP	Unit 31	Dry Negative Corona	3 Electric Fields	NA	NA	93.75 ft x 2	90.3	50	3 x 11.76 ft.	NA	NA	NA	NA
Unit 31/ WESP	Unit 31	Wet Negative Corona	3 Electric Fields	120 per field	NA	120	120	40	3 x 7.5 ft.	Overall Migration Velocity: 17.5 cm/sec	NA	NA	170 A, .8 A
NA - Not Available													

Section GG.5: Scrubber <input type="checkbox"/>																		
Control Device ID #	Identify all Emission Units and Control Devices that Feed to Scrubber	Identify Type of Scrubber: Venturi, Packed Bed, Spray Tower, or Other (specify)	For Venturi Scrubbers:	For Packed Bed Scrubbers:		For Spray Towers:		Identify Type of Flow: Concurrent, Countercurrent, or Crossflow	Length in Direction of Gas Flow (ft)	Cross-Sectional Area (ft ²)	Venturi Throat Velocity (ft/s)	Mist Eliminator			Scrubbing Liquid			
			Identify Throat Type: Fixed or Adjustable	Identify Packing Type	Packing Height (in)	Number of Nozzles	Nozzle Pressure (psig)					Identify Type: Mesh or Vane	Cross-Sectional Area (ft ²)	Pressure Drop (in. H ₂ O)	Chemical Composition	Flowrate (gal/min)	Fresh Liquid Makeup Rate (gal/min)	Describe Disposal Method of Scrubber Effluent
Unit 01/ FGD	Unit 01	Spray	NA	NA	NA	400	55	Countercurrent	80	1144	NA	Chevron	NA	0.25	CaCO ₃ /Water Slurry	2,076,000	1,468	Discharge to on-site zero-discharge ash pond or reclaimed for beneficial reuse... CCR
Unit 31/ FGD	Unit 31	Spray	NA	NA	NA	NA	30 psig	Countercurrent	70	2800	NA	Chevron	2800	~2	CaCO ₃ /Water Slurry	298,000	1,150	Discharge to on-site zero-discharge ash pond or reclaimed for beneficial reuse... CCR
NA - Not Available																		

Section GG.6: Filter <input type="checkbox"/>														
Control Device ID #	Identify all Emission Units and Control Devices that Feed to Filter	Identify Type of Filter Unit: Baghouse, Cartridge Collector, or Other (specify)	Identify Type of Filtering Material: Fabric, Paper, Synthetic, or Other (specify)	Total Filter Area (ft ²)	Effective Air-to-Filter Ratio (acfm/ft ²)	Continuous Monitoring Instrumentation (e.g. COMS, BLDS, none)	Additional Materials Introduced into the Control System (e.g. lime, carbon)		Identify Cleaning Method: Shaker, Pulse Air, Reverse Air, Pulse Jet, or Other (specify)	Identify Gas Cooling Method: Ductwork, Heat Exchanger, Bleed-in Air, Water Spray, or Other (specify)	For Ductwork:		For Bleed-in Air:	For Water Spray:
							Material	Injection Rate (lb/hr)			Length (ft)	Diameter (ft)	Flowrate (scfm @ 68 °F)	Flowrate (gal/min)
Unit 01/PJFF	Unit 01 PJFF with PAC injection System	Baghouse	Fiberglass, acid resistant and PTFE (teflon)	Total Filtering Area: 485,454 sq. ft.	Total Effective Area: 462,276 sq. ft.	PM monitor/stack	Currently just DSI not PAC	See CAM Plan	Pulse Jet	NA	NA	NA	NA	NA
Unit 31/PJFF	Unit 31 PJFF with PAC injection System	Baghouse	Fiberglass, acid resistant and PTFE (teflon)	NA	NA	PM monitor/stack	Currently just DSI not PAC	See CAM Plan	Pulse Jet	NA	NA	NA	NA	NA
Unit 07/Dust Collectors	Unit 07/Coal Handling	Unit 07 (See tab 3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Unit 08/Rotoclone	Unit 08/Coal Yard Crusher House Rotocloens	Hoods/ and enclosures	Stainless Steel Mesh	NA	NA	NA	NA	NA	High Pressure Hose	Water Spray	NA	NA	NA	NA
Unit 09/Dust Collectors	Unit 09/TC1 Coal Silo baghouse	Filter Tube sheet	Synthtic	4,840	NA	None	NA	NA	Pulse Jet	blower	NA	NA	NA	NA
Unit 37/Dust Collectors	Unit 37/E2/E3 Coal Conveyor Dust Collectors	Hoods/ and enclosures	Stainless Steel Mesh	NA	NA	NA	NA	NA	High Pressure Hose	Water Spray	NA	NA	NA	NA
Unit 39/Dust Collectors	Unit 39/TC2 Coal Silo baghouse	Filter Tube sheet	Synthtic	4,840	NA	None	NA	NA	Pulse Jet	blower	NA	NA	NA	NA
Unit 42/bin vent	Unit 42/1200 ton flyash silo Bin Vent Filter	Baghouse	NA	NA	NA	NA	NA	NA	Pulse Valves and Nozzles	Blower?	NA	NA	NA	NA
Unit 44/bin vents	Unit 44/TC2 Powder Activated Carbon Storage Siloe Bin Vent filter	Baghouse	NA	NA	NA	NA	NA	N/A (We are not using PAC on TC2)	NA	NA	NA	NA	NA	NA
Unit 45/bin vents	Unit 45/TC2 Hydrated Lime Silo Bin Vent Filter	Baghouse	NA	NA	NA	NA	NA	3,500 - 4,000 lb/hr	NA	NA	NA	NA	NA	NA

Control Device ID #	Identify all Emission Units and Control Devices that Feed to Filter	Identify Type of Filter Unit: Baghouse, Cartridge Collector, or Other (specify)	Identify Type of Filtering Material: Fabric, Paper, Synthetic, or Other (specify)	Total Filter Area (ft ²)	Effective Air-to-Filter Ratio (acfm/ft ²)	Continuous Monitoring Instrumentation (e.g. COMS, BLDS, none)	Additional Materials Introduced into the Control System (e.g. lime, carbon)		Identify Cleaning Method: Shaker, Pulse Air, Reverse Air, Pulse Jet, or Other (specify)	Identify Gas Cooling Method: Ductwork, Heat Exchanger, Bleed-in Air, Water Spray, or Other (specify)	For Ductwork:		For Bleed-in Air:	For Water Spray:
							Material	Injection Rate (lb/hr)			Length (ft)	Diameter (ft)	Flowrate (scfm @ 68°F)	Flowrate (gal/min)
NA - Not Available														

Section GG.10: Selective Catalytic Reduction (SCR) / Selective Non-catalytic Reduction (SNCR)

Control Device ID #	Identify all Emission Units and Control Devices that Feed to SCR/SNCR	Type (SCR/SNCR)	Gas Composition	Injection Grid Design (e.g. honeycomb)	Design Temperature Range		Reagent		Maximum Design Ammonia Slip (ppm)	SCR Only				
					Min (°F)	Max (°F)	Type	Injection Rate		Catalyst				
								Min (lb/hr)		Max (lb/hr)	Composition	Volume (ft ³)	Weight (lb)	Replacement Schedule
Unit 01/ SCR	Unit 01	SCR	See notes GG10 Unit 01	Honeycomb	639	735	Ammonia	0	720	<2 ppm	TiO2 base and stainless steel mesh substrate	100.86	3090 lb/block	L1 replacement 2021, L2 replaced 11/2019, L3 replacement 2023
Unit 031/ SCR	Unit 31	SCR	See notes GG10 Unit 02	Honeycomb	639	735	Ammonia	0	715	< 2 ppm	TiO2 base and stainless steel mesh substrate	100.86	3090 lb/block	L2 replacement 2020, L1 replacement 2022, L3 replacement 2024

Section GG.12: Notes, Comments, and Explanations

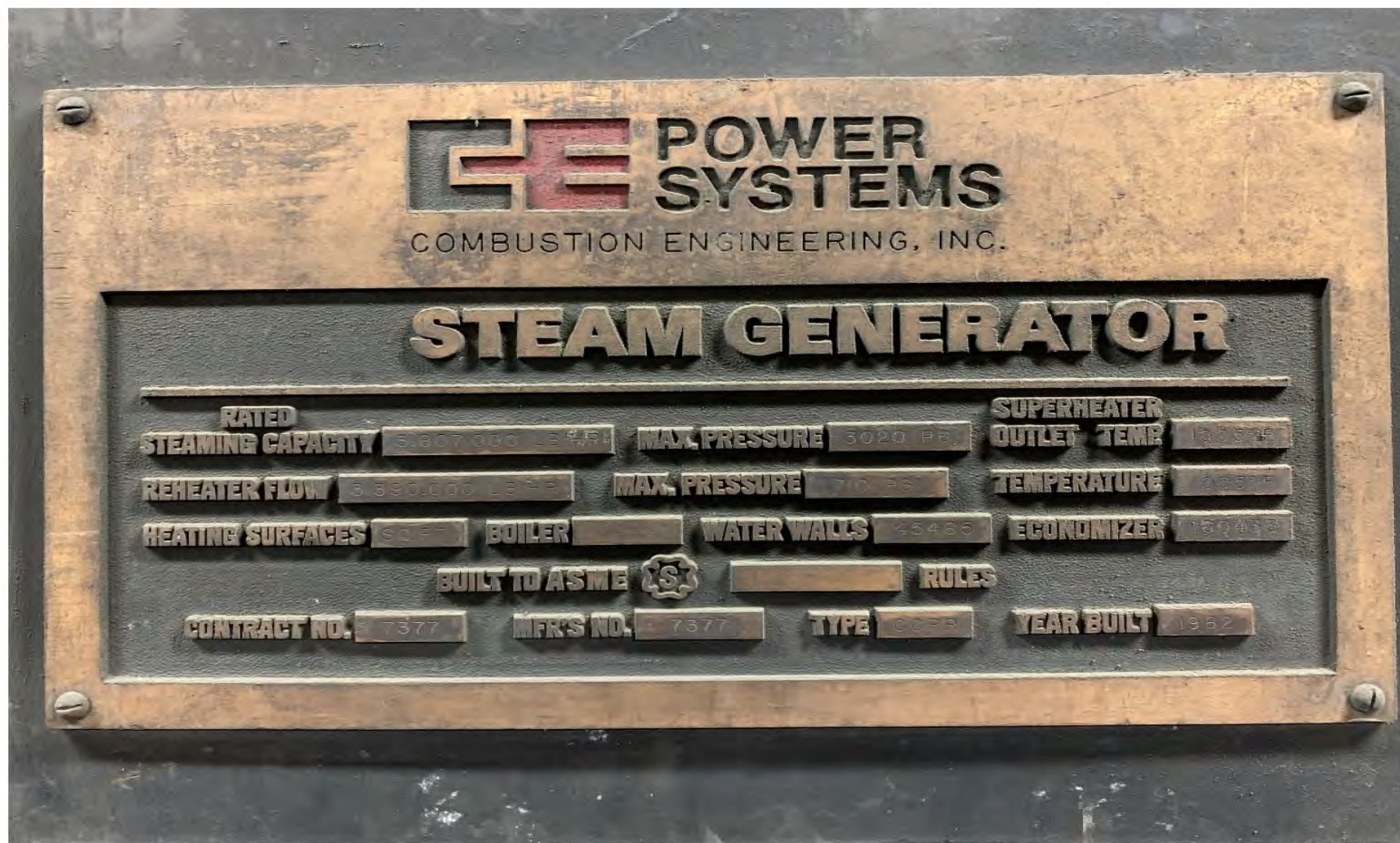
GG10 Unit 01:

NO _x Content	ppm, dry @ O ₂ – Ref. as NO ₂	163
	lb/MMBtu	0.218
O ₂ Content	Vol %, dry	3.57
H ₂ O Content	Weight %	5.99
H ₂ O Content	Vol %	9.83
SO ₂ Content	ppm, dry @ O ₂ – Reference	2919
SO ₃ Content	ppm, dry @ O ₂ – Reference	29
Dust Content	g/m ³ NTP	14
Reference O ₂ Content	Vol % NTP, dry	3

GG10 Unit 02:

NO _x Content	ppm, dry @ O ₂ – Ref. as NO ₂	163
	lb/MMBtu	0.218
O ₂ Content	Vol %, dry	3.57
H ₂ O Content	Weight %	5.99
H ₂ O Content	Vol %	9.83
SO ₂ Content	ppm, dry @ O ₂ – Reference	2919
SO ₃ Content	ppm, dry @ O ₂ – Reference	29
Dust Content	g/m ³ NTP	14
Reference O ₂ Content	Vol % NTP, dry	3

TAB 1



TAB 2



Doosan Babcock Energy

Certified by



**Doosan Heavy Industries
& Construction Co., Ltd.**

(Name of Manufacturer)

Waterwall : 4,569psig Superheater : 4,206psig
Economizer : 4,859psig Reheater : 798psig

(Max. allow. working pressure when built)

Waterwall : 117,147sqft Superheater : 223,219sqft
Economizer : 148,004sqft Reheater : 272,986sqft

(Heating surface, boiler and waterwalls)

Superheater : 5,484,608lb/hour Reheater : 4,404,876lb/hour

(Maximum designed steaming capacity)

T06162-01

2010

Manufacturer's
serial number

Year built

Assembler

TAB 3

Emissions Units: 07, 08, 09, 37, & 39 Fossil Fuel Handling Operations

EU #	Source	Description	Transfer Rate	Controls	Construction Commenced
07	Barge Unloading	One Continuous Barge Unloader	5,500 ton/hr	enclosure	1990
07	Conveyor Belt A	From Continuous Barge Unloader to Conveyor B	5,500 ton/hr	enclosure	1990
07	Conveyor Belt B	From Conveyor A to Transfer House/Conveyor C	5,500 ton/hr	Enclosure /hood	1990
07	Conveyor Belt C	From B Transfer House to Coal Sample House Bin	5,500 ton/hr	Enclosure /hood rotoclone	1990
07	Conveyor Belt D	From Coal Sample House Bin to Conveyor E1 or S	3,000 ton/hr	enclosure	1990
07	Reclaim Hopper & Conveyor Belt R1	From One Inactive Fossil Fuel Pile to Crusher House	1,320 ton/hr	enclosure	1990
07	Conveyor Belt S	From Conveyor D to One Inactive Fossil Fuel Pile	1,650 ton/hr	enclosure	1990
07	Conveyor Belt E1	From Conveyor D to Active Storage or Crusher House	2,640 ton/hr	hood	1990
07	Conveyor Belt F1 & F2	From Crusher House to Conveyors G1 & G2	1,320 ton/hr	Dust Collector	1990
07	Conveyor Belt G1 & G2	From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos	1,320 ton/hr	Dust Collector	1990
08	Crusher House	Two Crushers, Fossil Fuel Crusher Bin	3,600 ton/hr	rotoclone	1990
09	Six Unit 1 Silos		800 ton/hr	Dust Collector	1990
37	Conveyor Belt E2	From Active Coal Piles "A & B" to Conveyor E3	2,640 ton/hr	Dust Collector	2008
37	Conveyor Belt E3	From Conveyor E2 to Conveyor E1	2,640 ton/hr	hoods	2008
39	Six Unit 2 Silos	Boiler Unit 2 Coal Storage	800 ton/hr	Dust Collector	2008

DEP7007HH

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007HH

Haul Roads

- _____ Section HH.1: Haul Roads
- _____ Section HH.2: Yard Area
- _____ Section HH.3: Notes, Comments, and Explanations

**Imber
Additional Documentation**

- ___ Complete DEP7007AI, DEP7007N and DEP7007V
- ___ SDS for dust suppressant

Source Name: Louisville Gas & Electric - Trimble County

KY EIS (AFS) #: 21- 223-00002

Permit #: V-14-017 R3

Agency Interest (AI) ID: 4045

Date: April-2020

Section HH.1: Haul Roads

HH.1A Unpaved Haul Roads: (NA ROAD ARE ALL PAVED)

Average Number of Days in a Year with 0.01 inches of Precipitation (P): _____ Days

Mean Vehicle Weight (W): _____ Tons

Surface Material Silt Content (s): _____ %

Haul Road Length: _____ Miles

Maximum Vehicle Miles Traveled in a Year: _____ Miles

Describe the dust control method for unpaved haul road(s):
(If dust control suppressants will be utilized, attach the approved Safety Data Sheet(s), as applicable.)

Emission factor: _____

HH.1B Paved Haul Roads:

11/2018

Average Number of Days in a Year with 0.01 inches of Precipitation (P): 129 Days

Mean Vehicle Weight (W): 40 Tons

Road Surface Silt Loading (sL): 0.6 (G/M²)

Haul Road Length: Varies Miles

Maximum Vehicle Miles Traveled in a Year: 11213 (miles/year estimated based on worse case/Unit 06) Miles (avg. 1.28 VMT/Hr.)

Describe the dust control method for paved haul road(s):
(If dust control suppressants will be utilized, attach the approved Safety Data Sheet(s), as applicable.)

Water Trucks
A control efficiency is applied to account for road maintenance and dust suppression methods such as periodic watering.

Section HH.2: Yard Area (Aggregate Handling And Storage Piles):

Average Number of Days in a Year with 0.01 inches of Precipitation (P): 129 Days

Mean Wind Speed (U): 12 MPH

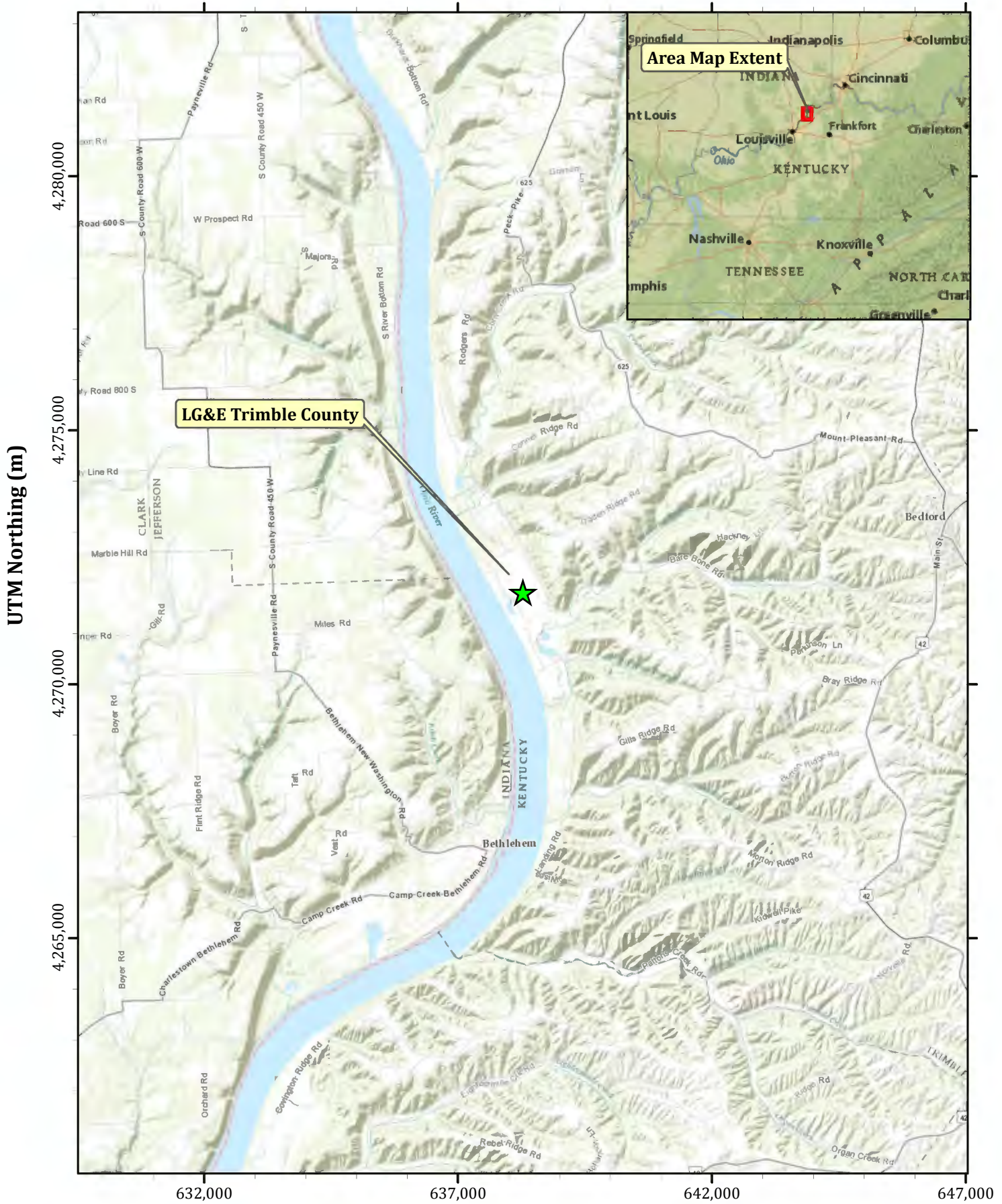
Material Moisture Content (M): 14 % Average

Describe the dust control method for yard area:
(If dust control suppressants will be utilized, attach the approved Safety Data Sheet(s), as applicable.)

Water and Compacton
A control efficiency is applied to account for road maintenance and dust suppression methods such as periodic watering.

APPENDIX B: MAPS

LG&E Trimble County Generating Station - Area Map



UTM Easting (m)

All Coordinates shown in UTM Coordinates,
Zone 16, NAD 83 Datum

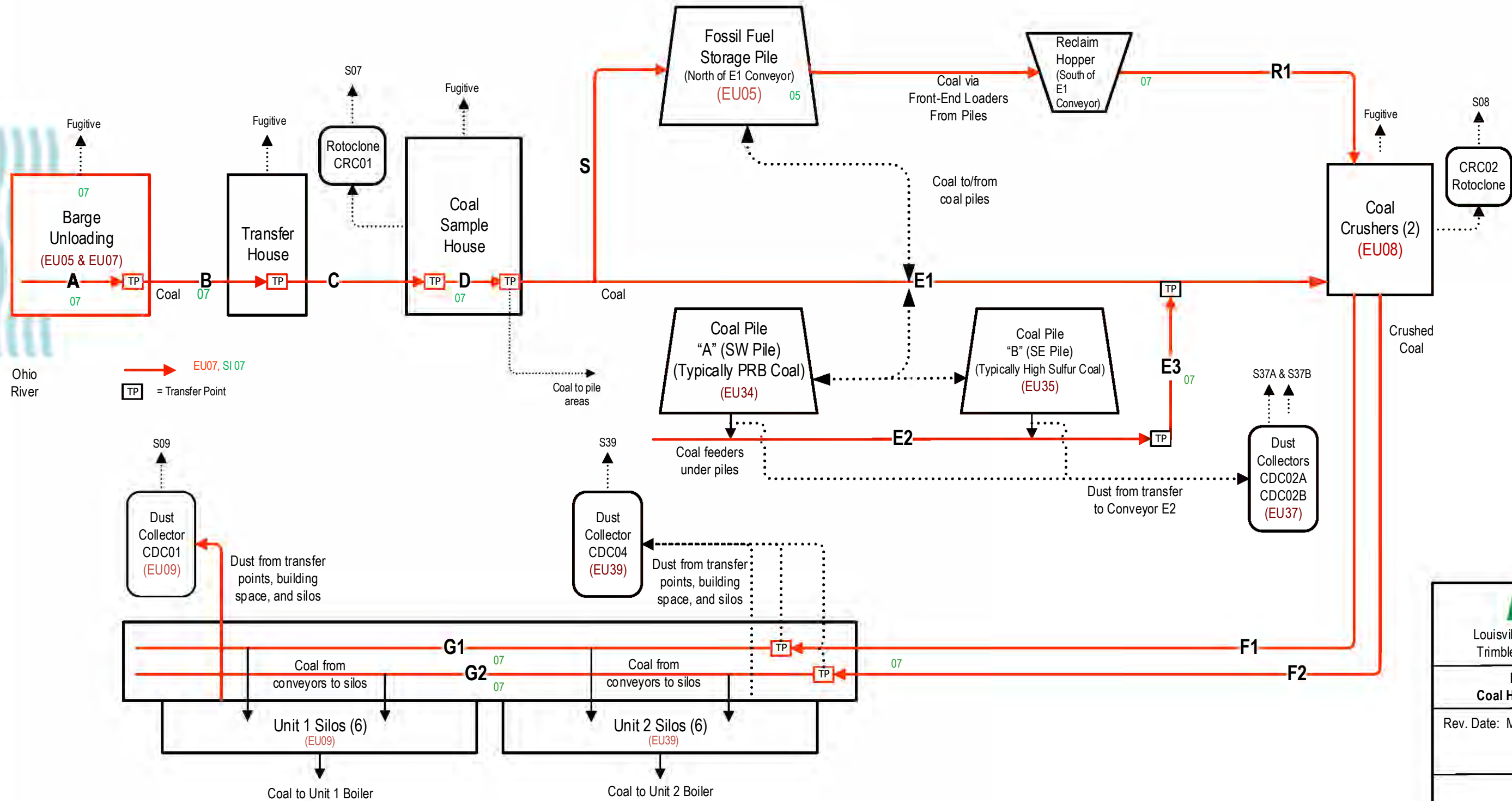






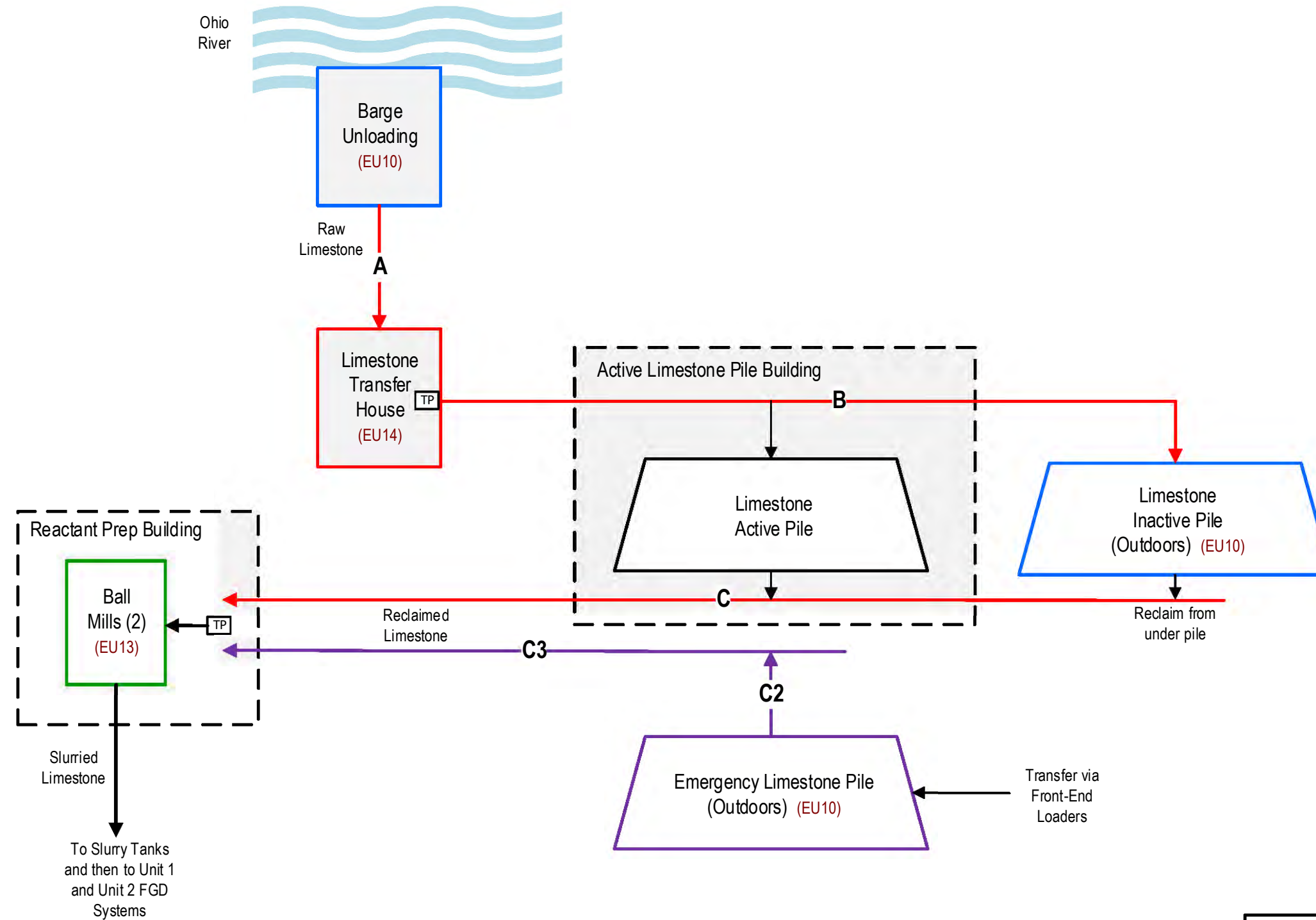
**APPENDIX C: PROCESS
FLOW DIAGRAM**

Coal Handling System



LGE
 Louisville Gas & Electric
 Trimble County Station
Figure D-1
Coal Handling System
 Rev. Date: March 2020

Limestone Handling System



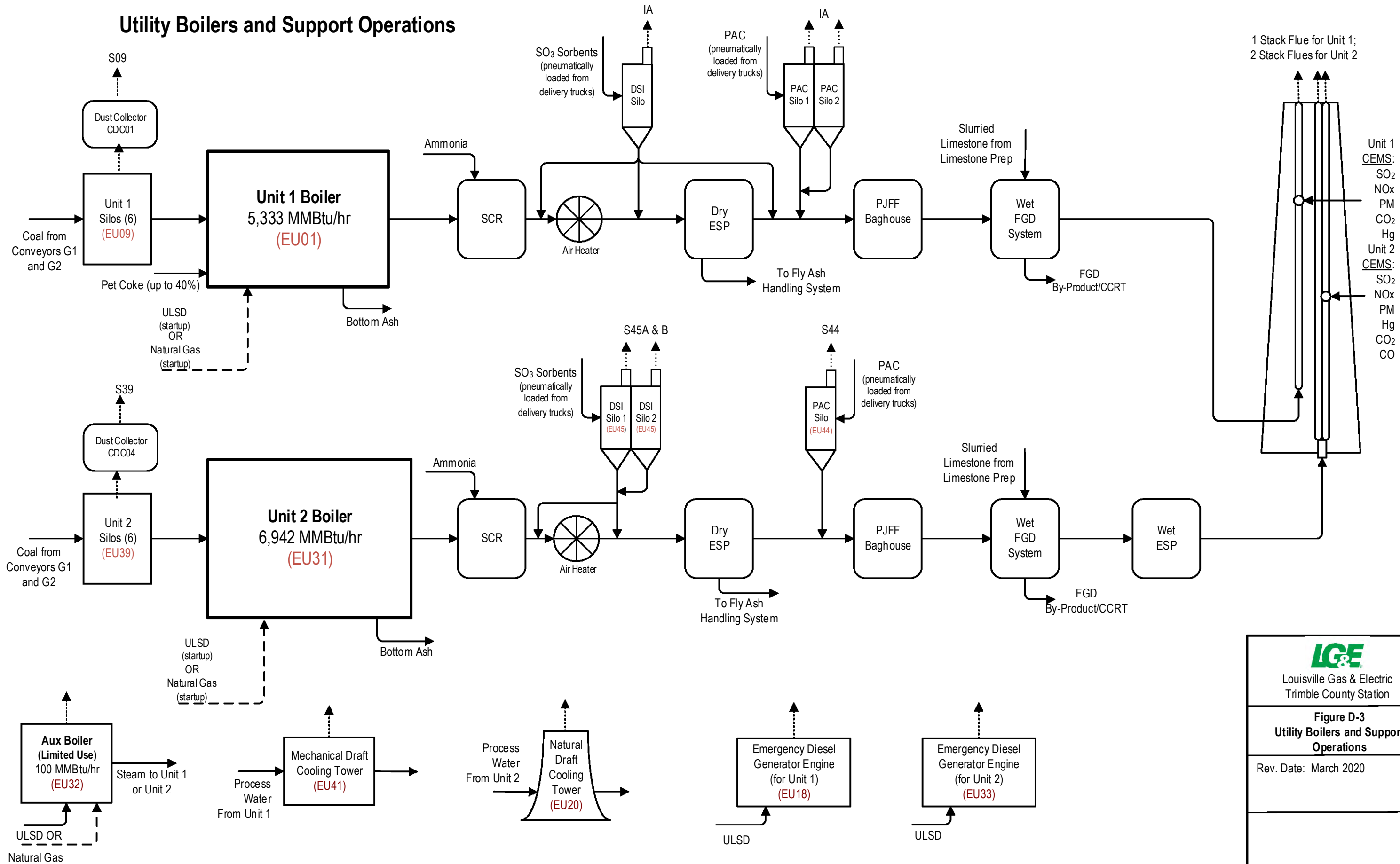
Emission Unit Legend	
	EU10
	EU13
	EU14
	Insig Activity
	= Transfer Point

LGE
 Louisville Gas & Electric
 Trimble County Station

Figure D-2
Limestone Handling System

Rev. Date: March 2020

Utility Boilers and Support Operations

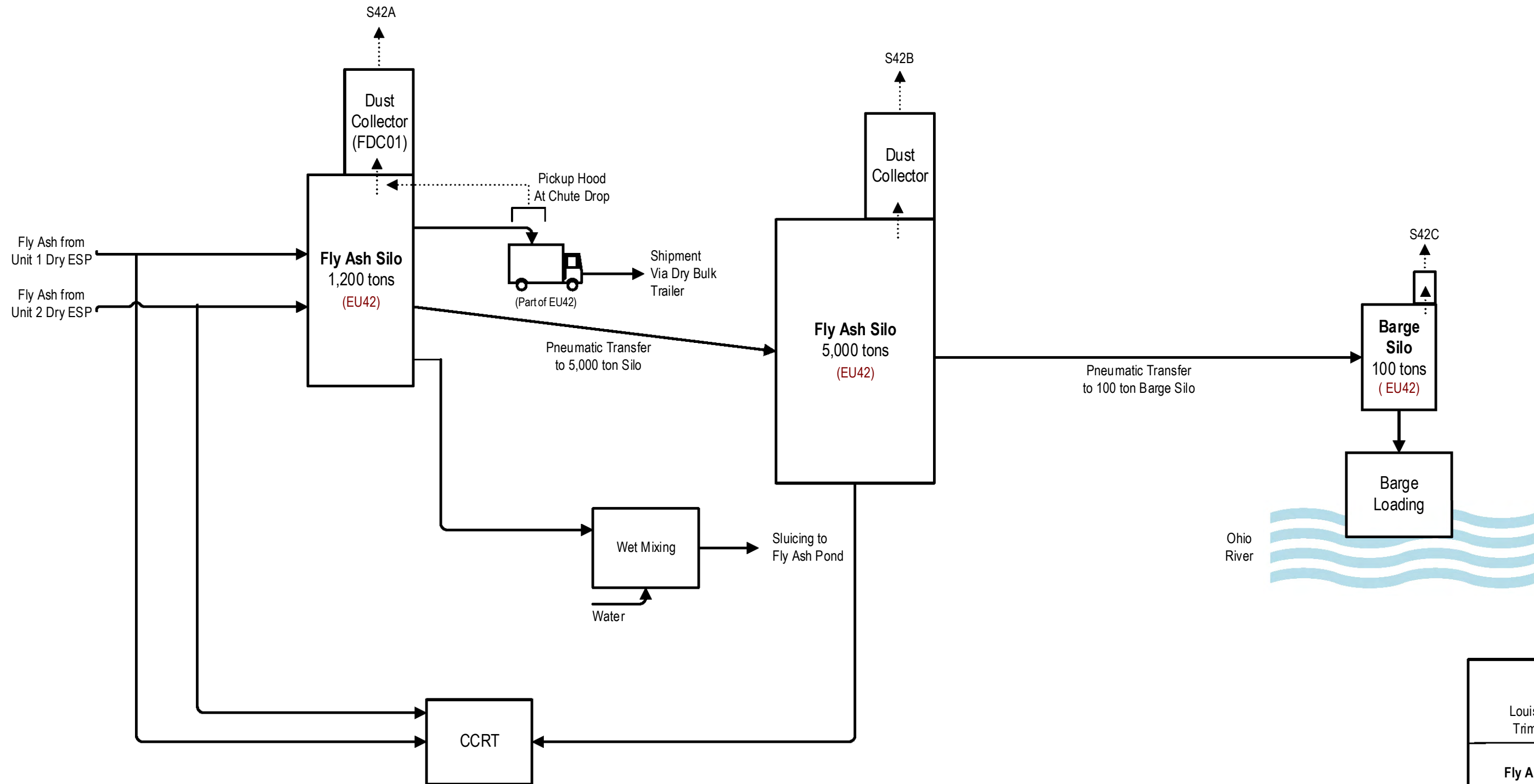


LGE
Louisville Gas & Electric
Trimble County Station

Figure D-3
Utility Boilers and Support Operations

Rev. Date: March 2020

Fly Ash Handling System

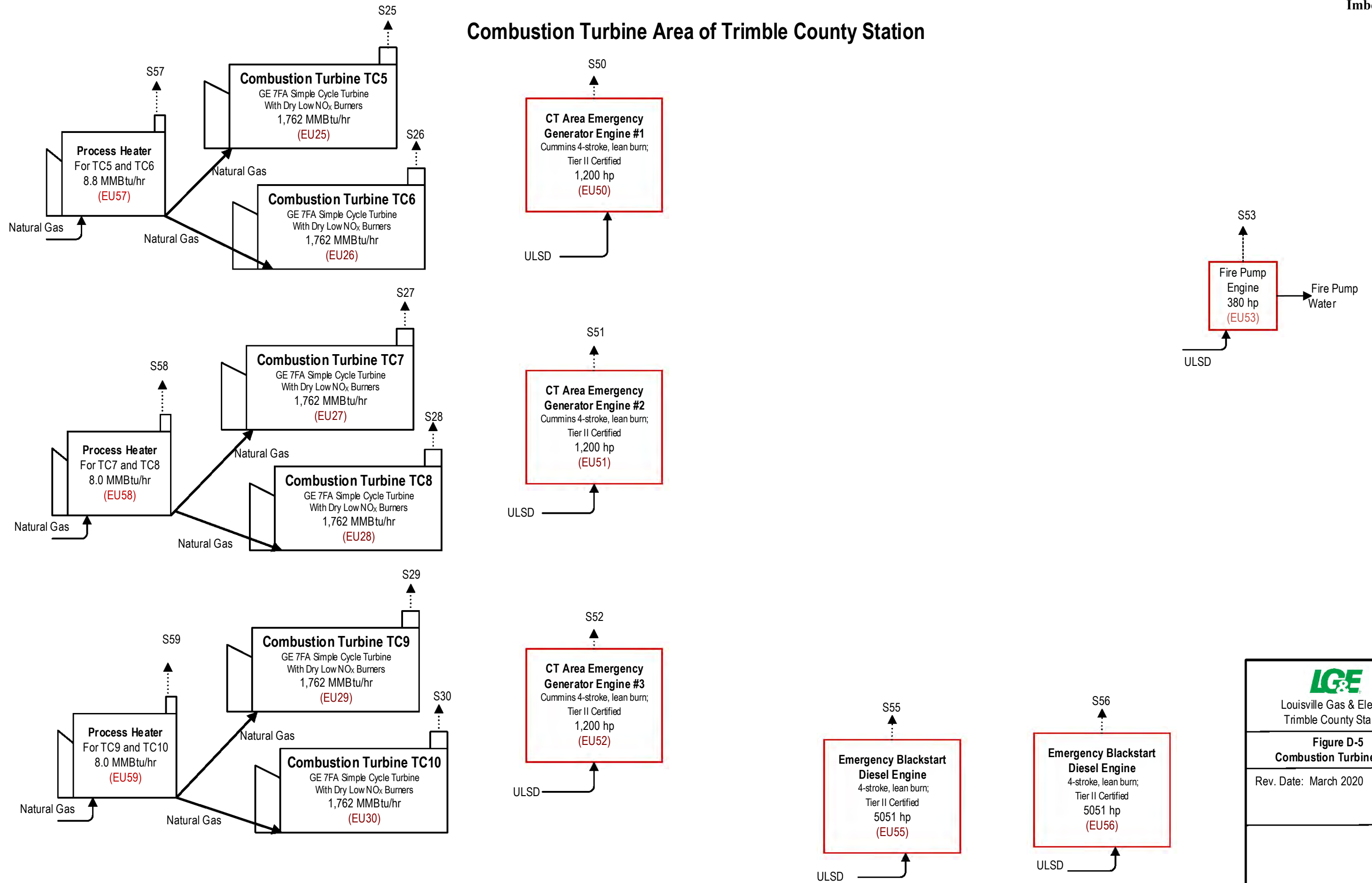


LGE
 Louisville Gas & Electric
 Trimble County Station

Figure D-4
Fly Ash Handling System

Rev. Date: March 2020

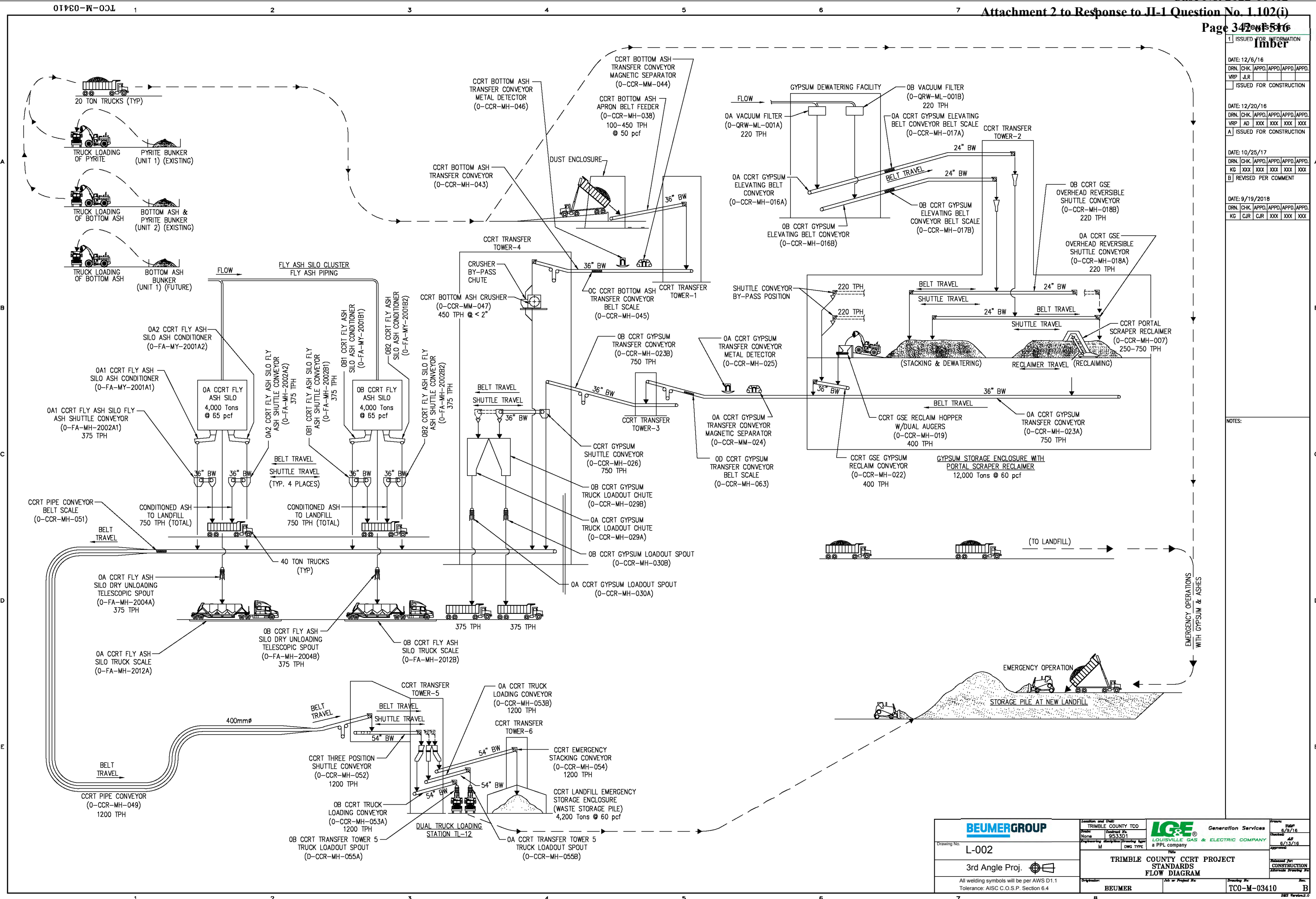
Combustion Turbine Area of Trimble County Station



LGE
Louisville Gas & Electric
Trimble County Station

Figure D-5
Combustion Turbine Area

Rev. Date: March 2020



ISSUED FOR INFORMATION				
Imber				
DATE:	12/6/16			
DRN.	CHK.	APPD.	APPD.	APPD.
VRP	JLR			
ISSUED FOR CONSTRUCTION				
DATE:	12/20/16			
DRN.	CHK.	APPD.	APPD.	APPD.
VRP	AD	XXX	XXX	XXX
ISSUED FOR CONSTRUCTION				
DATE:	10/25/17			
DRN.	CHK.	APPD.	APPD.	APPD.
KG	XXX	XXX	XXX	XXX
REVISED PER COMMENT				
DATE:	9/19/2018			
DRN.	CHK.	APPD.	APPD.	APPD.
KG	CJR	CJR	XXX	XXX

NOTES:

	Location and Date: TRIMBLE COUNTY TCO Name: 053301 Engineering discipline: M DWG TYPE:	 LOUISVILLE GAS & ELECTRIC COMPANY a PPL company	Date: 8/9/16
	Drawing No: L-002		TRIMBLE COUNTY CRT PROJECT STANDARDS FLOW DIAGRAM
3rd Angle Proj.	BEUMER	TCO-M-03410	B

APPENDIX D: EPA ENGINE CERTIFICATION DOCUMENTS

Cat® 3512C Diesel Generator Sets

Unit 33



Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in³)	58.56 (3573.55)
Compression Ratio	14.7:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Image shown may not reflect actual configuration

Standby 60 Hz kW (kVA)	Mission Critical 60 Hz kW (kVA)	Emissions Performance
1750 (2187)	1750 (2187)	U.S. EPA Stationary Emergency Use Only. (Tier 2)



Standard Features

Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide

Generator Set Package

- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System

- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

3512C Diesel Generator Sets Electric Power

Optional Equipment

Engine

Air Cleaner

- Single element
- Dual element
- Heavy duty

Muffler

- Industrial grade (15 dB)

Starting

- Standard batteries
- Oversized batteries
- Standard electric starter(s)
- Dual electric starter(s)
- Air starter(s)
- Jacket water heater

Alternator

Output voltage

- 380V 6600V
- 440V 6900V
- 480V 12470V
- 600V 13200V
- 4160V 13800V
- 6300V

Temperature Rise (over 40°C ambient)

- 150°C
- 125°C/130°C
- 105°C
- 80°C

Winding type

- Random wound
- Form wound

Excitation

- Internal excitation (IE)
- Permanent magnet (PM)

Attachments

- Anti-condensation heater
- Stator and bearing temperature monitoring and protection

Power Termination

Type

- Bus bar
- Circuit breaker
- 1600A 2000A
- 2500A 3200A
- 3000A
- UL IEC
- 3-pole 4-pole
- Manually operated
- Electrically operated

Trip Unit

- LSI LSI-G
- LSI-G-P

Control System

Controller

- EMCP 4.2B
- EMCP 4.3
- EMCP 4.4

Attachments

- Local annunciator module
- Remote annunciator module
- Expansion I/O module
- Remote monitoring software

Charging

- Battery charger – 10A
- Battery charger – 20A
- Battery charger – 35A

Vibration Isolators

- Spring
- Seismic rated

Cat Connect

Connectivity

- Ethernet
- Cellular
- Satellite

Extended Service Options

Terms

- 2 year (prime)
- 3 year
- 5 year
- 10 year

Coverage

- Silver
- Gold
- Platinum
- Platinum Plus

Ancillary Equipment

- Automatic transfer switch (ATS)
- Uninterruptible power supply (UPS)
- Paralleling switchgear
- Paralleling controls

Certifications

- UL 2200 Listed
- CSA
- IBC seismic certification
- OSHPD pre-approval

Note: Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

3512C Diesel Generator Sets Electric Power

Package Performance

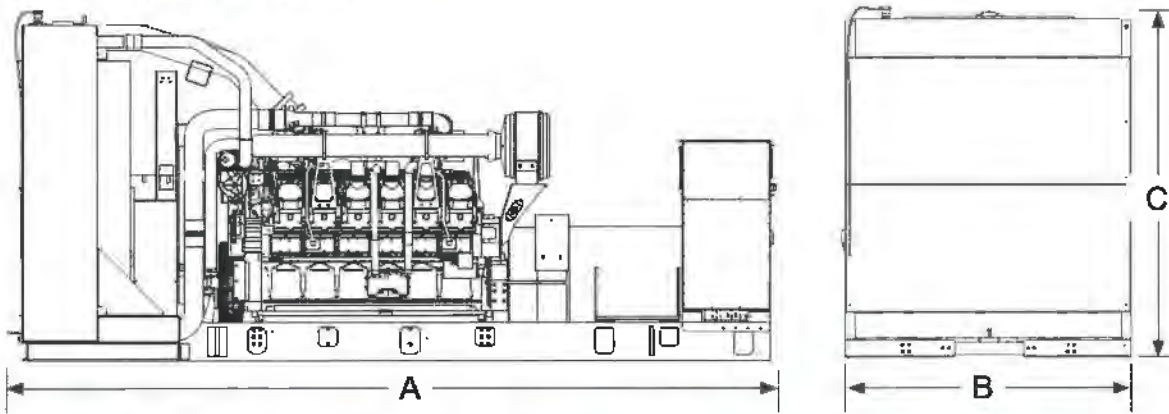
Performance	Standby		Mission Critical	
Frequency	60 Hz		60 Hz	
Gen set power rating with fan	1750 ekW		1750 ekW	
Gen set power rating with fan @ 0.8 power factor	2187 kVA		2187 kVA	
Emissions certification	EPA ESE (Tier 2)		EPA ESE (Tier 2)	
Performance number	EM1787-01		EM1948-01	
Fuel Consumption				
100% load with fan – L/hr (gal/hr)	467.1	(123.4)	467.1	(123.4)
75% load with fan – L/hr (gal/hr)	356.8	(94.3)	356.8	(94.3)
50% load with fan – L/hr (gal/hr)	261.6	(69.1)	261.6	(69.1)
25% load with fan – L/hr (gal/hr)	160.4	(42.4)	160.4	(42.4)
Cooling System				
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m ³ /min (cfm)	2075	(73278)	2075	(73278)
Engine coolant capacity – L (gal)	156.8	(41.4)	156.8	(41.4)
Radiator coolant capacity – L (gal)	201	(53)	201	(53)
Total coolant capacity – L (gal)	357.8	(94.4)	357.8	(94.4)
Inlet Air				
Combustion air inlet flow rate – m ³ /min (cfm)	161.7	(5708.8)	161.7	(5708.8)
Exhaust System				
Exhaust stack gas temperature – °C (°F)	453.5	(848.4)	453.5	(848.4)
Exhaust gas flow rate – m ³ /min (cfm)	405.0	(14299.5)	405.0	(14299.5)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)
Heat Rejection				
Heat rejection to jacket water – kW (Btu/min)	597	(33968)	597	(33968)
Heat rejection to exhaust (total) – kW (Btu/min)	1755	(99777)	1755	(99777)
Heat rejection to aftercooler – kW (Btu/min)	553	(31457)	553	(31457)
Heat rejection to atmosphere from engine – kW (Btu/min)	129	(7341)	129	(7341)
Heat rejection from alternator – kW (Btu/min)	86	(4908)	86	(4908)
Emissions* (Nominal)				
NOx mg/Nm ³ (g/hp-h)	2390.9	(5.15)	2390.9	(5.15)
CO mg/Nm ³ (g/hp-h)	242.2	(0.52)	242.2	(0.52)
HC mg/Nm ³ (g/hp-h)	47.7	(0.12)	47.7	(0.12)
PM mg/Nm ³ (g/hp-h)	20.3	(0.05)	20.3	(0.05)
Emissions* (Potential Site Variation)				
NOx mg/Nm ³ (g/hp-h)	2869.0	(6.18)	2869.0	(6.18)
CO mg/Nm ³ (g/hp-h)	435.9	(0.94)	435.9	(0.94)
HC mg/Nm ³ (g/hp-h)	83.4	(0.16)	83.4	(0.16)
PM mg/Nm ³ (g/hp-h)	28.4	(0.07)	28.4	(0.07)

*mg/Nm³ levels are corrected to 5% O₂. Contact your local Cat dealer for further information.

3512C Diesel Generator Sets Electric Power



Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
6178 (243.2)	2281 (89.8)	2794 (110.0)	14 820 (32,660)

Note: For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

Ratings Definitions

Standby

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications

- ISO 8528-1 Data Center Power (DCP) compliant per DCP application of Cat diesel generator set prime power rating.
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

www.cat.com/electricpower

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.



Unit 33

CATERPILLAR INC.

EBG00032

Important Engine Information

2008

Engine Model: 3512

Displacement: 51.8 L

Int. Valve Lash: 0.5 mm

Exh. Valve Lash: 1.0 mm

Max. Adv kW (Hp): 1645 (2206)

Max. Rated Speed (RPM): 1800

Engine Family: 8CPXL58.6T2X

Max. Low Idle Speed (RPM): 900

Fuel Rate Max. kW (mm /Stroke): 606

Max. Initial Timing Deg. BTDC

ELECTRONIC

Exh. Emission Cont. Sys.

EM,DI,TC,ECM,CAC

This 3512 engine conforms to 2008 U.S. EPA and California regulations large non-road and stationary compression-ignition engines. This engine is certified to operate at constant speed only on commercially available diesel fuel and to the Family Emission Limit (FEL) of 0.18 GM/kW-HR

11.17.2010

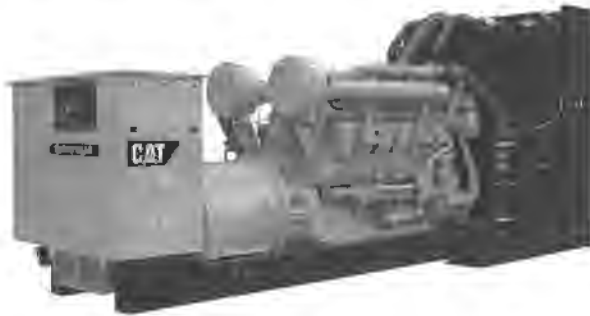
DIESEL GENERATOR SET**CATERPILLAR**
Imber®

Image shown may not reflect actual package.

STANDBY**1500 ekW 1875 kVA****60 Hz 1800 rpm 480 Volts**

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES**FUEL/EMISSIONS STRATEGY**

- EPA Tier 2

DESIGN CRITERIA

- The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

UL 2200

- UL 2200 listed packages available. Certain restrictions may apply. Consult with your Caterpillar Dealer.

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER

- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT

- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers have over 1,600 dealer branch stores operating in 200 countries
- The Cat® S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT 3512C DIESEL ENGINE

- Reliable, rugged, durable design
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

CAT GENERATOR

- Designed to match the performance and output characteristics of Caterpillar diesel engines
- Single point access to accessory connections
- UL 1446 recognized Class H insulation

CAT EMCP 3 SERIES CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

STANDBY 1500 ekW 1875 kVA

60 Hz 1800 rpm 480 Volts



Imber

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> Single element canister type air cleaner with service indicator 	<ul style="list-style-type: none"> Dual element & heavy duty air cleaners (with pre-cleaners) Air inlet adapters & shutoff
Cooling	<ul style="list-style-type: none"> EPA Tier II Certified Std PGS provides ATAAC All 3512C package radiators shipped installed Air return temp from ATAAC 50°C 122°F) at 30°C (86°C) ambient temperature. Radiator fan and fan drive Fan and belt guards Coolant drain line with valve Coolant level sensors* Caterpillar Extended Life Coolant* 	<ul style="list-style-type: none"> Radiator removal Coolant level switch gauge Heat exchanger and expansion tank
Exhaust	<ul style="list-style-type: none"> Exhaust manifold - dry - dual - 8 in 203 mm (8 in) ID round flanged outlet 	<ul style="list-style-type: none"> Mufflers Stainless steel exhaust flex fittings Elbows, flanges, expanders & Y adapters
Fuel	<ul style="list-style-type: none"> Secondary fuel filters Fuel cooler* Fuel priming pump Flexible fuel lines-shipped loose 	<ul style="list-style-type: none"> Duplex secondary fuel filter Primary fuel filter with fuel water separator *Not included with packages without radiator
Generator	<ul style="list-style-type: none"> Class H insulation CAT digital voltage regulator (CDVR) with DVAR/PF control, 3-phase sensing Winding temperature detectors Anti-condensation space heaters Reactive droop 	<ul style="list-style-type: none"> Oversize & premium generators
Power Termination	<ul style="list-style-type: none"> Bus bar (NEMA and IEC mechanical lug holes)- right side standard Top and bottom cable entry 	<ul style="list-style-type: none"> Circuit breakers, UL listed, 3 pole shunt trip, 100% rated, choice of trip units, manual or electrically operated (low voltage only) Circuit breakers, IEC compliant, 3 or 4 pole with shunt trip (low voltage only), choice of trip units, manual or electrically operated Shroud cover for bottom cable entry Power terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 2)
Governor	<ul style="list-style-type: none"> ADEM™ III 	<ul style="list-style-type: none"> Load share module
Control Panel	<ul style="list-style-type: none"> User interface panel (UIP) - rear mount EMCP 3.1 Genset Controller Speed Adjust AC & DC customer wiring area (right side) Emergency Stop Pushbutton 	<ul style="list-style-type: none"> EMCP 3.3 Option for right or left mount UIP Option for rear or left mount Customer wiring area Local & remote annunciator modules Load share module Discrete I/O Module Generator temperature monitoring & protection Voltage Adjust
Lube	<ul style="list-style-type: none"> Lubricating oil Gear type lube oil pump Integral lube oil cooler Oil filter, filler and dipstick Oil drain line and valve Fumes disposal 	<ul style="list-style-type: none"> Oil level regulator Deep sump oil pan Electric & air prelube pumps Manual prelube with sump pump Duplex oil filter
Mounting	<ul style="list-style-type: none"> Rails - engine / generator / radiator mounting Anti-vibration mounts (shipped loose) Rubber anti-vibration mounts (shipped loose) 	<ul style="list-style-type: none"> Isolator removal Spring type vibration isolator
Starting/Charging	<ul style="list-style-type: none"> 24 volt starting motor(s) Batteries with rack and cables Battery disconnect switch 	<ul style="list-style-type: none"> Battery chargers (10 & 20 Amp) 45 amp charging alternator Oversize batteries Ether starting aids Heavy duty starting motors Barring device (manual) Air starting motor with control & silencer



STANDBY 1500 kW 1875 kVA

60 Hz 1800 rpm 480 Volts

SPECIFICATIONS

CAT GENERATOR

SR4B Generator
Frame Size.....697
Excitation..... Permanent Magnet
Pitch..... 0.7333
Number of poles..... 4
Number of bearings..... Single Bearing
Number of Leads..... 6
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
IP Rating..... Drip Proof IP22
Alignment..... Pilot Shaft
Overspeed capability- % of rated..... 150
Wave form.....003.00
Paralleling kit/Droop transformer..... Standard
Voltage Regulator 3 Phase sensing with selectable volts/Hz
Telephone influence factor..... Less than 50

CAT DIESEL ENGINE

3512C ATAAC, V-12, 4 stroke, water-cooled diesel
Bore..... 170.00 mm (6.69 in)
Stroke..... 190.00 mm (7.48 in)
Displacement..... 51.80 L (3161.03 in³)
Compression Ratio..... 14.7:1
Aspiration..... TA
Fuel System..... Electronic unit injection
Governor Type..... ADEM3

CAT EMCP SERIES CONTROLS

- EMCP 3.1 (Standard)
- EMCP 3.2 / EMCP 3.3 (Option)
- Single location customer connector point
- True RMS AC metering, 3-phase
- Controls
 - Run / Auto / Stop control
 - Speed Adjust
 - Voltage Adjust
 - Emergency Stop Pushbutton
 - Engine cycle crank
- Digital Indication for:
 - RPM
 - Operating hours
 - Oil pressure
 - Coolant temperature
 - System DC volts
 - L-L volts, L-N volts, phase amps, Hz
 - kW, kVA, kVAR, kW-hr, %kW, PF (EMCP 3.2 / 3.3)
- Shutdowns with common indicating light for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)
- Programmable protective relaying functions: (EMCP 3.2 & 3.3)
 - Under and over voltage
 - Under and over frequency
 - Overcurrent (time and inverse time)
 - Reverse power (EMCP 3.3)
- MODBUS isolated data link, RS-485 half-duplex (EMCP 3.2 & 3.3)
- Options
 - Vandal door
 - Local annunciator module
 - Remote annunciator module
 - Input / Output module
 - RTD / Thermocouple modules
 - Monitoring software

STANDBY 1500 ekW 1875 kVA
60 Hz 1800 rpm 480 Volts



TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8260	
EPA Tier 2		
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	1875 kVA	
Genset Power rating with fan	1500 ekW	
Coolant to aftercooler		
Coolant to aftercooler temp max	50 °C	122 ° F
Fuel Consumption		
100% load with fan	396.9 L/hr	104.8 Gal/hr
75% load with fan	310.9 L/hr	82.1 Gal/hr
50% load with fan	219.8 L/hr	58.1 Gal/hr
Cooling System¹		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	2075 m ³ /min	73278 cfm
Engine Coolant capacity with radiator/exp. tank	390.8 L	103.2 gal
Engine coolant capacity	158.8 L	41.4 gal
Radiator coolant capacity	234.0 L	61.8 gal
Inlet Air		
Combustion air inlet flow rate	129.5 m ³ /min	4573.3 cfm
Exhaust System		
Exhaust stack gas temperature	406.4 °C	783.5 ° F
Exhaust gas flow rate	313.2 m ³ /min	11060.6 cfm
Exhaust flange size (internal diameter)	203.2 mm	8.0 in
Exhaust system backpressure (maximum allowable)	6.7 kPa	26.9 in. water
Heat Rejection		
Heat rejection to coolant (total)	618 kW	35032 Btu/min
Heat rejection to exhaust (total)	1327 kW	75468 Btu/min
Heat rejection to aftercooler	482 kW	27411 Btu/min
Heat rejection to atmosphere from engine	124 kW	7052 Btu/min
Heat rejection to atmosphere from generator	64.1 kW	3645.4 Btu/min
Alternator²		
Motor starting capability @ 30% voltage dip	2670 skVA	
Frame	697	
Temperature Rise	130 °C	234 ° F
Lube System		
Sump refill with filter	310.4 L	82.0 gal
Emissions (Nominal)³		
NOx g/hp-hr	4.97 g/hp-hr	
CO g/hp-hr	.45 g/hp-hr	
HC g/hp-hr	.11 g/hp-hr	
PM g/hp-hr	.03 g/hp-hr	

¹ For ambient and altitude capabilities consult your Caterpillar dealer. Air flow restriction (system) is added to existing restriction from factory.

² UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40 degree C ambient per NEMA MG1-32.

³ Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77°F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.



STANDBY 1500 eKW 1875 kVA

60 Hz 1800 rpm 480 Volts

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

Standby - Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Ratings are based on SAE J1349 standard conditions.

These ratings also apply at ISO3046 standard conditions.

Fuel rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Caterpillar dealer.



STANDBY 1500 ekW 1875 kVA

60 Hz 1800 rpm 480 Volts

DIMENSIONS

Package Dimensions		
Length	5895.0 mm	232.09 in
Width	2537.5 mm	99.9 in
Height	2749.5 mm	108.25 in
Weight	14 121 kg	31,131 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2846048).

Performance No.: DM8260

Feature Code: 512DE6C

Gen. Arr. Number: 2628100

Source: U.S. Sourced

May 27 2009

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Materials and specifications are subject to change without notice.
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2013 EPA Tier 2 Exhaust Emission Compliance Statement 750DQCB Stationary Emergency 60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with Tier 2 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	DCEXL023.AAB-028
Effective Date:	07/09/2012
Date Issued:	07/09/2012
EPA Engine Family :	DCEXL023.AAB

Engine Information:

Model:	QSK23 / QSX23-G7 NR2	Bore:	6.69 in. (170 mm)
Engine Nameplate HP:	1220	Stroke:	6.69 in. (170 mm)
Type:	4 Cycle, In-line, 6 Cylinder Diesel	Displacement:	1413 cu. in. (23.2 liters)
Aspiration:	Turbocharged and CAC	Compression Ratio:	16.0:1
Emission Control Device:	Engine Design Modification	Exhaust Stack Diameter:	10 in.

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	<u>NOx + NMHC</u>	<u>CO</u>	<u>PM</u>	<u>NOx + NMHC</u>	<u>CO</u>	<u>PM</u>
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	4.3	0.3	0.07	5.7	0.4	0.09
EPA Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20
Test Results - CARB Diesel Fuel (<15 ppm Sulfur)	3.9	0.3	0.06	5.2	0.4	0.08
CARB Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20

The CARB emission values are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.
Test Method: EPA/CARB Nonroad emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)
Diesel Fuel Specifications: Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.
Reference Conditions: Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F), Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.
 Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.



Imber

2015 EPA Tier 2 Exhaust Emission Compliance Statement C3500 D6e Stationary Emergency 60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with Tier 2 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	FCEXL95.0AAA-039
Effective Date:	01/26/2015
Date Issued:	01/26/2015
EPA Engine Family (Cummins Emissions Family):	FCEXL95.0AAA

Engine Information:

Model:	QSK95-G9	Bore:	7.48 in. (190 mm)
Engine Nameplate HP:	5051	Stroke:	8.27 in. (210 mm)
Type:	4 Cycle, Vee, 16 Cylinder Diesel	Displacement:	5816 cu. in. (95.3 liters)
Aspiration:	Turbocharged and Aftercooled	Compression Ratio:	15.5:1
Emission Control Device:	Turbocharger and Aftercooled	Exhaust Stack Diameter:	14 in.

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NO _x + NMHC	CO	PM	NO _x + NMHC	CO	PM
EPA Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	4.62	0.52	0.11	6.2	0.7	0.15

The CARB emission values are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.

Test Methods: EPA/CARB Nonroad emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)

Diesel Fuel Specifications: Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.

Reference Conditions: Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H₂O/lb) of dry air; required for NO_x correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

APPENDIX E: COMPLIANCE ASSURANCE MONITORING PLANS

APPENDIX E.1 TC1 AND TC2 UTILITY BOILERS - PM CAM PLANS

This section contains the PM CAM plans for each of the utility boilers at Trimble Station. Each boiler uses the same PM emissions control and monitoring method. Since the same CAM plan can be applied for each boiler, they are grouped together in this section.

E.1.1. PM CAM BACKGROUND

Table E.1-1. Emission Units and PM Controls

Facility:	LG&E – Trimble County Generating Station Bedford, Kentucky Source ID 21-223-00002 (Agency Interest 4054)
Emission Unit Identification:	Emission Unit 01 (TC1), Emission Point 01 Emission Unit 31 (TC2), Emission Point 31
Description:	TC1 is a pulverized coal-fired utility boiler with a heat input capacity of 5,333 MMBtu/hr. TC2 is a supercritical pulverized coal-fired utility boiler with a heat input capacity of 6,942 MMBtu/hr.
PM Controls:	TC1 employs a dry ESP and PJFF for PM control TC2 employs a dry ESP, PJFF, and a WESP for PM control

Table E.1-2. Applicable Regulations, Current Monitoring, and Emissions for PM

Pollutant:	PM
Regulation:	TC1: NSPS Subpart D [40 CFR 60.42(a)(1)] TC2: NSPS Subpart Da [40 CFR 60.42Da(c)] and 401 KAR 51:017
Emission Limit:	TC1: PM is limited to 0.10 lb./MMBtu based on a three-hour average TC2: Filterable PM is limited to 0.015 lb./MMBtu based on a 24 hour daily (block) average.
Current Monitoring Requirements:	Separate PM CEMS are used to monitor the emissions from TC1 and TC2 within their separate flues in the main boiler stack. Each PM CEMS complies with Performance Specification 11 of Appendix B to 40 CFR 60 and ongoing quality assurance requirements in Procedure 2 of Appendix F to 40 CFR 60.
Pre-Controlled Emissions:	TC1: 20,842 lb./hr.; 91,287 tpy; 3.908 lb./MMBtu TC2: 25,890 lb./hr.; 113,399 tpy; 3.729 lb./MMBtu Estimated pre-controlled PM emissions for each boiler are based on a factor published in AP-42 Section 1.1-4 (9/98 edition): 10A lb./ton, where A is the ash content.
Controlled Emissions:	TC1: 149.3 lb./hr.; 654 tpy; 0.028 lb./MMBtu TC2: 55.5 lb./hr.; 243 tpy; 0.008 lb./MMBtu The estimated control efficiency provided by the dry ESPs on each boiler ranges from 99.3 to 99.8% based on the most recent stack tests.
CAM Designation:	Large PSEU

E.1.2. CAM APPLICABILITY FOR PM

TC1 is subject to a 0.10 lb./MMBtu PM emission limit under NSPS Subpart D. TC2 is subject to a 0.015 lb./MMBtu emission standard for PM (24-hour average) under NSPS Subpart Da as well as a PSD limit of 0.018 lb./MMBtu for PM₁₀ (3-hour average). Pursuant to 40 CFR 64.2(a), because the dry ESPs and PJFFs for TC1 and TC2 as well as a WESP for TC2 are used to achieve compliance with the PM emission limits and potential pre-controlled PM emissions exceed 100 tpy, CAM applies to TC1 and TC2 for PM (and PM₁₀ for TC2). A PM CEM is used to monitor control device performance between compliance tests, therefore, the CAM plan covers both PM and PM₁₀ for TC2.

E.1.3. MONITORING APPROACH FOR PM

TC1 and TC2 Boilers each currently use a PM Continuous Emission Monitoring System (CEMS) to monitor particulate matter emissions. The data reporting system for each PM CEMS continuously measures particulate matter and calculates the particulate matter emission rates in terms of lb./MMBtu based on a three-hour average for TC1 and based on a 24-hour daily average for TC2 for comparison to the applicable emission limit.

E.1.4. MONITORING APPROACH JUSTIFICATION

The use of a CEMS that provides results in the units of the standard for the pollutant of interest and meets the criteria in 40 CFR 64.3(d)(2) is presumptively acceptable CAM. No additional performance indicators need to be defined or justified.

APPENDIX E.2 TC1 AND TC2 UTILITY BOILERS - SO₂ CAM PLANS

This section contains the SO₂ CAM plans for each of the utility boilers at Trimble Station. Each boiler uses the same SO₂ emissions control and monitoring method. Since the same CAM plan can be applied for each boiler, they are grouped together in this section.

E.2.1. SO₂ CAM BACKGROUND

Table E.2-1. Emission Units and SO₂ Controls

Facility:	LG&E – Trimble County Generating Station Bedford, Kentucky Source ID 21-223-00002 (Agency Interest 4054)
Emission Unit Identification:	Emission Unit 01 (TC1), Emission Point 01 Emission Unit 31 (TC2), Emission Point 31
Description:	TC1 is a pulverized coal-fired utility boiler with a heat input capacity of 5,333 MMBtu/hr. TC2 is a supercritical pulverized coal-fired utility boiler with a heat input capacity of 6,942 MMBtu/hr.
SO ₂ Controls:	Each boiler employs a wet FGD system for SO ₂ control.

Table E.2-2. Applicable Regulations, Current Monitoring, and Emissions for SO₂

Pollutant:	SO ₂
Regulation:	TC1: 401 KAR 51:017 TC2: NSPS Subpart Da [40 CFR 60.43Da(i)] and 401 KAR 51:017
Emission Limit:	TC1: SO ₂ is limited to 0.84 lb./MMBtu based on a three-hour rolling average and 4,822 tons/ 12 consecutive months total. TC2: SO ₂ is limited to 1.4 lb./MWh gross energy output, based on a thirty (30) day rolling average, or 5% of the potential combustion concentration (95% reduction) and 8.94 tons/calendar day and 3,263.1 tons/ 12 consecutive months total.
Current Monitoring Requirements:	Separate SO ₂ CEMS are used to monitor the emissions from TC1 and TC2 within their separate flues in the main boiler stack. The SO ₂ CEMS on each boiler complies with the requirements of 40 CFR 75.
Pre-Controlled Emissions:	TC1: 27,528 lb./hr.; 120,572 tpy; 5.162 lb./MMBtu TC2: 42,637 lb./hr.; 186,750 tpy; 6.142 lb./MMBtu Pre-controlled SO ₂ emissions for each boiler can be quantified using a mass balance taking into account the sulfur content of the fuel. As presented in AP-42 Section 1.1-3 (9/98 edition), this can be stated as an emission factor of 38S lb./ton, where S is the sulfur content of the coal and 95% of the sulfur is assumed to be oxidized to SO ₂ . Based on 2019 YTD data, the sulfur content of coal burned in TC1 and TC2 was 2.9% and 2.2%, respectively.
Controlled Emissions:	TC1: 680.0 lb./hr.; 2,978 tpy; 0.127 lb./MMBtu TC2: 648.5 lb./hr.; 2,840 tpy; 0.093 lb./MMBtu Based on 2019 YTD data, the control efficiency provided by the wet FGD unit on each boiler averaged 97.2% for TC1 and 98.1% for TC2.
CAM Designation:	Large PSEU

E.2.2. CAM APPLICABILITY FOR SO₂

TC1 is subject to a PSD limit of 0.84 lb./MMBtu SO₂ (3-hour average). TC1 is also subject to a self-imposed SO₂ limit of 4,822 tons per 12 consecutive months. TC2 is subject to a 1.4 lb./MWh gross energy output SO₂ emission standard under NSPS Subpart Da as well as a PSD SO₂ limit of 8.94 tons per calendar day and 3,263.1 tons per 12 consecutive months total. Pursuant to 40 CFR 64.2(a), because the wet FGDs are used to achieve compliance with the SO₂ emission limits and potential pre-controlled SO₂ emissions exceed 100 tpy, CAM applies to TC1 and TC2 for SO₂.

E.2.3. MONITORING APPROACH FOR SO₂

TC1 and TC2 each currently use a 40 CFR 75 compliant CEMS to continuously measure SO₂ at the stack outlets. The data reporting system for the SO₂ CEMS on each boiler calculates SO₂ emission rates in terms of lb./MMBtu based on a 3-hour rolling average and total rolling annual SO₂ emissions for TC1 and lb./MWh gross energy output based on a thirty (30) day rolling average as well as daily and rolling annual total emissions for TC2 for comparison to the applicable emission limits.

E.2.4. MONITORING APPROACH JUSTIFICATION

The use of a CEMS that provides results in the units of the standard for the pollutant of interest and meets the criteria in 40 CFR 64.3(d)(2) is presumptively acceptable CAM. No additional performance indicators need to be defined or justified.

APPENDIX E.3 TC1 AND TC2 UTILITY BOILERS - NO_x CAM PLANS

This section contains the NO_x CAM plans for each of the utility boilers at Trimble Station. Each boiler uses the same NO_x emissions control and monitoring method. Since the same CAM plan can be applied for each boiler, they are grouped together in this section.

E.3.1. NO_x CAM BACKGROUND

Table E.3-1. Emission Units and NO_x Controls

Facility:	LG&E – Trimble County Generating Station Bedford, Kentucky Source ID 21-223-00002 (Agency Interest 4054)
Emission Unit Identification:	Emission Unit 01 (TC1), Emission Point 01 Emission Unit 31 (TC2), Emission Point 31
Description:	TC1 is a pulverized coal-fired utility boiler with a heat input capacity of 5,333 MMBtu/hr. TC2 is a supercritical pulverized coal-fired utility boiler with a heat input capacity of 6,942 MMBtu/hr.
NO _x Controls:	Each boiler is equipped with an SCR system upstream of the dry ESP to control NO _x emissions.

Table E.3-2. Applicable Regulations, Current Monitoring, and Emissions for NO_x

Pollutant:	NO _x
Regulation:	TC1: 40 CFR Part 76 and NSPS Subpart D TC2: NSPS Subpart Da [40 CFR 60.44Da(e)] and 401 KAR 51:017
Emission Limit:	TC1: NO _x is limited to 0.45 lb./MMBtu on an annual basis, 0.7 lb./MMBtu on a 3-hour average basis, and 5,556 tons/ 12 consecutive months total. TC2: NO _x is limited to 1.0 lb./MWh gross energy output, based on a thirty (30) day rolling average, 4.17 tons/calendar day (except during startup and shutdown), and 1,506.72 tons/12 consecutive months total.
Current Monitoring Requirements:	Separate NO _x CEMS are used to monitor the emissions from TC1 and TC2 within their separate flues in the main boiler stack. The NO _x CEMS on each boiler complies with the requirements of 40 CFR 75.
Pre-Controlled Emissions:	TC1: 2,344 lb./hr.; 10,268 tpy; 0.440 lb./MMBtu TC2: 3,631 lb./hr.; 15,904 tpy; 0.532 lb./MMBtu Pre-controlled NO _x emissions are based on an emission factor in AP-42 Section 1.1-3 (9/98 edition): 10 lb./ton. At the typical coal heating value for TC1 and TC2, this is equivalent to a factor of 0.440 and 0.532 lb./MMBtu respectively.
Controlled Emissions:	TC1: 725.3 lb./hr.; 3,177 tpy; 0.136 lb./MMBtu TC2: 402.6 lb./hr.; 1,764 tpy; 0.058 lb./MMBtu The estimated combined control efficiency provided by low-NO _x burners and SCR systems on each boiler ranges from 69.1 to 88.9% based on 2013 emission data.
CAM Designation:	Large PSEU

E.3.2. CAM APPLICABILITY FOR NO_x

TC1 is subject to a 0.45 lb./MMBtu NO_x emission standard under 40 CFR Part 76 and a 0.7 lb./MMBtu NO_x emission standard under NSPS Subpart D. TC1 is also subject to a self-imposed NO_x limit of 5,556 tpy NO_x per 12 consecutive months. TC2 is subject to a 1.0 lb./MWh gross energy output NO_x emission standard under NSPS Subpart Da and a 4.17 tons per calendar day (except during startup and shutdown) and 1,506.72 tons per 12 consecutive months total PSD NO_x limit. Pursuant to 40 CFR 64.2(a), because the SCR systems are used to achieve compliance with the NO_x emission limits and potential pre-controlled NO_x emissions exceed 100 tpy, CAM applies to TC1 and TC2 for NO_x.

E.3.3. MONITORING APPROACH FOR NO_x

TC1 and TC2 each currently use a 40 CFR 75 compliant CEMS to continuously measure NO_x at their stacks. The data reporting system for the NO_x CEMS on each boiler calculates NO_x emission rates in terms of lb./MMBtu based on a 3-hour rolling average and total rolling annual NO_x emissions for Unit TC1 and lb./MWh gross energy output based on a thirty (30) day rolling average as well as daily and rolling annual total emissions for TC2 for comparison to the applicable emission limits.

E.3.4. MONITORING APPROACH JUSTIFICATION

The use of a CEMS that provides results in the units of the standard for the pollutant of interest and meets the criteria in 40 CFR 64.3(d)(2) is presumptively acceptable CAM. No additional performance indicators need to be defined or justified.

APPENDIX E.4 TC2 UTILITY BOILER - SAM CAM PLAN

This section contains the sulfuric acid mist (SAM) CAM plan for the TC2 utility boiler at Trimble Station.

E.4.1. SAM CAM BACKGROUND

Table E.4-1. Emission Units and SAM Controls

Facility:	LG&E – Trimble County Generating Station Bedford, Kentucky Source ID 21-223-00002 (Agency Interest 4054)
Emission Unit Identification:	Emission Unit 31 (TC2), Emission Point 31
Description:	TC2 is a supercritical pulverized coal-fired utility boiler with a heat input capacity of 6,942 MMBtu/hr.
SAM Controls:	TC2 employs a DSI, PJFF, Wet FGD, and WESP for SAM control

Table E.4-2. Applicable Regulations, Current Monitoring, and Emissions for SAM

Pollutant:	SAM
Regulation:	401 KAR 51:017
Emission Limit:	SAM is limited to 26.6 lbs./hr. based on a three (3) hour rolling average or outside of acceptable WESP ranges.
Current Monitoring Requirements:	A SO ₂ CEMS or (alternative) WESP liquid flow rate, voltages, secondary current, or, other parameters, shall be monitored.
Pre-Controlled Emissions:	247.4 lb./hr.; 1,084 tpy Pre-controlled SAM emissions are quantified using a mass balance taking into account the sulfur content of the fuel. A 1% conversion of S to SO ₃ in the boiler and 10% reduction in the air preheater is used to conservatively estimate emissions. Based on 2019 YTD data, the sulfur content of coal burned in TC2 was 2.2%.
Controlled Emissions:	<26.6 lb./hr. (3-hr. rolling avg.); 117 tpy Estimated post-controlled SAM emissions are less than the permitted limit of 26.6 lb./hr.
CAM Designation:	Large PSEU

E.4.2. CAM APPLICABILITY FOR SAM

TC2 Boiler is subject to a PSD SAM emission limit of 26.6 lb./hr. The WESP is considered BACT for SAM and because the potential pre-controlled SAM emissions exceed 100 tpy, CAM applies to TC2 for SAM.

E.4.3. MONITORING APPROACH FOR SAM

SO₃ is generated in TC2 due to the oxidation of sulfur in the combustion process. Additional SO₃ can be generated in the SCR unit due to catalytic oxidation of SO₂ to SO₃. The amount of SO₃ generated is a function of coal sulfur content, operating conditions (e.g., gas temperature), and characteristics of the SCR system (e.g., catalyst material). SO₃ reacts with water in the flue gas to form H₂SO₄ vapor which then condenses to form sub-micron H₂SO₄ mist. LG&E will primarily utilize an SO₃ mitigation system and WESP to minimize H₂SO₄ formation and emissions although SO₃ control is also attained in the other control devices for PM and SO₂, namely the dry ESP, PJFF and wet FGD.

The effectiveness of the SO₃ injection system is a function of the sorbent injection rate, the stoichiometric ratio (e.g., of sodium to sulfur or calcium to sulfur), the sorbent particle size and physical characteristics (e.g., surface area), the degree of mixing in the flue gas, and residence time. The sorbent size and characteristics are relatively constant, and the mixing and residence time properties are not control parameters once the system is installed. The effectiveness of the WESP is assured through monitoring of key operating parameters such as the WESP liquid flow rate, voltage, and secondary current.

Direct continuous measurement of H₂SO₄ in the flue gas is not technically feasible. Therefore, LG&E currently uses the continuously monitored SO₂ emissions as the primary indicator parameter, since SO₃ formation, and thus H₂SO₄ emissions, can be correlated to SO₂ emissions. The data reporting system for the SO₂ CEMS on TC2 can calculate SO₂ emission rates in terms of lb./MWh based on a 3-hour rolling average and a correlation is used to determine SAM emissions in pounds per hour. The calculated SAM emissions are compared to the applicable limit. It is also possible to use WESP operating parameters as alternative indicators of control device performance that ensures compliant H₂SO₄ emissions. The parameters include the WESP liquid flow rate, voltage, and secondary current. Secondary current and voltages are indicators of power consumption that can indicate malfunctions such as grounded electrodes. The inlet liquid flow rate is an indicator that the cleaning mechanism is functioning properly, and if too low, it can indicate plugging.

The monitoring approach outlined in Table E.4-3. provides on-going assurance of compliance with the permitted SAM limit. Specific details regarding the monitoring method and monitoring performance criteria for the indicators are provided in Table E.4-4 and E.4-5.

Table E.4-3. Monitoring Approach Summary for SAM Controls

Method	Indicator Parameter	Range	Frequency
SO ₂ CEMS Correlation or	SO ₂ CEMS data (lb./MWh)	SO ₂ <2.78 lb./MWh (3-hr. rolling avg.)	Continuous (Reading at least every 15 minutes)
WESP Operating Parameters	Liquid flow rate, secondary voltage, secondary currents	Secondary voltage- 50-60 kV Secondary current- 7-350 mA Flow- 180-290 gpm Or values determined by most recent performance testing	Continuous (Reading at least every 15 minutes) or as determined by performance testing

Table E.4-4. SO₂ CEMS Monitoring Criteria for SAM Controls

Indicator	SO ₂ CEMS data (lb./MWh)
Measurement Approach	Emissions data will be continuously recorded (data captured at least once every 15 minutes).
Indicator Range	An excursion will be defined to occur if the 3-hour rolling average pounds of SO ₂ emissions per megawatt hour gross energy output falls above 2.78 lb./MWh during normal operation or outside of acceptable WESP ranges.
Corrective Actions	In response to an excursion, LG&E will complete an inspection of the control systems to troubleshoot and will correct any revealed performance issues in the most expedient manner possible.
Data Representativeness	SO ₂ emissions are monitored in the TC2 stack flues. Accuracy of the emissions monitoring will be in accordance with 40 CFR 75 monitoring system provisions.
Verification of Operational Status	LG&E follows the installation, calibration, and startup procedures recommended by the manufacturer of the CEMs equipment.
QA/QA Practices and Criteria	The CEMS will be maintained and operated in accordance with manufacturer specifications and recommendations.
Monitoring Frequency	Emissions data will be captured continuously, at least once every 15 minutes, when the system is in use.
Data Collection Procedure	The CEMS is equipped with a process logic controller that will capture readings electronically and send them to a data storage drive, where the information can be monitored and trended.
Averaging Period	Continuous readings will be averaged over a three-hour rolling period.
Recordkeeping	<ul style="list-style-type: none"> ➤ Electronic archives of SO₂ emissions data and SAM calculations. ➤ Causes and corrective actions taken associated with any excursions, noted in the maintenance log. ➤ Documentation and records of monitoring device calibrations.
Reporting	Excursions will be provided in the Title V reports.

Table E.4-5. WESP Operating Parameters Monitoring Criteria for SAM Controls

Indicator (alternative)	WESP Operating Parameters (e.g. liquid flow rate, voltage, secondary currents or other operating parameters)
Measurement Approach	Parameter data will be continuously recorded (data captured at least once every 15 minutes) or as determined by performance testing
Indicator Range	An excursion will be defined to occur if the 3-hour average parameter falls outside of the range determined by performance testing. Secondary voltage- 50-60 kV Secondary current- 7-350 mA Flow- 180-290 gpm
Corrective Actions	In response to an excursion, LG&E will complete an inspection of the WESP to troubleshoot and will correct any revealed performance issues in the most expedient manner possible.
Data Representativeness	Accuracy of the parameters monitored will be in accordance with applicable monitoring provisions.
Verification of Operational Status	LG&E follows the installation, calibration, and startup procedures recommended by the WESP manufacturer or best engineering practices.
QA/QA Practices and Criteria	The monitoring instrumentation is calibrated, maintained, and operated using procedures that take into account the manufacturer specifications.
Monitoring Frequency	Monitoring data will be captured continuously, at least once every 15 minutes, when the system is in use or as determined by performance testing.
Data Collection Procedure	Readings are either recorded by manual data logging or automatically via electronic records sent to a data storage drive.
Averaging Period	Readings will be averaged over a three-hour rolling period.
Recordkeeping	<ul style="list-style-type: none"> ➤ Electronic archives of parameter data ➤ Causes and corrective actions taken associated with any excursions, noted in the maintenance log. ➤ Documentation and records of monitoring device calibrations.
Reporting	Excursions will be provided in the Title V reports.

E.4.4. MONITORING APPROACH JUSTIFICATION

Rationale for Performance Indicator Selection

Compliance testing was conducted on December 20, 2010 to determine sulfuric acid mist emission rates. The results yielded a value of 3.53 lb./hr. of SAM averaged from three (3) one-hour tests. Based on the compliance test data, the following linear correlation between SO₂ CEMS data and SAM emissions was determined:

$$SAM = 9.569 \times SO_2$$

Where: *SAM* is sulfuric acid mist emissions in pounds per hour (lb./hr.) and
 SO₂ is sulfur dioxide emissions determined by CEMS in pounds per megawatt hour (lb./MWh)

SO₂ emissions are already monitored pursuant to 401 KAR 52:020 and 40 CFR 75.10. With the linear correlation determined based on test data, reliable SAM emissions data are available continuously. This will ensure that

SAM emissions are kept to levels below the permitted limit. This approach is also consistent with the CAM monitoring approach found in the current permit (V-14-017 R3) for SAM.

Because the WESP is one of the primary control devices used to mitigate SAM emissions, ensuring that it is functioning properly demonstrates SAM emission control. Some key operating parameters of the WESP used to indicate proper functioning include but are not limited to voltage, secondary current, and liquid flow rate. Voltage directly affects SAM collection efficiency because a decrease in voltage corresponds to a decrease in particles charged and removed. Therefore, voltage is generally maintained at a high level, and a drop in the voltage is a good indicator of a malfunction. Similarly, if current drops or increases, control efficiency decreases. The liquid flow rate indicates sufficient flow to properly remove particles from the collection plates. Control efficiency decreases if the flowrate is too low or high.

Rationale for Indicator Range Selection

Based on the SO₂ CEMS correlation above, to maintain SAM emissions below the permitted limit of 26.6 pounds SAM per hour, SO₂ emissions must not exceed 2.78 pounds SO₂ per megawatt hour gross energy output, on a 3-hr. average. SO₂ is currently limited to 1.4 lb./MWh pursuant to NSPS Subpart Da on a 30-day rolling average basis. Because the lb./MWh SO₂ emissions are already monitored and available, exceedances of the 2.78 lb./MWh SO₂ upper limit for compliance with SAM emissions can be immediately determined. The range for the key WESP parameters to ensure proper control efficiency are as follows: Secondary voltage- 50-60 kV; Secondary current- 7-350 mA; and Flow- 180-290 gpm.

APPENDIX E.5 TC2 UTILITY BOILER - FLUORIDES CAM PLAN

This section contains the fluorides CAM plan for the TC2 utility boiler at Trimble Station.

E.5.1. FLUORIDES CAM BACKGROUND

Table E.5-1. Emission Units and Fluorides Controls

Facility:	LG&E – Trimble County Generating Station Bedford, Kentucky Source ID 21-223-00002 (Agency Interest 4054)
Emission Unit Identification:	Emission Unit 31 (TC2), Emission Point 31
Description:	TC2 is a supercritical pulverized coal-fired utility boiler with a heat input capacity of 6,942 MMBtu/hr.
Fluoride Controls:	TC2 employs a DSI, PJFF, and Wet FGD for control of fluorides

Table E.5-2. Applicable Regulations, Current Monitoring, and Emissions for Fluorides

Pollutant:	Fluorides
Regulation:	401 KAR 51:017
Emission Limit:	Fluorides are limited to 1.55 lbs./hr. based on a three (3) hour rolling average.
Current Monitoring Requirements:	An SO ₂ CEMS plus source test is used to establish excursion and exceedance criteria.
Pre-Controlled Emissions:	54.5 lb./hr. (3-hr. rolling avg.); 239 tpy Pre-controlled fluoride emissions, as hydrogen fluoride (HF), can be quantified using a mass balance taking into account the fluoride content of the coal. As presented in AP-42 Section 1.1-15 (9/98 edition), this can be stated as an emission factor of 0.15 lb./ton which corresponds to a fluorine concentration in coal of 71 mg/kg, assuming complete conversion to HF and no loss to ash.
Controlled Emissions:	0.33 lb./hr.; 1.46 tpy The estimated control efficiency provided by the control devices is 99.4% based 2011 stack tests.
CAM Designation:	Small PSEU

E.5.2. CAM APPLICABILITY FOR FLUORIDES

TC2 is subject to a PSD fluorides emission limit of 1.55 lb./hr. (3-hr rolling avg.). Pursuant to 40 CFR 64.2(a), because the dry sorbent injection system, PJFF, and Wet FGD systems for TC2 are used to achieve compliance with the fluorides emission limit and potential pre-controlled fluoride emissions exceed the Title V major source threshold, CAM applies to TC2 for fluorides.

E.5.3. MONITORING APPROACH FOR FLUORIDES

LG&E currently uses a correlation between SO₂ Continuous Emission Monitoring System (CEMS) and fluoride emissions as the primary indicator of fluoride emissions. The data reporting system for the SO₂ CEMS on TC2 can calculate SO₂ emission rates in terms of lb./MWh based on a 3-hour rolling average and a correlation is used to determine fluoride emissions in pounds per hour. The calculated fluoride emissions are compared to the applicable limit.

The monitoring approach outlined in Table E.5-3. provides on-going assurance of compliance with the permitted fluorides limit. Specific details regarding the monitoring method and monitoring performance criteria for the indicators are provided in Table E.5-4.

Table E.5-3. SO₂ CEMS Correlation- Monitoring Approach Summary for Fluoride Controls

Method	Indicator Parameter	Range	Frequency
SO ₂ CEMS Correlation	SO ₂ CEMS data (lb./MWh)	SO ₂ <1.738 lb./MWh (3-hr. rolling avg.)	Continuous (Reading at least every 15 minutes)

Table E.5-4. SO₂ CEMS Monitoring Criteria for Fluoride Controls

Indicator	SO ₂ CEMS data (lb./MWh)
Measurement Approach	Emissions data will be continuously recorded (data captured at least once every 15 minutes).
Indicator Range	An excursion will be defined to occur if the 3-hour average pounds of SO ₂ emissions per megawatt hour gross energy output falls above 1.738 lb./MWh (based on a 3-hr. rolling avg.) during normal operation.
Corrective Actions	In response to an excursion, LG&E will complete an inspection of the control systems to troubleshoot and will correct any revealed performance issues in the most expedient manner possible.
Data Representativeness	SO ₂ emissions are monitored in the TC2 stack flues. Accuracy of the emissions monitoring will be in accordance with 40 CFR 75 monitoring system provisions.
Verification of Operational Status	LG&E follows the installation, calibration, and startup procedures recommended by the manufacturer of the CEMs equipment.
QA/QA Practices and Criteria	The CEMS will be maintained and operated in accordance with manufacturer specifications and recommendations.
Monitoring Frequency	Emissions data will be captured continuously, at least once every 15 minutes, when the system is in use.
Data Collection Procedure	The CEMS is equipped with a process logic controller that will capture readings electronically and send them to a data storage drive, where the information can be monitored and trended.
Averaging Period	Continuous readings will be averaged over a three-hour rolling period.
Recordkeeping	<ul style="list-style-type: none"> ➤ Electronic archives of SO₂ emissions data and fluoride calculations. ➤ Causes and corrective actions taken associated with any excursions, noted in the maintenance log. ➤ Documentation and records of monitoring device calibrations.
Reporting	Excursions will be provided in the Title V reports.

E.5.4. MONITORING APPROACH JUSTIFICATION

Rationale for Performance Indicator Selection

Compliance testing was conducted on December 22 and 23, 2010 to quantify hydrogen fluoride emission rates. The results yielded fluoride levels less than 0.315 pounds per hour. Based on the compliance test data, the following linear correlation between SO₂ CEMS data and fluoride emissions was determined:

$$HF = 1.121 \times SO_2$$

Where: *HF* is hydrogen fluoride emissions in pounds per hour (lb./hr.) and
SO₂ is sulfur dioxide emissions determined by CEMS in pounds per megawatt hour (lb./MWh)

SO₂ emissions are already monitored pursuant to 401 KAR 52:020 and 40 CFR 75.10. With the linear correlation determined based on test data, reliable fluoride emissions data are available continuously. This will ensure that

fluoride emissions are kept to levels below the permitted limit. This approach is also consistent with the CAM monitoring approach found in the current permit (V-14-017 R3) for fluorides.

Rationale for Indicator Range Selection

Based on the SO₂ CEMS correlation above, to maintain fluoride emissions below the permitted limit of 1.55 lb./hr., SO₂ emissions must not exceed 1.738 lb./MWh gross energy output. SO₂ is currently limited to 1.4 lb./MWh pursuant to NSPS Subpart Da (on a 30-day rolling average basis). Because the lb./MWh SO₂ emissions are already monitored and available, exceedances of the 1.738 lb./MWh SO₂ upper limit for compliance with fluoride emissions can be immediately determined.

APPENDIX F: SUGGESTED TITLE V PERMIT WITH REVISION HIGHLIGHTS

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

Final

AIR QUALITY PERMIT
Issued under 401 KAR 52:020

Permittee Name: Louisville Gas & Electric Company
Mailing Address: P.O. Box 32010, Louisville, KY 40232

Source Name: Louisville Gas & Electric - Trimble County
Generating Station
Mailing Address: 487 Corn Creek Rd
Bedford, KY 40006

Source Location: same as above

Permit: V-14-017 R2
Agency Interest: 4054
Activity: APE20160002, APE20160005
Review Type: Title V, Operating
Source ID: 21-223-00002

Regional Office: Florence Regional Office
8020 Veterans Memorial Drive, Suite 110
Florence, KY 41042
(859) 525-4923

County: Trimble

Application
Complete Date: October 1, 2014
Issuance Date: October 16, 2015
Revision Date: June 12, 2017
Expiration Date: October 16, 2020

Rick J. Shewekah for

Sean Alteri, Director
Division for Air Quality

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	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action
V-14-017	Renewal	APE20140008	10/01/2014	10/16/2015	Added off-permit changes and details of boiler MACT
V-14-017 R1	Minor Revision	APE20150001 APE20150002 APE20150003 APE20150004	11/24/2015	8/15/2016	Add Off-Permit Changes and add dry landfill
V-14-017 R2	Minor Revision	APE20160002 APE20160005	2/3/2017	6/12/2017	Add Off-Permit Changes, add natural gas to Units 1, 31, and 32 and add associated Insignificant Activities

SECTION A - PERMIT AUTHORIZATION

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

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

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

REGULATIONS, AND OPERATING CONDITIONS

Emission Unit 01 - TC1 Indirect Heat Exchanger

Description:

Dry bottom, tangentially fired boiler

Primary fuel:	Pulverized coal; up to forty (40) percent petroleum coke co-firing with coal
Secondary fuel:	Ultra-low sulfur diesel fuel (ULSD) and natural gas used for startups and flame stabilization
Design capacity rating:	5,333 MMBtu/hour
Commenced construction:	before 1978
Controls:	Selective catalytic reduction (SCR) Dry sorbent injection (DSI) Electrostatic precipitator (ESP) Pulse-jet fabric filter (PJFF) with powdered activated carbon (PAC) injection (no later than February 9, 2016) Wet flue gas desulfurization (WFGD)

Applicable Regulations:

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality

401 KAR 51:160, NO_x requirements for large utility and industrial boilers

401 KAR 52:060, Acid rain permits

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference 40 CFR 60, Subpart D Standards of Performance for fossil-fuel-fired steam generators

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference 40 CFR 63, Subpart UUUUU National Emission Standards for Hazardous Air Pollutants for Coal and Oil-fired Electric Utility Steam Generating Units

40 CFR 64, Compliance Assurance Monitoring, for PM, SO₂, and NO_x

40 CFR Parts 72 to 78, Federal acid rain provisions

40 CFR 97, Subpart AAAAA, TR NO_x Annual Trading Program

40 CFR 97, Subpart BBBB, TR NO_x Ozone Season Trading Program

40 CFR 97, Subpart CCCCC, TR SO₂ Group 1 Trading Program

1. Operating Limitations:

- a. The permittee shall comply with all applicable provisions of 40 CFR 63, Subpart UUUUU, ~~no later than April 16, 2015~~ [40 CFR 63.9984(b)]. ~~The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)], except for the tune up requirement [40 CFR 63.10005(a)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].~~
- b. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

Commented [PMZ1]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

2. **Emission Limitations:**

a The permittee shall restrict emissions from the stack of Emission Unit 01 according to the following table:

Pollutant	Limit & Averaging Period	Regulatory Citation	Compliance Demonstration
PM	0.10 lb/MMBtu, 3-hour average	401 KAR 51:017, 40 CFR 60.42(a)(1)	Stack testing, See 3.a., b., and c. PM CEMS, see 4.a.
Opacity	20 percent, except for one 6-minute period of not more than 27 percent	40 CFR 60.42(a)(2)	Method 9 testing according to 40 CFR 60.45(b)(7). See 4.i.
SO ₂	0.84 lb/MMBtu, 3-hour rolling average	401 KAR 51:017	SO ₂ CEMS, see 4.c. [401 KAR 52:020, Section 10].
	AND 1.2 lb/MMBtu, 24-hour average	40 CFR 60.43 (a)(2)	SO ₂ CEMS, see 4.c. [40 CFR 60.45(a), 40 CFR 64.3(d)]
	AND 4,822 ton/yr, 12-month rolling total	Voluntary limit to preclude 401 KAR 51:001, Section 1(144)	SO ₂ CEMS, see 4.c. and h. Calculate, see 5.e. Report, see 6.b.
NO _x	0.70 lb/MMBtu, 3-hour rolling average	40 CFR 60.44(a)(3)	NO _x CEMS, see 4.d. [40 CFR 60.45(a), 40 CFR 64.3(d)].
	AND 5,556 ton/yr, 12-month rolling total	Voluntary limit to preclude 401 KAR 51:001, Section 1(144)	NO _x CEMS, see 4.d. and h. Calculate, see 5.e. Report, see 6.b.

b. The permittee shall comply with all applicable provisions of 40 CFR 63.9991, ~~no later than April 16, 2015 [40 CFR 63.9984(b)]. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].~~

Commented [PMZ2]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

- c. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**
- d. Pursuant to 40 CFR Part 76, nitrogen oxides emissions expressed as nitrogen dioxide shall not exceed 0.40 lb/MMBtu on an annual basis. See Section J, Acid Rain Permit.

3. Testing Requirements:

- a. ~~The permittee shall submit within six (6) months of the issuance date of final permit V-14-017 a schedule, to conduct a performance test for particulate matter (PM) within one (1) year of issuance of this permit. The permittee shall submit a schedule according to 401 KAR 50:045 to test for particulate matter (PM) to demonstrate compliance with 40 CFR 60, Subpart D. Performance testing shall be conducted at a minimum of every five (5) years [401 KAR 50:045].~~
The permittee shall submit a schedule according to 401 KAR 50:045 to test for particulate matter (PM) to demonstrate compliance with 40 CFR 60, Subpart D. Performance testing shall be conducted at a minimum of every five (5) years [401 KAR 50:045].
- b. Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests. Testing to demonstrate compliance with the requirements of 40 CFR 60, Subpart D shall be performed according to 40 CFR 60.46.
- c. If no additional stack tests are performed for PM, the permittee shall conduct a performance test for PM emissions within five (5) years of the previous test to demonstrate compliance with the applicable standard. Performance testing shall be conducted at a minimum of every five (5) years [401 KAR 50:045].
- d. The permittee shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(d)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].~~
- e. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

Commented [PMZ3]: Why is the requirement 1 year for TC2 and 6-months for TC1? Test protocols are required to be submitted at least 60-days prior to the scheduled test date per 401 KAR 50:045, Section 1. Verbiage has been changed for clarification and to address permit testing requirements for overlapping renewal permits.

Commented [PMZ4]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

f. Test Summary Table:

<u>Emission</u>	<u>Test Method</u>	<u>Frequency</u>
<u>PM</u>	<u>Method 5B or Other Acceptable Test Methods</u>	<u>Minimum of Every 5-Years.</u>
<u>Opacity</u>	<u>3-hr. Method 9</u>	<u>Varies, Minimum of Annual</u>

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Commented [MZP5]: LG&E requests that a table of the emission tests be add

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, and maintain a certified PM CEMS. PM CEMS shall comply with performance specification 11 of Appendix B to 40 CFR 60 and ongoing quality assurance requirements per 40 CFR 60 Appendix F, Procedure 2 [40 CFR 64.3(d)].

- b. CEMS shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide emissions [40 CFR 75.10(a)]. The CEMS shall comply with performance specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A. CEMS shall be used to satisfy CAM requirements [40 CFR 64.3(d)].
- c. Excluding the startup and shut down periods, if any three (3)-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an inspection of

the control equipment and the CEMS and make any necessary repairs as soon as practicable [401 KAR 52:020, Section 10].

- d. Excluding the startup and shut down periods, if any three (3)-hour average NO_x value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and the CEM system and make any necessary repairs or take corrective actions as soon as practicable [401 KAR 52:020, Section 10].
- e. Performance evaluations of SO₂ CEMS and NO_x CEMS, including reference methods, calibration gases, and span values, shall be according to 40 CFR 60.45.
- f. If you choose to rely on paragraph (2) of the definition of "startup" in § 63.10042 for your EGU the permittee shall monitor the additional requirements during startup periods or shutdown periods required by 40 CFR 63.10020(e).

Commented [PMZ6]: TC currently relies on definition #1 instead of #2. Request adding this for clarification. Suggested verbiage is from the reg.

Startup means either the first-ever firing of fuel in Emission Unit 01 for the purpose of producing electricity, or the firing of fuel in Emission Unit 01 after a shutdown event for any purpose. Startup ends when any of the steam from Emission Unit 01 is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup;

Or startup means the period in which operation of Emission Unit 01 is initiated for any purpose. Startup begins with either the firing of any fuel in Emission Unit 01 for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (other than the first-ever firing of fuel in Emission Unit 01 following construction of Emission Unit 01) or for any other purpose after a shutdown event. Startup ends 4 hours after Emission Unit 01 generates electricity that is sold or used for any other purpose (including on site use), or 4 hours after Emission Unit 01 makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. Any fraction of an hour in which startup occurs constitutes a full hour of startup.

Shutdown means the period in which cessation of operation of Emission Unit 01 is initiated for any purpose. Shutdown begins when Emission Unit 01 no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil-derived fuel is being fired in Emission Unit 01, whichever is earlier. Shutdown ends when Emission Unit 01 no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes, and no fuel is being fired in Emission Unit 01. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. [40 CFR 63.10042].

- g. The permittee shall monitor emissions of SO₂ and NO_x, in tons, on a monthly basis [401 KAR 51:017].

- h. Continuous emission monitoring data shall be converted into the units of applicable standards using the conversion procedure described in 40 CFR 60.45(e).
- i. Method 9 testing shall be performed according to the incremental schedule of 40 CFR 60.45(b)(7).
- j. The permittee shall comply with all applicable continuous monitoring requirements of 40 CFR 63.10010, 40 CFR 63.10020, and 40 CFR 63.10021, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].~~
- k. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements**.

Commented [PMZ7]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 401 KAR 59:005 recorded in a permanent form suitable for inspection [401 KAR 59:005, Section 3(4)].
- b. The permittee shall record and maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a continuous monitoring system or monitoring device is inoperative [401 KAR 59:005, Section 3(2); 401 KAR 52:020, Section 10].
- c. The permittee shall keep Method 9 observations in a designated logbook or an electronic format. Records shall be maintained for not less than five (5) years [401 KAR 52:020, Section 10].
- d. The permittee shall calculate emissions of SO₂ and NO_x, in tons, on a consecutive twelve (12)-month rolling total [401 KAR 51:017].
- e. The permittee shall comply with all applicable recording provisions of 40 CFR 63.10030 through 40 CFR 63.10033, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after February 9, 2016 (August 7, 2016) [401 KAR 52:020, Section 10].~~

Commented [PMZ8]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

- f. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

6. Specific Reporting Requirements:

- a. Excess emissions and monitoring system performance reports for opacity, SO₂, NO_x, and PM shall be submitted to the Division's Florence Regional Office semiannually according to 40 CFR 60.45(g).
- b. Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division's Florence Regional Office. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:
- i. The magnitude of the excess emissions computed in accordance with 401 KAR 59:005, Section 4(8), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
 - ii. All hourly averages shall be reported for SO₂ and NO_x monitors. The hourly averages shall be made available in the format specified by the Division.
 - iii. Specific identification of each period of excess emissions that occur during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
 - iv. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 - v. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
[401 KAR 59:005, Section 3(3)].
- c. For exceedances that occur as a result of start-up, the permittee shall report:
- i. The type of start-up (cold, warm, or hot);
 - ii. Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.
[401 KAR 52:020, Section 10].

- d. Within sixty (60) days after the completion of each performance test for pollutants covered under 40 CFR 63, Subpart UUUUU, whether that day falls before or after February 9, 2016, the permittee shall submit the results of said performance test electronically to U.S. EPA according to 40 CFR 63.10031.

7. **Specific Control Equipment Operating Conditions:**

- a. The electrostatic precipitator (ESP), pulse-jet fabric filter with PAC injection, SO₂ scrubber (FGD), and selective catalytic reduction (SCR) shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].
- b. Pursuant to 401 KAR 59:005 and 40 CFR 63.10032, records regarding the maintenance (e.g., routine scheduled service, replacement of parts, etc.) of the control equipment shall be maintained.
- c. See Section E., **Source Control Equipment Requirements**, for further requirements.

Emission Unit 31 - TC2 Indirect Heat Exchanger

Description:

Supercritical boiler

Primary fuel:	Pulverized coal
Secondary fuel:	Ultra-low sulfur diesel fuel (ULSD) and natural gas used for startups and flame stabilization
Design capacity rating:	6,942 MMBtu/hour
Commenced construction:	2006
Controls:	Selective catalytic reduction (SCR) Dry sorbent injection (DSI) Dry electrostatic precipitator (DESP) Wet electrostatic precipitator (WESP) Pulse-jet fabric filter (PJFF) Powdered activated carbon (PAC) injection Wet flue gas desulfurization (WFGD)

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality

401 KAR 51:160, NO_x requirements for large utility and industrial boilers

401 KAR 52:060, Acid rain permits

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart Da Standards of Performance for Electric Utility Steam Generating Units**

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Appendix F Quality Assurance Procedures**

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart UUUUU National Emission Standards for Hazardous Air Pollutants for Coal and Oil-fired Electric Utility Steam Generating Units**

40 CFR 64, Compliance Assurance Monitoring for H₂SO₄ and Fluoride

40 CFR Parts 72 to 78, Federal acid rain provisions. Compliance with 40 CFR 75, Continuous Emissions Monitoring, shall constitute compliance with the monitoring and quality assurance requirements of 40 CFR 60.49 Da and 40 CFR 60, Appendix F.

40 CFR 97, Subpart AAAAA, TR NO_x Annual Trading Program

40 CFR 97, Subpart BBBB, TR NO_x Ozone Season Trading Program

40 CFR 97, Subpart CCCC, TR SO₂ Group 1 Trading Program

1. Operating Limitations:

- a. The permittee shall utilize control devices selected as BACT.
 - BACT for PM/PM₁₀ is PJFF.
 - BACT for CO is good combustion controls.
 - BACT for H₂SO₄ mist is WESP.
 - BACT for fluorides (as HF) is WFGD.
 - BACT does not apply to NO_x and SO₂.

- If using fuel oil, c Only ASTM Grade No. 2-D S15 (Ultra Low Sulfur Diesel-ULSD) or equivalent with a sulfur content not to exceed 15 ppm shall be used for startup and stabilization. [401 KAR 51:017].

Commented [PMZ9]: Adding for clarification. Unit currently uses NG.

- b. The permittee shall comply with all applicable provisions of 40 CFR 63, Subpart UUUUU, no later than April 16, 2015 [40 CFR 63.9984(b)]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)], except for the tune-up requirement [40 CFR 63.10005(a)].
- c. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

2. Emission Limitations:

- a. The permittee shall restrict emissions from the stack of Emission Unit 31 according to the following table:

Pollutant	Limit & Averaging Period	Regulatory Citation	Compliance Demonstration
PM ₁₀ (filterable)	0.018 lb/MMBtu Average of three 1-hour tests	401 KAR 51:017	Stack testing See 3.a.
PM (filterable)	0.015 lb/MMBtu 24-hour daily block average	40 CFR 60.42Da(c)(2)	Calculated according to 40 CFR 60.48Da(p)
PM, PM ₁₀ during startup and shutdown	125 lb/hr per 30 day rolling average	401 KAR 51:017	See 2.b.
opacity	exempt	40 CFR 60.42Da(b)(1)	
SO ₂	a. 8.94 tons per calendar day;	401 KAR 51:017	SO ₂ CEMS, see 4.a. and b. Reported, 6.f.
	AND		
	b. 3,263.1 tons, 12-consecutive months total	401 KAR 51:017	Monitored, 4.a. and k. Calculated, 5.e. Reported, 6.f.
	AND		
CO	1.4 lb/MWh gross energy output based on a 30-day rolling average	40 CFR 60.43Da(i)	SO ₂ CEMS, see 4.a. and b., [40 CFR 60.49Da(b)] Calculate, 40 CFR 60.48Da
	OR		
	b. 95% reduction		
CO	a. 0.10 lbs/MMBtu, 30-day rolling average;	401 KAR 51:017	CO CEMS, see 4.a.

Pollutant	Limit & Averaging Period	Regulatory Citation	Compliance Demonstration
	<p>OR</p> <p>b. 0.5 lbs/MMBtu, 3-hour rolling average</p> <p>AND</p> <p>c. 3,471 lb/hr, 8-hour average</p> <p>AND</p> <p>d. 3,471 lb/hr, 3-hour rolling average</p> <p>AND</p> <p>e. 3,471 lb/hr, 30-day rolling average</p>	<p>401 KAR 51:017</p> <p>See Note 1.</p> <p>Short term limits, 401 KAR 51:017</p>	<p>CO CEMS, see 4.a.</p> <p><u>Compliance with the 8-hr. avg. of 3,471 lb./hr., is considered compliance with the 3-hr. rolling average of 0.5 lbs./MMBtu.</u></p> <p>CO CEMS, see 4.a.</p> <p>See 2.b.</p>
NO _x	<p>a. 4.17 tons per calendar day</p> <p>AND</p> <p>b. 1,506.72 tons per 12 consecutive months total</p> <p>AND</p> <p>c. 1.0 lb/MWh gross energy output, 30-day rolling average</p>	<p>401 KAR 51:017</p> <p>401 KAR 51:017</p> <p>See Note 2.</p>	<p>NO_x CEMS, see 4.a. and c.</p> <p>Monitored, 4.a. and k. Calculated, 5.e. Reported, see 6.f.</p> <p>NO_x CEMS, see 4.a. and c.</p>
VOC	<p>a. 0.0032 lbs/MMBtu, 3-hour rolling average</p> <p>AND</p> <p>b. 22 lbs/hr, 30-day rolling average</p>	<p>401 KAR 51:017</p> <p>401 KAR 51:017</p>	<p>Compliance with CO limits of 0.1 lb/MMBtu on a 30-day rolling average OR 0.5 lb/MMBtu on a 3-hour average</p> <p>See 2.b.</p>
SAM	<p>a. 26.6 lbs/hr, 3-hour rolling average <u>(CAM indicator – 2.78 lb./MWhr, 3-hr. rolling average)</u></p>	<p>401 KAR 51:017</p>	<p>SO₂ CEMS, see <u>CAM</u> table 4.1.</p>

Commented [MZP10]: LG&E requests that one of the CO limits be removed. See note 1. Reg only discussed 8-hr. Both are the same limits except for hour averages. Could we say that meeting the 8-hr. of 3,471/hr. (8 hr. avg) meets the 0.5 lbs/MMBtu (3-hr avg) limit? (0.5 lb./MMBtu * 6942 MMBtu/hr. = 3471 lb./hr.; 3471 lb./hr. * hr./6942 MMBtu = 0.5 lb./hr.)

Commented [PMZ11]: LG&E requests that one of the CO limits be removed. (0.5 lb./MMBtu * 6942 MMBtu/hr. = 3471 lb./hr.; 3471 lb./hr. * hr./6942 MMBtu = 0.5 lb./hr.)

	AND		
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Pollutant	Limit & Averaging Period	Regulatory Citation	Compliance Demonstration
	b. 26.6 lbs/hr, 30-day rolling average	401 KAR 51:017	See 2.b.
Fluorides	a. 1.55 lbs/hr, 3-hour rolling average <u>(CAM indicator – 1.738 lb./MWhr, 3-hr. rolling average)</u>	401 KAR 51:017	SO ₂ CEMS, see <u>CAM</u> table 4.I.
	AND		
	b. 1.55 lbs/hr, 30- day rolling average	401 KAR 51:017	See 2.b

Note 1: Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007, for the purposes of ensuring compliance with 401 KAR 53:010, Ambient Air Quality Standards].

Note 2: 40 CFR 60.44Da(e). Compliance with this limitation shall constitute compliance with the 65% reduction requirement contained in 40 CFR 60.44Da(a)(2).

- b. The limits for PM₁₀, CO, VOC, SAM, and fluorides in table 2.a. above are the best available control technology limits at all times, except during startup and shutdown events. However, to determine compliance with the tons per year limits specified in the permit, emissions during startup and shutdown shall be included. The permittee shall utilize good work and maintenance practices and manufacturer's recommendations to minimize emissions at all times [401 KAR 51:017].

For short term limits during startup events and shutdown events, emissions of PM/PM₁₀ shall not exceed 125 lbs/hr based on 30-day rolling average, emissions of carbon monoxide shall not exceed 3,471 lbs/hr based on 30-day rolling average, emissions of VOC shall not exceed 22 lbs/hr based on 30-day rolling average, emissions of SAM shall not exceed 26.6 lbs/hr based on a 30-day rolling average and emissions of fluorides shall not exceed 1.55 lbs/hr based on 30-day rolling average [401 KAR 51:017]. Compliance with these limits shall be based upon a thirty (30)-day average. This thirty (30)-day average shall be determined as follows; for start-up events, the period shall begin at the initiation of the start-up event and include the following seven-hundred-twenty (720) operating hours to obtain the thirty (30)-day average. For shut-down events, the period shall include the shutdown event and the preceding seven-hundred-twenty (720) operating hours to obtain the thirty (30)-day average.

A "startup event" shall be the setting in operation of the PC boiler for any purpose, beginning with the ignition of fuel oil in the boiler and ending when the generator has achieved and sustained 30-40% of its nominal rating (750 MW) for a period of at least one (1) hour. A startup event shall not exceed twenty-four (24) hours, except to avoid equipment damage, unsafe operation, or deviation from established original equipment manufacturer (OEM) procedure. A "shutdown event" is considered as the cessation of operation of the PC boiler, beginning with the generator going below 375 MW, curtailment of the fuel supply to the boilers, and ending after fuel flow has ceased. A shutdown event shall not exceed ten (10) hours. For a startup event lasting longer than twenty-four (24) hours and a shutdown event lasting longer than ten (10) hours, the permittee shall record the time, date, type of event (startup and shutdown), duration of the

event and shall specify the cause of the exceedance and provide measures that will be taken to prevent such exceedances [401 KAR 51:017].

- c. The permittee shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015)~~ [40 CFR 63.9984(f)].
- d. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

3. Testing Requirements:

- ~~a. Within the first year of the life of the permit, T~~ the permittee shall submit a schedule according to 401 KAR 50:045 to test for particulate matter (PM) smaller than 10 microns to demonstrate compliance with 401 KAR 51:017. ~~Testing shall be conducted at a minimum of every five (5) years [401 KAR 50:045], according to 401 KAR 50:045 to test for particulate matter smaller than 10 microns to demonstrate compliance with 401 KAR 51:017.~~
- a. ~~_____~~
- b. If no additional stack tests are performed for PM, the permittee shall conduct a performance test for PM emissions within five (5) years of the previous test to demonstrate compliance with the applicable standard. Performance testing shall be conducted at a minimum of every five (5) years. [401 KAR 50:045].
- c. The permittee shall comply with all applicable provisions of 40 CFR 63.10005 through 40 CFR 63.10009 and 40 CFR 63.10011, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015)~~ [40 CFR 63.9984(f)].
- d. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

e. Testing Emission Summary Table:

<u>Emission</u>	<u>Test Method</u>	<u>Frequency</u>
<u>PM/PM(10) filterable</u>	<u>Method 5B or Other Acceptable Test Methods</u>	<u>Minimum of Every 5-Years</u>

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems for measuring SO₂ emissions, CO emissions, NO_x emissions, PM emissions, mercury emissions, and either oxygen or carbon dioxide diluents. Oxygen or carbon dioxide shall be monitored at each location where SO₂ or NO_x emissions are monitored. The permittee shall ensure the continuous monitoring systems are in compliance with the requirements of 40 CFR 60.50Da [401 KAR 52:020, and 401 KAR 51:017, and 40 CFR 60.49Da]. Monitoring the CO 8-hr. average of 3,471 lb./hr. limit covers the monitoring requirement of the 3-hr. rolling average of 0.5 lbs./MMBtu CO limit.

Commented [PMZ12]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

Commented [PMZ13]: Added for clarification and to address permit testing requirements for overlapping renewal permits. Test protocols are required to be submitted at least 60-days prior to the scheduled test date per 401 KAR 50:045, Section 1.

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- b. If any thirty (30) day rolling average emissions of SO₂ (excluding the startup and shut down periods) exceed 1.4 lb/MWh gross energy output, or if any calendar day emissions (excluding startup and shutdown) exceed 8.94 tons per day, the permittee shall, as appropriate, initiate an inspection of the control equipment or the CEM system and make any necessary repairs as soon as practicable [401 KAR 52:020 and 40 CFR 75.10].
- c. If any thirty (30) day rolling average emissions of NO_x (excluding the startup and shut down periods) exceed 1.0 lb/MWh gross energy output, or if any calendar day emissions (excluding startup and shutdown) exceed 4.17 tons per day, the permittee shall, as

appropriate, initiate an inspection of the control equipment and/or the CEM system and make any necessary repairs as soon as practicable [401 KAR 52:020, 40 CFR 60.49Da(c) and 40 CFR 75.10].

~~d. Until April 16, 2015, to meet the monitoring requirement for mercury, the permittee shall use a CEM, mercury monitor, or equivalent EPA approved method [401 KAR 52:020, Section 10].~~

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~~e.d.~~ All of the CEMS shall be operated and data shall be recorded during all periods of operation of the emissions units including periods of startup, shutdown, malfunction or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments [40 CFR 60.49Da(e)].

~~f.e.~~ The permittee shall obtain emissions data for PM, NO_x, and SO₂ for at least 90 percent of all operating hours for each thirty (30) successive boiler operating days. If this minimum data requirement cannot be met with a CEMS, the permittee shall supplement emissions data with other monitoring systems as described in 40 CFR 60.49Da(h) [40 CFR 60.49Da(f)(2)] or for NO_x, by equation F-26 of 40 CFR 75 [letter from Division's Field Office Branch Manager, March 26, 2013].

~~g.f.~~ When emissions data for pollutants other than PM, NO_x, and SO₂ are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using other monitoring systems as approved by the Division or other data substitution methods, including 40 CFR 75, to provide emissions data for a minimum of eighteen (18) hours in at least twenty-two (22) out of thirty (30) successive boiler operating days [401 KAR 52:020, Section 10].

~~h.g.~~ The following procedures shall be used to conduct monitoring system performance evaluations and calibration checks as required under 40 CFR 60.49Da:

- i. Reference Method 6 or 7 as applicable shall be used for conducting performance evaluations of sulfur dioxide and nitrogen oxides CEMS
- ii. Sulfur dioxide or nitrogen oxides, as applicable, shall be used for preparing calibration mixtures under Performance Specifications 2 of Appendix B to 40 CFR 60 incorporated by reference in 401 KAR 50:015, or under 40 CFR 75.
- iii. The span value for the continuous monitoring system for measuring nitrogen oxides shall be 1,000 ppm, or span values as specified in 40 CFR 75, Appendix A.
- iv. The span value for the continuous monitoring system for measuring sulfur dioxide at the outlet of the control device shall be 50 percent of the maximum estimated hourly potential emissions of the fuel fired, or span values as specified in 40 CFR 75, Appendix A

h. If you choose to rely on paragraph (2) of the definition of “startup” in § 63.10042 for your EGU the permittee shall monitor the additional requirements during startup or shutdown periods required by 40 CFR 63.10020(e).

Commented [PMZ16]: TC currently relies on definition #1 instead of #2. Request adding this for clarification.

Startup means either the first-ever firing of fuel in Emission Unit 31 for the purpose of producing electricity, or the firing of fuel in Emission Unit 31 after a shutdown event for any purpose. Startup ends when any of the steam from Emission Unit 31 is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup; Or startup means the period in which operation of Emission Unit 31 is initiated for any purpose. Startup begins with either the firing of any fuel in Emission Unit 31 for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (other than the first-ever firing of fuel in Emission Unit 31 following construction of Emission Unit 31) or for any other purpose after a shutdown event. Startup ends 4 hours after Emission Unit 31 generates electricity that is sold or used for any other purpose (including on site use), or 4 hours after Emission Unit 31 makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. Any fraction of an hour in which startup occurs constitutes a full hour of startup.

Shutdown means the period in which cessation of operation of Emission Unit 31 is initiated for any purpose. Shutdown begins when Emission Unit 31 no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil-derived fuel is being fired in Emission Unit 31, whichever is earlier. Shutdown ends when Emission Unit 31 no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes, and no fuel is being fired in Emission Unit 31. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown[40 CFR 63.10042].

i. The permittee shall use SO₂, NO_x, and PM CEMS as continuous compliance determination methods consistent with 40 CFR 64.4(d), as applicable.

j. The permittee shall monitor emissions of SO₂ and NO_x, in tons, on a monthly basis [401 KAR 51:017].

k. Monitoring for H₂SO₄ and Fluoride is shown in the table below [40 CFR 64.6].

Applicable CAM Requirement	H ₂ SO ₄ Mist	Fluoride
General Requirements	26.6 lb/hr 3 hour rolling average or WESP parameters	1.55 lb/hr 3 hour rolling average
Monitoring Methods and Location	SO ₂ CEMS OR WESP liquid flow rate, voltage, secondary currents OR and/or other operating parameters, shall be monitored.	SO ₂ CEMS

Commented [MZP17]: A SO₂ CEM OR , WESP liquid flow rate, voltages, secondary current, OR, other operating parameters, shall be monitored.

Applicable CAM Requirement	H ₂ SO ₄ Mist	Fluoride
Applicable CAM Requirement	H ₂ SO ₄ Mist	Fluoride
Indicator Range	An excursion is a SO ₂ CEMS reading of more than 2.78 lb./MWhr, on a 3-hr rolling average OR Outside of acceptable WESP ranges Secondary voltage- 50-60 kV Secondary current- 7-350 mA Flow- 180-290 gpm Or most recent performance test ranges/limits. {Semi-Annual Monitoring Report, submitted July 25, 2014}	An excursion is a SO ₂ CEMS reading of more than 1.738 lb/MWhr, on a 3-hr rolling average. [Semi-Annual Monitoring Report, submitted July 25, 2014]
Data Collection Frequency	Continuous SO ₂ CEMS	Continuous SO ₂ CEMS
Averaging Period	3-hour rolling	3-hour rolling
Recordkeeping	CEMS data records	CEMS data records
QA/QC	WFGD/SO₂ CEM and WESP will be maintained and operated in accordance with manufacturer specifications and recommendations	WFGD WESP- and SO₂ CEM will be maintained and operated in accordance with manufacturer specifications and recommendations

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Commented [MZP18]: Typo - This should be just the WESP for H₂SO₄. BACT for H₂SO₄ is the WESP as noted in original/2014 CAM plan.

Commented [MZP19]: Typo - This should be just the WFGD for fluoride. BACT for Fluoride is the WFGD as noted in original/2014 CAM plan.

Commented [PMZ20]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

~~m.l.~~ The permittee shall comply with all applicable continuous monitoring requirements of 40 CFR 63.10010, 40 CFR 63.10020, and 40 CFR 63.10021, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015)~~ [40 CFR 63.9984(f)].

~~n.m.~~ Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements.**

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain a record of applicable measurements, including CEM system, monitoring device, and performance testing measurements; all CEM system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60.7 recorded in a permanent form suitable for inspection [40 CFR 60.52Da].
- b. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility, any malfunction of the air pollution control equipment; or any period during which a CEM system or emission monitoring device is inoperative [40 CFR 60.7].

- c. The permittee shall record on a daily basis for the WFGD the following [40 CFR 64.9(b)]:
 - i. The WFGD liquid pH in the reaction tank;

- ii. Recycle pump amps and status.
- d. The permittee shall record, on a daily basis, voltages, or other parameters identified during the performance test for the WESP, as approved by the Division [40 CFR 64.9(b)].
- e. The permittee shall calculate emissions of SO₂ and NO_x in tons, on a consecutive twelve (12)-month rolling total [401 KAR 51:017].
- f. The permittee shall comply with all applicable recording provisions of 40 CFR 63.10030 through 40 CFR 63.10033, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015)~~ [40 CFR 63.9984(f)].
- g. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements**.

Commented [PMZ21]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

6. Specific Reporting Requirements:

- a. Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division's Florence Regional Office. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:
 - i. The magnitude of the excess emissions computed in accordance with 40 CFR 60.7, any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
 - ii. All hourly averages shall be reported for SO₂ and NO_x monitors. The hourly averages shall be made available in the format specified by the Division.
 - iii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The permittee shall determine the nature and cause of any malfunction (if known), and initiate the corrective action taken or preventive measures adopted.
 - iv. The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 - v. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

- vi. For SO₂ and NO_x, all information listed in 40 CFR 60.51Da (b)(1 thru 9) shall be reported to the Division for each twenty-four (24) hour period.
 - vii. If the minimum quantity of emissions data as required by 40 CFR 60.49Da is not obtained for any thirty (30) successive boiler operating days, the information specified in 40 CFR 60.51Da(c), obtained under the requirements of 40 CFR 60.48Da, shall be reported for that thirty (30)-day period.
 - viii. If any SO₂ standards as specified in 40 CFR 60.43 Da are exceeded during emergency conditions because of control system malfunction, the permittee shall submit a signed statement including all information as described in 40 CFR 60.51Da(d).
 - ix. For any periods for which SO₂ or NO_x emissions data are not available, the permittee shall submit a signed statement pursuant to 40 CFR 60.51Da(f) indicating if any changes were made in the operation of the emission control system during the period of data unavailability. Operations of control system and emissions units during periods of data unavailability are to be compared with operation of the control system and emissions units before and following the period of data unavailability.
 - x. The permittee shall submit a signed statement including all information as described in 40 CFR 60.51Da(h).
 - xi. For the purposes of the reports required under 401 KAR 59:005, Section 4, as specified in 40 CFR 60.42Da(b), the permittee is exempt from the opacity standard of 40 CFR 60 Da. The CEM systems for SO₂ and NO_x shall be certified, operated and maintained in accordance with the applicable provisions of 40 CFR 75, compliance with which shall be deemed compliance with monitoring provisions of 40 CFR 60.49Da [40 CFR 60.51Da(i)].
[40 CFR 60.51Da].
 - xii. Reporting of the 3,471 lb./hr., 8-hr. average CO limit, covers the reporting requirement for the 3-hr. rolling average of 0.5 lbs./MMBtu CO limit.
- b. Excess emissions for emission units using a continuous monitoring system for measuring particulate matter are defined by any rolling twenty-four (24)-hour average of particulate matter, in units of pounds per million Btu (lb/MMBtu), greater than the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous particulate matter measurements per hour. Any time period exempted shall be considered before determining the excess average of particulate matter [401 KAR 52:020, Section 10].
- c. The permittee shall report the number of excursions (excluding startup, shut down, malfunction data) above the particulate matter standard, date and time of excursions, particulate matter value of the excursions, and percentage of the PM-CEMS data showing excursions above the applicable standard in each calendar quarter [401 KAR 52:020, Section 10]. For exceedances that occur as a result of start-up, the permittee shall report

[401 KAR 52:020, Section 10]:

- i. The type of start-up (cold, warm, or hot);
 - ii. Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.
- d. The permittee shall report the following information regarding its CAM plan according to the general reporting requirements specified in Section F.5. of this permit:
- i. Number of exceedances or excursions;
 - ii. Duration of each exceedance or excursion;
 - iii. Cause of each exceedance or excursion;
 - iv. Corrective actions taken on each exceedance or excursion;
 - v. Number of monitoring equipment downtime incidents;
 - vi. Duration of each monitoring equipment downtime incident;
 - vii. Cause of each monitoring equipment downtime incident;
 - viii. Description of actions taken to implement a quality improvement plan and upon completion of the quality improvement plan, documentation that the plan was completed and reduced the likelihood of similar excursions or exceedances.
[40 CFR 64.9(a)]
- e. The permittee shall report semiannually the twelve (12) month rolling total SO₂ and NO_x emissions [401 KAR 52:020, Section 10].
- f. Within sixty (60) days after the completion of each performance test for pollutants covered under 40 CFR 63, Subpart UUUUU, ~~whether that day falls before or after April 16, 2015~~, the permittee shall submit the results of said performance test to U.S. EPA according to 40 CFR 63.10031.
- g. The permittee shall comply with all applicable reporting requirements of 40 CFR 63.10030 through 40 CFR 63.10033, ~~no later than April 16, 2015. The permittee shall demonstrate compliance no later than one hundred eighty (180) days after April 16, 2015 (October 13, 2015)~~ [40 CFR 63.9984(f)].
- h. Additional requirements of 40 CFR 63, Subpart UUUUU are listed in Section D., **Source Emission Limitations and Testing Requirements**.

Commented [PMZ22]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

Commented [PMZ23]: Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

7. **Specific Control Equipment Operating Conditions:**

- a. The selective catalytic reduction, pulse-jet fabric filter, wet flue gas desulfurization, dry sorbent injection, dry electrostatic precipitator, wet electrostatic precipitator, and powdered activated carbon injection shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2 (5)].
- b. Records regarding the maintenance of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E, **Source Control Equipment Requirements** for further requirements.

Emission Unit 32 - "Limited Use" Auxiliary Steam Boiler

Description:

Design capacity rating: 100 MMBtu/hour
Commenced construction: 2007
Fuel: Ultra Low Sulfur Diesel (ULSD) or natural gas

APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units**

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Appendix F Quality Assurance Procedures**

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters**

401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

- a The fuel consumed in this unit shall be limited to 87,595 MMBtu/yr, based on a twelve (12)-month rolling total. [This federally-enforceable limit is less than 10% of the maximum potential heat input [to achieve limited applicability of 40 CFR 63, Subpart DDDDD, as a limited-use boiler, pursuant to 40 CFR 63.7575].

Compliance Demonstration Method:

Compliance with the limited-use operating limit shall be demonstrated by monitoring according to 4.a., **Specific Monitoring Requirements**, and recordkeeping according to 5.b., **Specific Record Keeping Requirements**.

- b The permittee shall complete a tune-up of the boiler every five (5) years as specified in 40 CFR 63.7540(a)(12) [40 CFR 63.7500(c)]. ~~The initial tune-up shall be completed no later than January 31, 2016 [40 CFR 63.7495(b)].~~

Commented [MZP24]: Add (a)(12)....40 CFR 63.7540(a)(12).
Delete outdated verbiage.

Compliance Demonstration Method:

Compliance with the tune-up operating limit shall be demonstrated by reporting according to 6.b. and c., **Specific Reporting Requirements**.

- c At all times the permittee shall operate and maintain the unit in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Division that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.7500(a)(3)].

- d. The fuel oil, ~~if used, used~~ shall meet the sulfur content standards in ASTM Grade No. 2-D S15 (Ultra Low Sulfur Diesel-ULSD) or equivalent and cannot exceed a sulfur content of 15 ppm [401 KAR 51:017]. This satisfies the percent sulfur by weight requirement of 40 CFR 60.42c(d).

Commented [PMZ25]:
Added for clarification.

Compliance Demonstration Method:

Compliance with the ULSD operating limit shall be demonstrated by recordkeeping of vendor certifications according to 5.d., **Specific Record Keeping Requirements**.

- ~~e. The auxiliary steam boiler, except for testing purposes, shall only operate during periods when Emission Unit 01 or Emission Unit 31 are operating at less than 50 percent load [401 KAR 52:020, Section 10].~~

~~**Compliance Demonstration Method:**~~

~~Compliance shall be demonstrated by 6.d., **Specific Reporting Requirements**.~~

- ~~f. The permittee shall comply with all applicable provisions of 40 CFR 63, Subpart DDDDD, [40 CFR 63.7495(b)].~~

Commented [PMZ26]: LG&E requests that this be removed. This was added when the Aux Boiler was initially added and before the DDDDD MACT was final. Since the original permitting, the unit has taken limits to operate as a limited use unit. We now have a federally enforceable limit that the fuel consumed in this unit shall be limited to 87,595 MMBtu/yr., based on a twelve (12)-month rolling total. This limit is less than 10% of the maximum potential heat input. (permit condition 1a). The unit currently operates on NG instead of fuel oil.

2. Emission Limitations:

- a. PM emissions shall not exceed 0.03 lb/MMBtu or 3.0 lb/hr based on a three (3) hour average [401 KAR 51:017]. This unit is exempt from PM limits from 40 CFR 60, subpart Dc [40 CFR 60.43c(e)(4)].

Compliance Demonstration Method:

Compliance with the 401 KAR 51:017 PM limit is demonstrated by stack testing performed in 2009.

- b. Opacity from this unit shall not exceed 20 percent (six (6)-minute average) except for one six (6)-minute period per hour of not more than 27 percent opacity [40 CFR 60.43c(c)]. Unit is assumed to be on compliance while operating on natural gas. A 30-day notice must be given if unit converts to fuel oil.

Compliance Demonstration Method:

Compliance with the opacity limit shall be demonstrated by qualitative visual observations according to 4.b., **Specific Monitoring Requirements**.

- c. CO emissions shall not exceed 100 ppm by volume on a dry basis corrected to 3 percent oxygen or 0.078 lb/MMBtu on a thirty (30)-day rolling average [401 KAR 51:017].

Compliance Demonstration Method:

Compliance with the CO emission limit shall be demonstrated by using only ULSD or natural gas according to 1.d., **Operating Limitations**.

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

a The permittee shall monitor the quantity of fuel consumed, in MMBtu/month [40 CFR 63.7525(k)] [401 KAR 52:020, Section 10].

~~b~~ The permittee shall perform an annual qualitative visual observation of the emissions from the stack while operating on natural gas. Qualitative Visuals are required every 10-boiler operating days if the unit operates on fuel oil.

~~stack once every 7 boiler operating NG days and maintain a log of the observations.~~ If emissions from the stack are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs. Hours of operation shall include any partial hour in which an auxiliary boiler has been fired to 75% of its rated steam capacity [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

a The permittee shall maintain records of qualitative visual observations and any Method 9 readings taken [401 KAR 52:020, Section 10].

b The permittee shall maintain records of the quantity of fuel consumed, in MMBtu/month, and calculate a twelve (12)-month rolling total of the annual capacity factor [40 CFR 63.7525(k), 401 KAR 52:020, Section 10]. Twelve (12)-month rolling totals of fuel capacity factor shall be calculated according to 40 CFR 60.48c(h).

c ULSD vendor certification shall include all the requirements according to 40 CFR 60.48c(f).

d Records shall be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1) [40 CFR 63.7560(a)]. As specified in 40 CFR 63.10(b)(1), the permittee shall keep each record for five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.7560(b)]. The permittee shall keep each record on site, or they shall be accessible from on site (for example, through a computer network), for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The permittee can keep the records off site for the remaining three (3) years [40 CFR 63.7560(c)].

e The permittee shall meet the requirements of 40 CFR 63.7555.

6. Specific Reporting Requirements:

a The permittee shall meet the requirements of 40 CFR 60.48c.

b The permittee shall meet the requirements of 40 CFR 63.7545, and 63.7550.

Commented [PMZ27]: When the aux boiler was initially permitted the boiler operated on oil and the permit was based on a synthetic MACT (MACT was only proposed). Since 2006, the MACT has been finalized, and the boiler is now classified as a limit use boiler (federal limit) that currently operates on NG instead of fuel oil. Since many other units are assumed to in compliance for opacity if they operate on NG; LG&E is requesting that this be changed to an annual qualitative visual observation and a Method 9 if triggered OR an Annual Method 9 if the unit operates for events, others than testing during the calendar year. The unit does not need to be brought on-line if it did not operate during the calendar year.

~~c. The first tune-up report shall be submitted by July 31, 2016 [40 CFR 63.7550(c)(1), 63.7550(a)(1)].~~

Commented [PMZ28]: Remove out of date requirement.

~~d. The permittee shall report any violation of i.e., Operating Limitations.~~

Commented [PMZ29]: Delete, original i.e. was deleted.

7. **Specific Control Equipment Operating Conditions:**

a. The permittee shall operate the unit in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].

b. See Section E., **Source Control equipment Requirements**.

Emission Units 25-30 - 6 Combustion Turbines (TC5 – TC10)

Description:

General Electric 7FA natural gas-fired simple cycle combustion turbines

Nominal rated output capacity: 160 MW, each
Rated heat input capacity: 1,763 MMBtu/hr (at minus 10 degrees F), each
Construction commenced: 2001
Controls: dry low NO_x burners

APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines**

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart A, General Provisions**

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart YYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines**. This regulation applies, but these are existing units [40 CFR 63.6090(a)(1)] and they do not have to meet the requirements of this regulation [40 CFR 63.6090(b)(4)].

40 CFR Parts 72 to 78, Federal acid rain provisions

40 CFR 97, Subpart AAAAA, TR NO_x Annual Trading Program

40 CFR 97, Subpart BBBB, TR NO_x Ozone Season Trading Program

40 CFR 97, Subpart CCCCC, TR SO₂ Group 1 Trading Program

401 KAR 51:017, Prevention of significant deterioration of air quality

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

1. Operating Limitations:

- a. Startup and shutdown periods shall be limited to no more than two (2) hours for each startup/shutdown event [401 KAR 52:020, Section 10].
- b. The permittee shall use only natural gas in the turbines [401 KAR 52:020, Section 10].
- c. The fuel sulfur content shall not exceed 2.0 grains/100 SCF [401 KAR 51:017].

Compliance Demonstration Method:

Compliance shall be demonstrated by 4.c., **Specific Monitoring Requirements** [401 KAR 52:020, Section 10].

2. Emission Limitations:

- a. NO_x levels in the exhaust gas shall not exceed an hourly average of 12 ppm by volume at 15 percent oxygen on a dry basis, and an annual (twelve (12)-month rolling) average of 9 ppm by volume at 15 percent oxygen on a dry basis, except during periods of startup, shutdown, or malfunction [401 KAR 51:017]. Compliance with this limit constitutes compliance with the NO_x limit contained in 40 CFR 60, Subpart GG.

Compliance Demonstration Method:

Compliance with the NO_x limit shall be demonstrated by CEMS according to 4.a., **Specific Monitoring Requirements** [40 CFR 75.10(a)(2)].

- b. Except during periods of startup, shutdown, or malfunction, the CO emission level in the exhaust gas shall not exceed 9 ppm by volume at 15 % oxygen, on a dry basis, during any three (3)-hour averaging period [401 KAR 51:017].

Compliance Demonstration Method:

Compliance with this limit shall be demonstrated by CEMS according to 4.d., **Specific Monitoring Requirements** [401 KAR 52:020, Section 10].

- c. Filterable PM shall not exceed 19 lb/hr, from each turbine [401 KAR 51:017].

Compliance Demonstration Method:

Compliance with the PSD PM limit was demonstrated by testing performed on April 11 and 12, and 16 and 17, 2002.

- d. Formaldehyde emissions from Emission Units 25 – 30 shall not exceed 10 tons during any consecutive twelve (12)-month period [401 KAR 63:020].

Compliance Demonstration Method:

To demonstrate compliance, the permittee shall calculate and maintain a twelve (12)-month rolling total of the following equation:

$$F = \frac{NG \times EF}{2000 \frac{lb}{ton}}$$

where

F = Formaldehyde emissions, ton/month

NG = natural gas combusted in Emission Units 25-30, MMscf/month

EF = emission factor, lb/MMscf. Use 0.72 lb/MMscf, from AP-42.3.1-3, or the emission factor determined by a representative performance test conducted according to the requirements of 401 KAR 50:045, within the last five (5) years.

- e. See Section D., **Source Emission Limitations and Testing Requirements**.

3. Testing Requirements:

- a. Pursuant to 40 CFR 60.335(b), in conducting performance tests required by 40 CFR 60.8, the permittee shall use as test methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods or procedures as specified in 40 CFR 60.335, except as provided for in 40 CFR 60.8(b).

b. Testing Emission Summary Table:

<u>Emission</u>	<u>Test Method</u>	<u>Frequency</u>
Formaldehyde	Method 323	Every 5-years

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate the NO_x CEMS. The NO_x CEMS shall be used as the indicator of continuous compliance with the NO_x emission standard. Excluding the startup and shut down periods, if any (1) one-hour average exceeds the NO_x emission limitation, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary control device/process/CEMS repairs or take corrective action as soon as practicable [401 KAR 52:020, Section 10, and 40 CFR 75.10(a)(2)].
- b. The permittee shall monitor the quantity of natural gas, in millions of cubic feet, fired in each combustion turbine on a daily basis [401 KAR 52:020, Section 10].
- c. The permittee shall monitor the sulfur content of the natural gas fuel being fired in the turbines ~~every six months~~ annually (once per calendar year). Permittee may use vendor guarantees/analysis, or tariffs, ~~that~~ the gas contains 2.0 grains/100 SCF of sulfur or less as proof of the natural gas quality, according to 40 CFR 60.334(b) [401 KAR 51:017].
- d. To meet the monitoring requirement for CO, the permittee shall use a CEMS. Excluding the startup and shut down periods, if any (3) three-hour average CO value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and complete necessary process or CEMS repairs or take corrective action as soon as practicable [401 KAR 52:020, Section 10].
- e. The permittee shall install, calibrate, operate, test, and monitor all continuous monitoring systems and monitoring devices in accordance with 40 CFR 60.13 or 40 CFR 75.10.
- f. The permittee shall monitor the hours of operation of each combustion turbine on a daily basis [401 KAR 52:020, Section 10].
- g. The permittee shall monitor the power output, in MW, of each combustion turbine on a daily basis [401 KAR 52:020, Section 10].

Commented [PMZ30]: LG&E requests that this be reduced to annual. These samples are very difficult to collect and costly. For the last almost 20 years our samples have been well below the limit. We utilize NG. The regulations do not specify a sampling frequency.

Commented [PMZ31]: LG&E believes this is a typo. Should this be 40 CR 60.334(h) instead of 60.334(b)?

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5. Specific Record Keeping Requirements:

- a. The permittee shall maintain a file of all measurements, including CEMS, monitoring device, and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks; adjustments and maintenance performed on these systems and devices; and all other information required by 40 CFR 60, Subpart A recorded in a permanent form suitable for inspection [40 CFR 60.7(f)].
- b. Records, including those documenting the results of each compliance test and all other records and reports required by this permit, shall be maintained for five (5) years [401 KAR 52:020, Section 10].
- c. The permittee shall maintain a log of all sulfur content measurements as required in 4.c., **Specific Monitoring Requirements** [401 KAR 52:020, Section 10].

- d. The permittee shall maintain a daily log of the natural gas, in millions of cubic feet, fired in each combustion turbine, for any consecutive twelve (12) month period [401 KAR 52:020, Section 10].
- e. The permittee shall maintain a daily log of all hours of operation for each combustion turbine, for any consecutive twelve (12) month period [401 KAR 52:020, Section 10].
- f. The permittee shall maintain a daily log of all power output, in MW, for each combustion turbine, for any consecutive twelve (12) month period [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

- a. Minimum data requirements which follow shall be maintained and furnished in the format specified by the Division. The permittee shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the Division. All quarterly reports shall be submitted electronically or postmarked by the thirtieth (30th) day following the end of each calendar quarter and shall include the following information:
 - i. The magnitude of the excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions.
 - ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the emissions unit. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
 - iii. The date and time identifying each period during which continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 - iv. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report. [40 CFR 60.7(c)].
- b. Excess emissions of NO_x are defined as any (1) one-hour period during which the average emissions (arithmetic average) exceed the applicable NO_x emission standard. These periods of excess emissions shall be reported quarterly. The NO_x CEMS reports will be used in lieu of the water to fuel ratio requirements of 40 CFR 60.334(c) [401 KAR 52:020, Section 10].
- c. Excess emissions of CO are defined as any (3) three-hour period during which the average emissions (arithmetic average) exceed the applicable CO emission standard. These periods of excess emissions shall be reported quarterly [401 KAR 52:020, Section 10].

7. **Specific Control Equipment Operating Conditions:**

- a. The Dry Low-NOx Burners shall be operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].
- b. See Section E., **Source Control Equipment Requirements.**

Emission Unit 18 - Emergency Generator Engine

Description:

Maximum output: 150 Kw (200 HP)
Rated capacity: 16.1 gal/hr diesel fuel
Construction commenced: 1994

APPLICABLE REGULATIONS:

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

1. Operating Limitations:

- a. ~~Beginning January 1, 2015, if~~ the engine is operated or is contractually obligated to be available for more than fifteen (15) hours per year for the purposes of demand response as specified in 40 CFR 63.6640(f), the permittee shall use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted [40 CFR 63.6604(b)].
- b. The permittee shall be in compliance with the applicable emission limitations, operating limitations, and other requirements in 40 CFR 63, Subpart ZZZZ at all times [40 CFR 63.6605(a)].
- c. At all times the permittee shall operate and maintain the engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].
- d. The permittee shall operate and maintain the engine and any after-treatment control devices according to the manufacturer's emission-related written instructions or develop the permittee's own maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 66.6625(e)].
- e. The permittee shall install a non-resettable hour meter if one is not already installed [40 CFR 63.6625(f)].
- f. The permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed thirty (30) minutes [40 CFR 63.6625(h)].

Commented [PMZ32]: Delete out of date verbiage.

- g. In order for the engine to be considered an emergency engine under 40 CFR 60, Subpart ZZZZ, the permittee shall operate the engine according to the requirements for emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for fifty (50) hours per year, as described in 40 CFR 63.6640(f). There is no time limit on the use of emergency stationary reciprocating engines in emergency situations, when those emergency situations meet the requirements of 40 CFR 63.6640(f).
- h. The permittee shall change the oil and filter every five hundred (500) hours of operation or annually, whichever comes first. The permittee shall inspect the air cleaner every one thousand (1,000) hours of operation or annually, whichever comes first, and replace as necessary. The permittee shall inspect all hoses and belts every five hundred (500) hours of operation or annually, whichever comes first, and replace as necessary [40 CFR 63 Subpart ZZZZ, Table 2., Item 1.]. The permittee has the option of utilizing an oil analysis program as specified in 40 CFR 63.6625(i) in order to extend the specified oil change requirement.

2. **Emission Limitations:**

N/A

3. **Testing Requirements:**

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. **Specific Monitoring Requirements:**

The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].

5. **Specific Record Keeping Requirements:**

- a. The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall maintain all records required by 40 CFR 63.6655, including notifications, records of required maintenance, records of actions during malfunction, and records of hours of operation.
- c. The permittee shall keep each record in hard copy or electronic form for five (5) years following the date of each occurrence, measurement, maintenance, corrective action or record. The records shall be in a form suitable and readily available for expeditious review [40 CFR 63.10(b)(1) and 40 CFR 63.6660].

6. **Specific Reporting Requirements:**

- a. The permittee shall submit any notifications required by 40 CFR 63.6645 and 63.6650.
- b. See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:
N/A

Emission Unit 33 - Emergency Generator Engine

Description: Tier 2 certified, 4-Stroke Lean Burn
Rated capacity: 2206 HP
Fuel: 104.8 gal/hr ULSD diesel fuel
Construction commenced: 2007
Controls: NSCR

APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines**

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**. This regulation is applicable to this engine, but it does not have to meet the requirements of this regulation or of 40 CFR 63, Subpart A, as long as the permittee complies with 1.b., **Operating Limitations** [40 CFR 63.6590(b)(1)(i)].

401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

- a. The engine, except for testing purposes, shall only operate during periods when Unit 31 is operating at less than 50 percent load [401 KAR 51:017].

Compliance Demonstration Method:

Compliance is demonstrated by 6.a. and 6.b., **Specific Reporting Requirements**.

- b. The engine shall not operate or shall not contractually be obligated to be available for more than fifteen (15) hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engine shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)].

Compliance Demonstration Method:

Compliance is demonstrated by 6.a. and 6.b., **Specific Reporting Requirements**.

- c. The permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel obtained prior to October 10, 2010 may be used until depleted [40 CFR 60.4207(b)].

Compliance Demonstration Method:

Compliance is demonstrated by 6.b., **Specific Reporting Requirements**.

2. **Emission Limitations:**

- a. The permittee shall meet the emission standards of 40 CFR 60.4205(b) as specified in the table below:

Emission Standards (g/kW-hr)		
NMHC + NO _x	CO	PM
6.4	3.5	0.20

Compliance Demonstration Method:

The permittee shall have purchased the engine as certified by the manufacturer. The engine shall be installed and configured according to the manufacturer's emission-related specifications [40 CFR 63.4211(c)].

- b. The permittee shall meet the emission standards over the entire life of the engine [40 CFR 60.4206].

3. **Testing Requirements:**

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. **Specific Monitoring Requirements:**

- a. If the engine does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine [40 CFR 60.4209(a)].
- b. The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis. The permittee shall maintain supplier's certifications of fuel sulfur content [401 KAR 52:020, Section 10].

5. **Specific Record Keeping Requirements:**

- a. The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)].

6. **Specific Reporting Requirements:**

- a. The permittee shall report records of fuel usage rate, hours of operation and purpose.
- b. The permittee shall report any violation of Operating Limitation 1.a., 1.b., and 1.c. [401 KAR 52:020, Section 10].
- c. See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:

N/A

Emission Units 50 – 52 - Emergency Generator Engines

Description: Tier 2 certified, 4-stroke lean burn
Rated capacity: 1220 hp, each
Fuel: 51.3 gal/hr each, ULSD diesel fuel
Construction commenced: Dec 2014

APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines**

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**. The regulation is applicable to these engines, but they do not have to meet the requirements of this regulation or of 40 CFR 63, Subpart A, except for the initial notification requirements of 40 CFR 63.6645(f), as long as the permittee complies with 1.a., **Operating Limitations** [40 CFR 63.6590(b)(1)(i)].

1. Operating Limitations:

- a. The engines shall not operate or shall not contractually be obligated to be available for more than fifteen (15) hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). The engines shall meet the definition of emergency operation in 40 CFR 60.4211(f). There is no time limit on the use of emergency engines in emergency situations [40 CFR 60.4211(f)(1)].

Compliance Demonstration Method:

Compliance is demonstrated by 6.a., **Specific Reporting Requirements**.

- b. The permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel obtained prior to October 10, 2010 may be used until depleted [40 CFR 60.4207(b)].

Compliance Demonstration Method:

Compliance is demonstrated by 6.c., **Specific Reporting Requirements**.

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2. Emission Limitations:

- a. The permittee shall meet the emission standards of 40 CFR 60.4205(b) as specified in the table below:

Emission Standards (g/kW-hr)		
NMHC + NOx	CO	PM
6.4	3.5	0.20

Compliance Demonstration Method:

The permittee shall have purchased the engines as certified by the manufacturer. The engines shall be installed and configured according to the manufacturer's emission-related specifications [40 CFR 63.4211(c)].

- b. The permittee shall meet the emission standards over the entire life of the engines [40 CFR 60.4206].

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. If the engines do not meet the standards applicable to non-emergency engines, the permittee shall install non-resettable hour meters prior to startup of the engines [40 CFR 60.4209(a)].
- b. The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)].

6. Specific Reporting Requirements:

- a. The permittee shall submit any notifications required by 40 CFR 60.4214(b).
- b. The permittee shall report any violation of Operating Limitation 1.a. [401 KAR 52:020, Section 10].
- c. The permit shall report any violation of Operating Limitation **1.c.** [401 KAR 52:020, Section 10].
- d. See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

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7. Specific Control Equipment Operating Conditions:

N/A

Emission Unit 53 - Emergency Fire Pump Engine

Description:

Rated capacity: 380 hp
Fuel: 19.1 gal/hr, ULSD diesel fuel
Construction commenced: 1982

APPLICABLE REGULATIONS:

401 KAR 63:002, 40 C.F.R. part 63 national emission standards for hazardous air pollutants, incorporating by reference **40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.**

1. Operating Limitations:

- a. The engine shall not operate or shall not contractually be obligated to be available for more than fifteen (15) hours per calendar year for the demand response purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). There is no time limit on the use of emergency engines in emergency situations.

Compliance Demonstration Method:

Compliance is demonstrated by 6.a., **Specific Reporting Requirements.**

- b. The permittee shall change the oil and filter every 500 hours of operation or annually, whichever comes first. The permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. The permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary [Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ].

Compliance Demonstration Method:

The permittee shall keep records according to 40 CFR 63.6655(a)(4).

- c. The permittee shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes [Item 1. of Table 2.c. of 40 CFR 63, Subpart ZZZZ].

Compliance Demonstration Method:

The permittee shall keep records according to 40 CFR 63.6655(f).

- d. At all times the permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to,

monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].

- e. The permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 63.6625(e)].

2. Emission Limitations:

N/A

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall monitor the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall install a non-resettable hour meter if one is not already installed [40 CFR 63.6625(f)].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the fuel usage rate, in gallons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall record the hours of operation for the engine on a monthly basis [401 KAR 52:020 Section 10].

6. Specific Reporting Requirements:

- a. The permittee shall submit notifications of hours of operation and emergency operation [401 KAR 52:020, Section 10].
- b. See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

Emission Unit 55 - 56 – Two Emergency Blackstart Diesel Engines

Description:

Tier 2 certified, 4 stroke lean burn,
Nameplate Capacity: 5051 HP or 3500kWe
Installed: March 2017

APPLICABLE REGULATIONS:

40 CFR 60, Subpart IIII, Standards of Performance for Compression Ignition Internal Combustion Engines.

40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The permittee shall meet the requirements of this regulation by meeting the requirements of 40 CFR 60, Subpart IIII.

Note: D.C. Circuit Court [*Delaware v. EPA*, 785 F. 3d 1 (D.C. Cir. 2015)] has vacated the provisions in 40 CFR 60, Subpart IIII that contain the 100-hour exemption for operation of emergency engines for purposes of emergency demand response under 40 CFR 60.4211(f)(2)(ii)-(iii). The D.C. Circuit Court issued the mandate for the vacatur on May 4, 2016.

1. Operating Limitations:

- a. In order for the engines to be considered emergency stationary internal combustion engines under 40 CFR 60, Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described below, is prohibited. If the permittee does not operate the engines according to the requirements below, the engines will not be considered emergency engines and must meet all requirements for non-emergency engines [40 CFR 60.4211(f)].
 - i. There is no time limit on the use of emergency stationary ICE in emergency situations [40 CFR 60.4211(f)(1)].
 - ii. Emergency stationary RICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by **1.a.ii.(2)** of this section counts as part of the 100 hours per calendar year allowed [40 CFR 60.4211(f)(2)].
 - (l) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating

that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 4211(f)(2)(i)].

- (2) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations, subject to requirements in 40 CFR 4211(f)(3).
- b. The permittee shall [40 CFR 60.4211(a)]:
 - i. Operate and maintain the stationary CI internal combustion engines and control devices according to the manufacturer's emission-related written instructions;
 - ii. Change only those emission-related settings that are permitted by the manufacturer; and
 - iii. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable.
- c. Diesel fuel shall meet the requirements of 40 CFR 80.510(b) for nonroad diesel fuel [40 CFR 60.4207(b)].

2. Emissions Limitations

- a. Exhaust emissions for each engine shall not exceed:

Emission Standards (g/kW-hr)		
NMHC + NOx	CO	PM
6.4	3.5	0.20

Compliance shall be demonstrated by purchasing engines certified to the above emission standards. See also **3.b. Testing Requirements.**

3. Testing Requirements:

- a. Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.
- b. If the engine or control device is not operated and maintained according to the manufacturer's written emission-related instructions, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. The permittee shall conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards [40 CFR 60.4211(g)].

4. Specific Monitoring Requirements:

- a. The permittee shall install non-resettable hour meters prior to startup of each engine [40 CFR 60.4209(a)].
- b. If the engine is equipped with a diesel particulate filter to comply with the emission standards, the diesel particulate filter shall be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached [40 CFR 60.4209(b)].
- c. The permittee shall maintain the records of the fuel combusted and hours of operation on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Recordkeeping Requirements:

- a. If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)].
- b. For engines equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)].
- c. The permittee shall compile and maintain records of hours of operation of each engine and the amount of fuel consumed by each generator on a monthly basis [401KAR 52:020, Section 10].
- d. The permittee shall maintain records of the manufacturer's certified emissions certificate, manufacturer's written operating instructions, and any procedures developed by the permittee that are approved by the engine manufacturer, over the entire life of the engine [401 KAR 52:020, Section 10].
- e. See Section F, **Monitoring, Recordkeeping and Reporting Requirements.**

6. Specific Reporting Requirements:

- a. The permittee shall report hours of operation of each engine and the amount of fuel consumed by each generator in its semi-annual reporting.
- b. If the engines operate or are contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(3) the permittee shall submit an annual report according to the requirements in 40 CFR 60.4214(d).
- c. See Section F, **Monitoring, Recordkeeping and Reporting Requirements.**

Emission Units 05, 06, 34, 35 - Fossil Fuel Storage Operations & Plant Roadways

EU #	Description	Controls	Construction Commenced
05	Fossil fuel storage pile. Pile encompasses area north of E1 conveyor.	N/A	Before 1990
06	Paved plant roadways. Covers all paved road surfaces at the Trimble station facility used by truck delivering raw materials and shipping out raw materials (paved roads for truck delivery of raw materials)	N/A	Before 1990
34	Fossil fuel pile "A". Encompasses area southwest of E1 conveyor.	Compaction, water suppression	2007
35	Fossil fuel pile "B". Encompasses area southeast of E1 conveyor.	Compaction, water suppression	2007

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007

1. Operating Limitations:

- a. 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:
 - i. Application of water, or suitable chemicals on material stockpiles, and other surfaces which can create airborne dusts;
 - ii. Operation 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;
 - iii. Paved roadways shall be maintained in a clean condition by application of water or suitable chemical;
 - iv. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or other earth moving equipment or erosion by water.

[401 KAR 63:010, Section 3; Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007].

- b. Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3].

- c. The permittee shall not allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway [401 KAR 63:010, Section 4].
- d. The permittee shall apply compaction and water suppression control methods as BACT for EU 34 and EU 35 [401 KAR 51:017].

2. Emission Limitations:

N/A

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall perform a qualitative visual observation of each coal pile area encompassed by the listed Emission Units on a weekly basis [401 KAR 52:020, Section 10].
- b. The permittee shall monitor-the amount of coal received via trucks, in tons, on a monthly basis [401 KAR 52:020, Section 10].

Emission Unit 06 only

- c. The permittee shall monitor vehicle miles traveled, paved roads for -truck delivery of raw materials on a monthly basis [401 KAR 52:020, Section 10].
- d. See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of qualitative visual observations including date, time, and results [401 KAR 52:020, Section 10].
- b. The permittee shall maintain records of the amount of coal received via trucks, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- c. **Emission Unit 06 only** - The permittee shall maintain records of number of trucks/ vehicle miles traveled, as applicable, for raw material delivered/received, on a monthly basis [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:

- a. The dust water suppressant system for the stockpile operations shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].

Emission Unit 06 only

- b. Plant roadways shall be paved in asphalt and repaired or repaved and controlled with water or suitable chemical as necessary to comply with 401 KAR 63:010 [Secretary's Final Order, DAQ-27602-042, Filed September 28, 2007].
- c. Records regarding the maintenance and use of the dust water suppressant system for the stockpile operations shall be maintained [401 KAR 52:020, Section 10].
- d. See Section E., **Source Control Equipment Requirements**.

Emission Units 07, 08, 09, 37, 39 - Fossil Fuel Handling Operations

EU #	Source	Description	Transfer Rate	Controls	Construction Commenced
07	Barge Unloading	One Continuous Barge Unloader	5,500 ton/hr	E nclosure	1990
07	Conveyor Belt A	From Continuous Barge Unloader to Conveyor B	5,500 ton/hr	E nclosure	1990
07	Conveyor Belt B	From Conveyor A to Transfer House/Conveyor C	5,500 ton/hr	Enclosure / H ood	1990
07	Conveyor Belt C	From B Transfer House to Coal Sample House Bin	5,500 ton/hr	Enclosure / H ood R otoclo ne	1990
07	Conveyor Belt D	From Coal Sample House Bin to Conveyor E1 or S	3,000 ton/hr	E nclosure	1990
07	Reclaim Hopper & Conveyor Belt R1	From One Inactive Fossil Fuel Pile to Crusher House	1,320 ton/hr	E nclosure	1990
07	Conveyor Belt S	From Conveyor D to One Inactive Fossil Fuel Pile	1,650 ton/hr	E nclosure	1990
07	Conveyor Belt E1	From Conveyor D to Active Storage or Crusher House	2,640 ton/hr	H ood	1990
07	Conveyor Belt F1 & F2	From Crusher House to Conveyors G1 & G2	1,320 ton/hr	Dust Collector	1990
07	Conveyor Belt G1 & G2	From Conveyors F1 & F2 to Unit or Unit 2 Coal Silos	1,320 ton/hr	Dust Collector	1990
08	Crusher House	Two Crushers, Fossil Fuel Crusher Bin	3,600 ton/hr	R otoclo ne	1990
09	Six Unit 1 Silos		800 ton/hr	Dust Collector	1990
37	Conveyor Belt E2	From Active Coal Piles "A & B" to Conveyor E3	2,640 ton/hr	Dust Collecto <u>r</u> s (A & B)	2008
37	Conveyor Belt E3	From Conveyor E2 to Conveyor E1	2,640 ton/hr	H oods	2008
39	Six Unit 2 Silos	Boiler Unit 2 Coal Storage	800 ton/hr	Dust Collector	2008

APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart Y Standards of Performance for Coal Preparation Plants**

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality

1. Operating Limitations:

The permittee shall utilize dust collectors as BACT for the reclaim hopper of **EU 37-7** and for EU 39 [401 KAR 51:017].

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2. Emission Limitations:

The permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater [40 CFR 60.254].

Compliance Demonstration Method:

Compliance with the opacity emission limit shall be demonstrated according to 4., **Specific Monitoring Requirements.**

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall monitor the amount of coal received and processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the amount of coal received and processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall maintain a log of qualitative visual observations and all compliance tests. The permittee shall record each week, the date and time of each observation and the results of visible emissions monitoring. In case of exceedances, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate exceedances [401 KAR 52:020, Section 10].

6. **Specific Reporting Requirements:**

See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. **Specific Control Equipment Operating Conditions:**

- a. The enclosures/partial enclosures, baghouses, rotoclones, water spray equipment, bin vent filters, conveyor systems, fuel blending operations, fossil fuel storage silos, and stackout chutes shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 40 CFR 60, Subpart Y [401 KAR 50:055, Section 2].
- b. Records regarding the maintenance and use/operation of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E., **Source Control Equipment Requirements.**

Emission Unit 10 - Lime/Limestone Receiving and Storage

Description:

Equipment includes: Receiving Operations: clamshell unloader, clamshell barge unloader bin; Stockpile Stackout Operations (inactive outdoor storage)

Maximum Operating Rate (Receiving): 1,650 Tons/hour
Maximum Operating Rate (Stockpile/Stackout): 1,500 Tons/hr
Commenced construction: before 1990

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality

1. Operating Limitations:

- a. 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 [401 KAR 63:010, Section 3]:
 - i. application and maintenance of asphalt, application of water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;
 - ii. operation 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 dust emissions during handling.
- b. Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3].

2. Emission Limitations:

N/A

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall monitor the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- b. See Section F., Monitoring, Recordkeeping, and Reporting Requirements.

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:

- a. The wet spray low water surfactant and enclosures shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].
- b. Records regarding the maintenance and use of the wet spray low water surfactant and enclosures shall be maintained [401 KAR 52:020, Section 10].
- c. See Section E., Source Control Equipment Requirements.

Emission Unit 13 - Lime/Limestone Crushing and Milling

Description:

Equipment includes: Crushing Operations
 Milling Operations
 (two ball mills)
Operating Rate: 260 tons/hour, each
Commenced construction: 1989

APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants**
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality

1. Operating Limitations:

N/A

2. Emission Limitations:

Fugitive emissions from building openings (except for vents as defined in 40 CFR 60.671) shall not exceed 7 percent opacity [40 CFR 60.672(e)(1)].

Compliance Demonstration Method:

Compliance with the opacity limit shall be demonstrated according to 4.a., **Specific Monitoring Requirements.**

3. Testing Requirements:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

a The permittee shall perform a qualitative visual observation of the opacity of emissions from each unit on a monthly basis and maintain a log of the observations. If visible emissions are seen, then an inspection shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate [401 KAR 52:020, Section 10].

b The permittee shall monitor the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

a The permittee shall maintain records of any Method 9 tests, if taken, and any corrective actions initiated according to 4.a, Specific Monitoring Requirements.

- b. The permittee shall maintain records of the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:

- a. The enclosure shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].
- b. Records regarding maintenance of the enclosure shall be maintained [401 KAR 52:020, Section 10].
- c. See Section E., Source Control Equipment Requirements.

Emission Unit 14 - Lime/Limestone Handling and Processing

EU #	Source	Description	Transfer Rate	Controls	Construction Commenced
14	Limestone Conveyor A	Limestone Unloader to Limestone Conveyor A	1,500 ton/hr	Enclosure	1990
14	Transfer Bin	Limestone Conveyor A Transfer to Limestone Conveyor B	1,500 ton/hr	Enclosure	1990
14	Limestone Conveyor B	Limestone Conveyor B to Inactive (outdoor pile) or Active (indoor pile)	1,500 ton/hr	Hoods	1990
14	Reclaim Hopper	From Inactive (outdoor pile) to Conveyor Belt C	1,500 ton/hr	Enclosure	1990
14	Limestone Conveyor C	From Active Indoor Pile or Inactive Pile Reclaim Hopper to Limestone Hopper	1,500 ton/hr	Hoods	1990
14	C2 Emergency Limestone Conveyor	From Emergency (outdoor pile) to C2 Emergency Conveyor	130 ton/hr	Hoods	1990
14	C3 Emergency Limestone Conveyor	From C2 Conveyor to C Conveyor	130 ton/hr	Hoods	1990

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Commented [PMZ36]: Suggest highlighting table. The KYEIS has Unit 14 divided into 3 main groups.

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APPLICABLE REGULATIONS:

401 KAR 60:005, 40 C.F.R. part 60 standards of performance for new stationary sources, incorporating by reference **40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants**

401 KAR 51:017, Prevention of Significant Deterioration of Air Quality

1. Operating Limitations:

N/A

2. Emission Limitations:

- a. Fugitive emissions from transfer points, conveyor belts, or any other listed emissions unit shall not exceed 10 percent opacity [40 CFR 60.672(b), referencing Table 3]. **Compliance Demonstration Method:** Compliance with opacity limits shall be demonstrated according to 3., **Testing Requirements.**
- b. Fugitive emissions from building openings (except for vents as defined in 40 CFR 60.671) shall not exceed 7 percent opacity [40 CFR 60.672(e)(1)]. **Compliance**

Demonstration Method: Compliance with opacity limits shall be demonstrated according to 3., **Testing Requirements.**

3. Testing Requirements:

The permittee shall determine fugitive emissions while all emission units are operating in accordance with EPA Reference Method 22, on an annual basis [401 KAR 52:020, Section 10].

4. Specific Monitoring Requirements:

The permittee shall monitor the amount of lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

The permittee shall maintain records of the lime and limestone processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements

a. The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards of 40 CFR 60.672, including reports of observations using Method 22 to demonstrate compliance, according to 40 CFR 60.676.

b. See Section F., Monitoring, Recordkeeping, and Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

a. The permittee shall inspect the conveyor equipment covers and shields weekly and make repairs as necessary to assure compliance with opacity limits [401 KAR 52:020, Section 10].

b. Partial enclosures on the limestone conveyor systems shall be used to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and standard operating practices [401 KAR 50:055, Section 2].

c. Records regarding maintenance of the enclosure shall be maintained [401 KAR 52:020, Section 10].

d. See Section E., Source Control Equipment Requirements.

Emission Unit 42 - Fly Ash Storage Silos and Dust Control Devices

Commented [MZP37]: KDAQ approved the addition of the silos Dec. 14, 2011 but they are still on the IA list. Comments have also been added to remove the silos from the IA list. They are included in the KYEIS.

Description:

Equipment includes: 1,200 and 5000 ton fly ash silos, and a 100 ton surge silo
Fly ash from Units 01 and 31 is sent to fly ash silo bins,
Then into either:
Dry bulk trailers with tractor, or
Pneumatically conveyed to covered barge, or
Sent to wet mixing tank to be sluiced to fly ash
pond or, to the CCR Landfill

Operating Rate: 180 tons/hour, whole system
Commenced construction: 2007

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

The permittee shall utilize a dust collector on fly ash silo bins and pneumatic conveyances as BACT for the 1,200 ton fly ash silo [401 KAR 51:017].

2. Emission Limitations:

- a. The permittee shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity [401 KAR 59:010, Section 3(1)]. **Compliance Demonstration Method:** Compliance with the opacity limit is demonstrated by 4., **Specific Monitoring Requirements.**
- b. Particulate matter emissions from the bin dust collectors shall not exceed $[17.31P^{0.16}]$ lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour [401 KAR 59:010]. **Compliance Demonstration Method:** Compliance is demonstrated by 7.a., **Specific Control Equipment Operating Conditions.**

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].

- b. The permittee shall monitor the amount of fly ash processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain a log of qualitative visual observations and all compliance tests. The permittee shall record each week, the date and time of each observation and the results of visible emissions monitoring. In case of exceedances, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate exceedances [401 KAR 52:020, Section 10].
- b. The permittee shall maintain records of the amount of fly ash processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- c. The permittee shall record each week the date, time and results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

See Section F., Monitoring, Recordkeeping, and Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

- a. The dust collector equipment shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].
- b. Records regarding maintenance of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E., Source Control Equipment Requirements.

Emission Unit 44 - Powdered Activated Carbon Silo & Dust Control Devices

Description:

Powdered Activated Carbon (PAC) Storage silo for mercury control for TC 2

Storage capacity: 150 tons
Loading Rate: 626 lb/hour
Commenced construction: 2007

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

The permittee shall utilize bin vent filters as BACT [401 KAR 51:017].

2. Emission Limitations:

- a. The permittee shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity [401 KAR 59:010, Section 3(1)]. **Compliance Demonstration Method:** Compliance with the opacity limit is demonstrated by 4., **Specific Monitoring Requirements**.
- b. Particulate matter emissions from the bin dust collectors shall not exceed [17.31P^{0.16}] lbs/hr based on a three (3)-hour average, where P is the material throughput rate in tons/hour [401 KAR 59:010]. **Compliance Demonstration Method:** Compliance is demonstrated by 7.a., **Specific Control Equipment Operating Conditions**.

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall monitor the amount of PAC processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the amount of PAC processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].

- b. The permittee shall record each week the date, time and the results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

See Section F., Monitoring, Recordkeeping, and Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

- a. The bin vent filters shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].
- b. Records regarding maintenance of the bin vent filters shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E., Source Control Equipment Requirements.

Emission Unit 45 - Sorbent Storage Silos

Description:

Sorbent Silo storage for Emission Unit 31 SO₃ control and conditioning boiler Unit 2 PJFF bags

Two Dry Sorbent storage silos
Storage Capacity: 275 tons each
System feed rate: 12,000 lb/hr
Controls: bin vent filters
Commenced construction: 2014

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

The permittee shall utilize a bin vent filter as BACT [401 KAR 51:017].

2. Emission Limitations:

- a. The permittee shall not cause to be discharged into the atmosphere from any of the above listed units emissions equal to or greater than twenty (20) percent opacity [401 KAR 59:010, Section 3(1)]. **Compliance Demonstration Method:** Compliance with the opacity limit is demonstrated by 4., **Specific Monitoring Requirements**.
- b. Particulate matter emissions from the bin dust collectors shall not exceed [17.31P^{0.16}] ~~lbs/lbs./hr~~ based on a three (3)-hour average, where P is the material throughput rate in tons/hour [401 KAR 59:010]. **Compliance Demonstration Method:** Compliance is demonstrated by 7.a., **Specific Control Equipment Operating Conditions**.

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

- a. The permittee shall monitor the amount of sorbent processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall perform a qualitative visual observation of the emissions from each emission unit on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the opacity shall be determined by EPA Reference Method 9 (40 CFR Appendix A) and if the opacity reading is greater than 20% then the permittee shall initiate an inspection of the equipment for any repairs or apply control measures as appropriate [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the amount of sorbent processed, in tons, on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall record each week the date, time and results of visible emissions monitoring. In case of an exceedance, the permittee shall record the reason (if known) and the measures taken to minimize or eliminate the exceedance [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

- a. The permittee shall notify the Division's Florence Regional Office at least thirty (30) days prior to use of sorbent materials in the Sorbent storage silo other than hydrated lime [401 KAR 52:020, Section 10].
- b. See Section F., Monitoring, Recordkeeping, and Reporting Requirements.

7. Specific Control Equipment Operating Conditions:

- a. The bin vent filters shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission units are in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].
- b. Records regarding maintenance of the control equipment shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E., Source Control Equipment Requirements.

Emission Unit 20 - Natural Draft Cooling Tower for EU 31

Description:

Operating Rate: 20.4 million gallons/hour
Controls: drift eliminators, 0.0005%
Commenced construction: September 1990; modified 2009

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions

401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

- a. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne [401 KAR 63:010, Section 3].
- b. Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3].

2. Emission Limitations:

N/A

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

The permittee shall monitor the total dissolved solids content of the circulating water on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the manufacturer's design of the drift eliminators [401 KAR 52:020, Section 10].
- b. The permittee shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content [401 KAR 59:005, Section 3(4)].

6. Specific Reporting Requirements:

See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:

- a. The drift eliminators shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission unit is in compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].

- b. Records regarding maintenance of the drift eliminators shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E., **Source Control Equipment Requirements**.

Emission Unit 41 - Mechanical Draft Cooling Tower

Description:

Linear, mechanical draft cooling tower (12 cells) for EU 01
Operating Rate: 17.7 million gallons/hour
Controls: drift eliminators, 0.0005%
Commenced construction: 2006

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions
401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

- a. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne [401 KAR 63:010, Section 3].
- b. Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3].
- c. The cooling tower shall utilize 0.0005% drift eliminators [401 KAR 51:017].

2. Emission Limitations:

N/A

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the cabinet in accordance with 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4.

4. Specific Monitoring Requirements:

The permittee shall monitor the total dissolved solids content of the circulating water on a monthly basis [401 KAR 52:020, Section 10].

5. Specific Record Keeping Requirements:

- a. The permittee shall maintain records of the manufacturer's design of the drift eliminators [401 KAR 52:020, Section 10].
- b. The permittee shall maintain records of the water circulation rate and monthly records of the circulating water total dissolved solids content [401 KAR 59:005, Section 3(4)].

6. Specific Reporting Requirements:

See Section F., **Monitoring, Recordkeeping, and Reporting Requirements.**

7. Specific Control Equipment Operating Conditions:

- a. The drift eliminators shall be maintained and operated in accordance with manufacturer's specifications and standard operating practices to ensure the emission unit is in

compliance with applicable requirements of 401 KAR 59:010 [401 KAR 50:055, Section 2].

- b. Records regarding maintenance of the drift eliminators shall be maintained [401 KAR 59:005, Section 3(4)].
- c. See Section E., **Source Control Equipment Requirements**.

Emission Unit 54 – CCR Landfill Operations and Haul Trucks

Commented [PMZ38]: Request to add CCR in the name to distinguish this from a sanitary landfill.

Description:

Coal Combustion Residuals (CCR) transportation and storage, material transport/vehicle movement of dry material

Commenced construction: ~~(Anticipated) 2nd Quarter September 2016~~

Commented [MZP39]: Added Construction Dates

Landfill

Commenced Construction: ~~(Anticipated) 4th Quarter September 2017~~2016

Controls: Wet Suppression by watering, cleaning and road maintenance

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive Emissions

NON-APPLICABLE REGULATIONS:

40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills

1. Operating Limitations:

- a. The permittee shall not accept any waste from the public. The CCR landfill shall not receive any material other than CCR materials gypsum and residual waste from the coal boilers. [to preclude 40 CFR 60, Subpart WWW].
- b. No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following [401 KAR 63:010, section 3(1)]:
 - i. Use, where possible, of water or chemicals for control of dust in the demolition of existing building or structures, construction operations, the grading of roads or the clearing of land;
 - ii. Application and maintenance of asphalt, oil, water or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts;
 - iii. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations;
 - iv. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
 - v. The maintenance of paved roadways in a clean condition;

Commented [PMZ40]: Requesting changes for clarification. Waste denotes hazardous. This is a CCR landfill. CCR materials are not limited to gypsum.

- vi. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.
- c. Discharge of visible fugitive dust emissions beyond the property line is prohibited [401 KAR 63:010, Section 3(2)].
- d. When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from the landfill or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air [401 KAR 63:010, Section 3(3)].
- e. At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. No one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway [401 KAR 63:010, Section 4].

2. **Emission Limitations:**

The permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the missions originate [401 KAR 63:010, Section 4].

Compliance Demonstration:

The permittee shall demonstrate compliance with this requirement by good procedures listed above, posting a 15 mile per hour sign for each ~~road-way~~roadway to be enforced as a speed limit, and meeting the requirements of sub-Section **4. Specific Monitoring Requirements.**

3. **Testing Requirements:**

N/A

4. **Specific Monitoring Requirements:**

- a. The permittee shall monitor actions taken (e.g. water usage for roads, enclosures are in good operating condition) to prevent the discharge of visible fugitive emissions beyond the property line for each unit on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall monitor the rate of material hauled (tons, VMT, gallons/hr, etc.) for each unit or vehicle on paved and unpaved roadways on a monthly basis [401 KAR 52:020, Section 10].
- c. ~~The permittee shall perform qualitative v~~Visual observations ~~shall be made each operating day~~ to determine if fugitive dust is becoming airborne from associated operations as a result of vehicular traffic or windy conditions on paved and unpaved roadways on a weekly basis. [401 KAR 52:020, Section 10].

Commented [MZP41]: Reg/Cabinet Provisions do not specify a frequency. We are monitor fugitive dust not opacity. This would address issues we have with performing readings on the weekends when minimal or no trucking operations are occurring.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain records of the visual observations and actions taken to prevent the discharge of visible fugitive emissions beyond the property line on a monthly basis [401 KAR 52:020, Section 10].
- b. The permittee shall maintain records of the processing rate (tons, VMT, gallons/hr, etc.) for each vehicle or unit for paved and unpaved roadways on a monthly basis [401 KAR 52:020, Section 10].
- c. Records regarding the maintenance and use of the air pollution control equipment (spray nozzles) shall be maintained [401 KAR 52:020, Section 10].
- d. The permittee shall maintain records of the calculations to determine the fugitive emissions from paved and unpaved roads with all data used in calculations. Emission calculations shall be based on the most current AP-42 emission factors for paved and unpaved roadways for that year.

6. Specific Reporting Requirements:

See Section F, Monitoring, Recordkeeping and Reporting Requirements.

7. Specific Control Requirements:

The associated air pollution control equipment for the emission unit shall be operated to maintain compliance with permitted emission limitations, consistent with manufacturer's specifications and standard operating practices [401 KAR 50:055].

SECTION C - INSIGNIFICANT ACTIVITIES

(THIS PAGE is based on R3 issued in Jan. 2020)

Commented [MZP42]: See DEP7007DD form for changes.

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. Although these activities are designated as insignificant the permittee shall comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

<u>Description</u>	<u>Generally Applicable Regulation</u>
1. Two station #2 fuel oil tanks, each 100,000 gallons (401 KAR 59:050). General recordkeeping requirements - 40 CFR 60.116b(a) and (b)	401 KAR 59:050 40 CFR 60.116 b(a) and (b)
2. Metal degreaser using parts washers (about 1gal/yr each)	NA
3. 3,000 gallon unleaded gasoline storage tank	NA
4. 3,000 gallon diesel storage tank	NA
5. 1,100 gallon used oil storage tank	NA
6. 1,100 gallon #1 fuel oil tank	NA
7. Wet fly ash collection system	401 KAR 59:010
8. Infrequent evaporation of boiler cleaning solutions	NA
9. Infrequent burning of De Minimis quantities of used oil for energy recovery	NA
10. Paved and Unpaved Roads	401 KAR 63:010
11. Gypsum Storage Piles	401 KAR 63:010
12. Coal (inactive outdoor) and Limestone Storage Piles (active indoor)	401 KAR 63:010
13. Bottom Ash and Debris Collection Basin	401 KAR 63:010
14. Bottom Ash Reclaim Operation	401 KAR 63:010
15. Bottom Ash Transport Vehicles	401 KAR 59:010
16. Maintenance Shop Activities	NA
17. Miscellaneous Water Storage Tanks	NA
18. Anhydrous Ammonia Storage Tanks	401 KAR 68
19. Gypsum Barge Load-out Facility	401 KAR 63:010

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

<u>Description</u>	<u>Generally Applicable Regulation</u>
20. Flyash Barge Load-out Facility	401 KAR 63:010
21. 5,000-ton flyash silo	401 KAR 63:010
22. Emergency Limestone Stockpile	401 KAR 63:010
23. FGD Additive Chemical tank (22,000 gallons)	NA
24. PAC Storage Silos (for TC1, For TC2 see EU44)	401 KAR 59:010
25. SO ₃ Mitigation System (for TC1)	
26. Fuel Additive Facility (two silos, conveyors, mix and feed tanks)	401 KAR 63:010
27. Fuel Additive Facility Propane tank (1000 gallon)	NA
28. Fuel Additive Facility Four Propane (indirect heat exchangers) water heaters (0.25 MMBtu/hr, each)	NA
29. CCR Handling or Transport, Bottom Ash Handling Process	401 KAR 63:010
30. CCR Handling or Transport, Flyash Handling Process	401 KAR 63:010
31. CCR Handling or Transport, Gypsum Processing (no crushing or grinding)	401 KAR 63:010
32. CCR Handling or Transport, Flyash Separator Units (4)	401 KAR 63:010
33. CCR Handling or Transport, Flyash Storage Silos (2)	401 KAR 63:010
34. Landfill truck Loading Station	401 KAR 63:010
35. CCR Handling or Transport, Bottom Ash Transport	401 KAR 63:010
36. Liquid Hg Control Additives	NA
37. (1) 4000 gallon #2 fuel oil tank	NA
38. (2) 300 gallon #2 fuel oil tanks	NA
39. Preheaters for High Pressure Natural Gas Regulating Station. Consists of (5) 0.77 MMBtu/hr. indirect heat exchangers and (1) 6000 Btu/hr catalytic heater for heating the pilot gas for the five indirect heat exchangers	NA
40. (1) 500 gallon Odorant Storage Tank	NA
41. Process water Hydrated Lime Silos	
42. Process Water System Solid Material Handling	
43. Process Water System Solid Material Piles (wind erosion)	
44. Process Water System Solids Material Transport Operation (Haul Trucks)	

Commented [PMZ43]: This silo should be moved to Section B/Unit 42. See Dec. 14, 2011 KDAQ approval.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.
2. Nitrogen oxides, sulfur dioxide, filterable particulate matter, opacity, mercury, volatile organic compounds, sulfuric acid mist, fluorides, lead, ~~hydrochloric acid~~, and carbon monoxide emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan, shall not exceed the respective limitations specified herein.
3. The consecutive twelve (12)-month rolling total emissions in tons per year from Emission Units 31, 32, and 33 shall be less than: 1,523 for NO_x, 3,264 for SO₂, 98 for VOC and 0.55 for lead [401 KAR 51:017].

Commented [MZP44]: This should have been deleted at the same time HCL was removed from Section D3; after the MATs requirements were added to the permit.

Compliance Demonstration Method:

The permittee shall gather data for each unit from CEMS if possible, or calculate monthly emissions for each unit based on emission factors from test data or AP-42 and operation records if necessary, and maintain a twelve (12)-month rolling total for the three units together [401 KAR 52:020, Section 10].

4 SOURCE-WIDE 40 CFR 63, SUBPART UUUUU REQUIREMENTS:

1. Operating Limitations:

- a. ~~On or after February 9, 2016, +~~ The applicable pollutants selected by the permittee from table 2b of Section D and measured by the 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.
- b. ~~No later than February 9, 2016, +~~ For Emission Unit 01, and ~~April 16, 2015, for~~ Emission Unit 31, the permittee shall conduct a tune-up of the burner and combustion controls at least each thirty-six (36) calendar months, or each forty-eight (48) calendar months if neural network combustion optimization software is employed, as specified in 40 CFR 63.10021(e) [Item 1. of Table 3. of 40 CFR 63, Subpart UUUUU].

Commented [PMZ45]: Suggest deleting out of date verbiage.

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Compliance Demonstration Method:

The permittee shall report the date of the first tune-up in hard copy to the Division's Florence Regional Office, and electronically to the U.S. EPA as required in 40 CFR 63.10031. Subsequent tune-ups shall only be reported electronically [40 CFR 63.10021(e)(9)(i)].

- c. ~~No later than February 9, 2016, +~~ For startup of Emission Unit 01, and ~~April 16, 2015, for startup of~~ Emission Unit 31, the permittee shall use clean fuels, either natural gas

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

or distillate oil or a combination of clean fuels for ignition, as defined in 40 CFR 63.10042. Once the permittee converts to firing coal, the permittee shall engage all of the applicable control technologies except dry scrubber and SCR. The permittee shall start dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU].

Startup means either the first-ever firing of fuel in Emission Units 01 or 31 for the purpose of producing electricity, or the firing of fuel in Emission Units 01 or 31 after a shutdown event for any purpose. Startup ends when any of the steam from Emission Units 01 or 31 is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup;

Or startup means the period in which operation of Emission Units 01 or 31 is initiated for any purpose. Startup begins with either the firing of any fuel in Emission Units 01 or 31 for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (other than the first-ever firing of fuel in Emission Units 01 or 31 following construction of Emission Units 01 or 31) or for any other purpose after a shutdown event. Startup ends four (4) hours after Emission Unit 01 or 31 makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. Any fraction of an hour in which startup occurs constitutes a full hour of startup.

[40 CFR 63.10042].

Compliance Demonstration Method:

The permittee shall keep records during periods of startup and shutdown. The permittee shall provide reports concerning activities and periods of startup, as specified in 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i) [Items 3. and 4. of Table 3. of 40 CFR 63, Subpart UUUUU].

- d. ~~No later than February 9, 2016, d~~During shutdown of Emission Unit 01, ~~and April 16, 2015, and~~ during shutdown of Emission Unit 31, the permittee shall operate all applicable control technologies. Shutdown ends when there is both no electricity being generated and no fuel being fired in the boiler [Item 4. of Table 3. of 40 CFR 63, Subpart UUUUU].

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Shutdown means the period in which cessation of operation of Emission Unit 01 or 31 is initiated for any purpose. Shutdown begins when Emission Unit 01 or 31 no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil-derived fuel is being fired in Emission Unit 01 or 31, whichever is earlier. Shutdown ends when Emission Unit 01 or 31 no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial,

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

heating, or cooling purposes, and no fuel is being fired in Emission Units 01 or 31. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. [40 CFR 63.10042].

Compliance Demonstration Method:

The permittee shall keep records during periods of startup and shutdown. The permittee shall provide reports concerning activities and periods of startup, as specified in 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i) [Items 3. and 4. of Table 3. of 40 CFR 63, Subpart UUUUU].

- e. ~~No later than February 9, 2016,~~ For Emission Unit 01, and ~~April 16, 2015,~~ for Emission Unit 31, at all times the permittee shall operate and maintain the coal-fired boilers, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.10000(b)].

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- f. ~~No later than February 9, 2016,~~ For Emission Unit 01, and ~~April 16, 2015,~~ for Emission Unit 31, the permittee shall operate all continuous monitoring systems (CMS) during startup [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU] and shutdown [Item 4. of Table 3. of 40 CFR 63, Subpart UUUUU].

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2. Emission Limitations:

- a. ~~No later than February 9, 2016,~~ For Emission Unit 01, and ~~April 16, 2015,~~ for Emission Unit 31, the permittee shall comply with all applicable emission limits under 40 CFR 63, Subpart UUUUU at all times except for periods that meet the definitions of startup and shutdown in 40 CFR 63, Subpart UUUUU [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU].

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Compliance Demonstration Method:

The permittee shall keep records during periods of startup and shutdown. The permittee shall provide reports concerning activities and periods of startup and shutdown, as specified in 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i) [Item 3. of Table 3. of 40 CFR 63, Subpart UUUUU].

- b. ~~No later than February 9, 2016,~~ For Emission Unit 01, and ~~April 16, 2015,~~ for Emission Unit 31, emissions from each unit shall not exceed the limitations in the table below [40 CFR 63 Subpart UUUUU, Table 2, Item 1]. ~~For Emission Unit 31, compliance shall be demonstrated no later than October 13, 2015 [40 CFR 63.9984(f)]. For Emission Unit 01, compliance shall be demonstrated no later than August 7, 2016.~~

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

Pollutant	Emission Limit	Compliance Demonstration
PM	0.030 lb/MMBtu OR 0.30 lb/MWh	Quarterly stack testing OR PM CEMS. [Table 5., Item 1; and Table 7. also 40 CFR 63.10005.]
OR		
Total non-HgHAP Metals	0.000050 lb/MMBtu OR 0.50 lb/GWh	Quarterly stack testing [Table 5., Item 2; and Table 7. also 40 CFR 63.10005.]
OR		
All of these: antimony	0.80 lb/TBtu OR 0.0080 lb/GWh	Quarterly stack testing for each [Table 5., Item 2; and Table 7. also 40 CFR 63.10005.]
arsenic	1.1 lb/TBtu OR 0.020 lb/GWh	
beryllium	0.20 lb/TBtu OR 0.0020 lb/GWh	
Cadmium	0.30 lb/TBtu OR 0.0030 lb/GWh	
Chromium	2.8 lb/TBtu OR 0.030 lb/GWh	
Cobalt	0.80 lb/TBtu OR 0.0080 lb/GWh	
Lead	1.2 lb/TBtu OR 0.020 lb/GWh	
Manganese	4.0 lb/TBtu OR 0.050 lb/GWh	

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

Pollutant	Emission Limit	Compliance Demonstration
Nickel	3.5 lb/TBtu OR 0.040 lb/GWh	
Selenium	5.0 lb/TBtu OR 0.060 lb/GWh	
AND		
HCl	0.0020 lb/MMBtu OR 0.020 lb/MWh	Quarterly stack testing OR HCl/Hf CEMS. [Table 5., Item 3; and Table 7. also 40 CFR 63.10005.]
OR		
SO2	0.20 lb/MMBtu OR 1.5 lb/MWh	SO2 CEMS. [Table 5., Item 3; and Table 7.]
AND		
Hg	1.2 lb/TBtu, OR 0.013 lb/GWh	Hg CEMS. [Table 5., Item 4; and Table 7. also 40 CFR 63.10005.] OR Sorbent Trap Monitoring. [Table 5., Item 4; and Table 7. also 40 CFR 63.10005.]

3. Testing Requirements:

~~No later than August 7, 2016, f~~For Emission Unit 01, and ~~October 13, 2015,~~ for Emission Unit 31, performance testing, which may include the use of CEMS in some cases, to demonstrate compliance with the requirements of 40 CFR 63, Subpart UUUUU shall be performed according to Table 5. of 40 CFR 63, Subpart UUUUU. Initial performance testing is required for all pollutants limited under 40 CFR 63, Subpart UUUUU [40 CFR 63.10000(c), 40 CFR 63.10011(a)]. Test protocols shall be submitted for the Division's approval a minimum of sixty (60) days prior to the scheduled test date [401 KAR 50:045, Section 1].

4. Recordkeeping Requirements:

~~No later than February 9, 2016, f~~For Emission Unit 01, and ~~April 16, 2015,~~ for Emission Unit 31, the permittee shall maintain records according to 40 CFR 63.10032 and 63.10033.

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5. Reporting Requirements:

a ~~No later than February 9, 2016, f~~For Emission Unit 01, and ~~April 16, 2015,~~ for Emission Unit 31, the permittee shall ~~begin the schedule of~~ submitting semi-annual compliance reports according to the requirements in 40 CFR 63.10031(b). The report shall contain

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

the information required in 40 CFR 63.10031(c)(1) through (4). If there are no deviations from any emission limitation (emission limit and operating limit) that applies to these units and there are no deviations from the requirements for work practice standards in Table 3. of 40 CFR 63, Subpart UUUUU that apply to these units, the reports shall contain a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMS's, including continuous emissions monitoring systems (CEMS) and operating parameter monitoring systems, were out-of-control as specified in 40 CFR 63.8(c)(7), the report shall contain a statement that there were no periods during which the CMS's were out-of-control during the reporting period. If there is a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report shall contain the information in 40 CFR 63.10031(d). If there were periods during which the CMS's, including CEMS and continuous parameter monitoring systems (CPMS) were out-of-control as specified in 40 CFR 63.8(c)(7), the report shall contain the information in 40 CFR 63.10031(e) [Table 8. of 40 CFR 63, Subpart UUUUU].

- b. Emission Unit 01 became [ameomes](#) subject to the 40 CFR 63, Subpart UUUUU requirements on February 8, 2016, and Emission Unit 31 became [ameomes](#) subject to 40 CFR 63, Subpart UUUUU on April 16, 2015. The permittee shall submit Notification of Compliance Status reports according to 40 CFR 63.10030(e) [40 CFR 63.10011(e)].

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.

REQUIREMENTS

1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
 - a. Date, place as defined in this permit, and time of sampling or measurements;
 - b. Analyses performance dates;
 - c. Company or entity that performed analyses;
 - d. Analytical techniques or methods used;
 - e. Analyses results; and
 - f. Operating conditions during time of sampling or measurement.
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five (5) years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b-IV-2 and 1a-8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
3. In accordance with the requirements of 401 KAR 52:020, Section 3(1)h, the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
 - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
 - b. To access and copy any records required by the permit;
 - c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the six (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 (6) months because the emission unit was not in operation [Sections 1b-V-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020, Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.
7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7 above) to the Regional Office listed on the front of this permit within thirty (30) days. Deviations from permit requirements, including those previously reported under F.7 above, shall be included in the semiannual report required by F.6 [Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
9. Pursuant to 401 KAR 52:020, Title V permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
 - a. Identification of the term or condition;
 - b. Compliance status of each term or condition of the permit;
 - c. Whether compliance was continuous or intermittent;
 - d. The method used for determining the compliance status for the source, currently and over the reporting period.
 - e. For an emissions unit that was still under construction or which has not commenced operation at the end of the twelve (12)-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

- f. The certification shall be submitted by January 30th of each year. Annual compliance certifications shall be sent to the following addresses:

Division for Air Quality	U.S. EPA Region 4
Florence Regional Office	Air Enforcement Branch
8020 Veterans Memorial Drive	Atlanta Federal Center
Suite 110	61 Forsyth St. SW
Florence, KY 41042	Atlanta, GA 30303-8960

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the Kentucky Emissions Inventory System (KYEIS) emissions survey is mailed to the permittee.

SECTION G - GENERAL PROVISIONS

1. General Compliance Requirements

- a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020, Section 3(1)(b), and a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act). Noncompliance with this permit is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- b. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
 - (1) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
 - (2) The Cabinet or the United States Environmental Protection Agency (U. S. EPA) determines that the permit shall be revised or revoked to assure compliance with the applicable requirements;
 - (3) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
 - (4) New requirements become applicable to a source subject to the Acid Rain Program.

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

- d. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Sections 1a- 7 and 8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- e. Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the Division [401 KAR 52:020, Section 3(1)(c)].

- f. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].
- g. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- h. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- i. All emission limitations and standards contained in this permit shall be enforceable as a practical matter. All emission limitations and standards contained in this permit are enforceable by the U.S. EPA and citizens except for those specifically identified in this permit as state-origin requirements. [Section 1a-15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- j. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within ninety (90) days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a-10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- k. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3) 2].
- l. This permit does not convey property rights or exclusive privileges [Section 1a-9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- m. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.
- n. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3) 4.].
- o. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3) 1.].

- p. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.
- q. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with:
 - (1) Applicable requirements that are included and specifically identified in this permit; and
 - (2) Non-applicable requirements expressly identified in this permit.

2. Permit Expiration and Reapplication Requirements

- a. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six (6) months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].
- b. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020, Section 8(2)].

3. Permit Revisions

- a. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the State Implementation Plan (SIP) or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
- b. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

4. Construction, Start-Up, and Initial Compliance Demonstration Requirements

No construction authorized by this permit. ~~The permit does incorporate Emission Units 55 and 56 which did not require a permit revision and were approved by letter dated June 30, 2016.~~

Commented [PMZ55]: KDAQ needs to update this section.

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 (45) 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.
- b. The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

7. Emergency Provisions

- a. Pursuant to 401 KAR 52:020, Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
 - (1) An emergency occurred and the permittee can identify the cause of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - (4) Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.1-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
 - (5) This requirement does not relieve the source of other local, state or federal notification requirements.
- b. Emergency conditions listed in General Condition G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].
- c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

8. Ozone Depleting Substances

- a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
 - (1) Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
 - (2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
 - (3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
 - (5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
 - (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

- b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

9. 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 10162
Fairfax, VA 22038

- b. If requested, submit additional relevant information to the Division or the U.S. EPA.

SECTION H - ALTERNATE OPERATING SCENARIOS

N/A

SECTION I - COMPLIANCE SCHEDULE

N/A

SECTION J - ACID RAIN PERMIT

1. Statutory and Regulatory Authority

In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality issues this permit pursuant to 401 KAR 52:020, Title V Permits, 401 KAR 52:060, Acid Rain Permits, and 40 CFR Part 76.

2. Permit Requirements:

This Acid Rain Permit covers Acid Rain Units 1, 2, and 5-10 (Emission Units 01, 31, and 25-30). Emission Units 01 and 31 are coal-fired base load electric generating units. Emission Units 25-30 are natural gas-fired combustion turbines. The Acid Rain Permit Application and NO_x Compliance Plan received on November 6, 2012 are hereby incorporated into and made part of this permit and the permittee shall comply with the standard requirements and special provisions set forth in the application [40 CFR 72.9(a)(2)].

3. Acid Rain Program Emission and Operating Limitations:

The applicable Acid Rain emission limitations for the permittee are set in 40 CFR 73.10, Table 2, 40 CFR 76.5, and 40 CFR 76.11 and they are tabulated in the table below:

Affected Unit: 1					
Year for SO ₂ Allowances*	2015	2016	2017	2018	2019
40 CFR Part 73.10	9,651*	9,651*	9,651*	9,651*	9,651*
NO _x Limits and Requirements					
<p>(i) Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves the NO_x emissions averaging plan for this unit. This plan is effective beginning calendar year 2015. Under this plan, determined in accordance with 40 CFR Part 75, this unit's NO_x emissions shall not exceed the annual average alternative contemporaneous emissions limitation (ACEL) of 0.40 lb/MMBtu.</p> <p>(ii) In addition, the actual BTU-weighted annual average NO_x emissions rate for the unit in the plan shall be less than or equal to the BTU-weighted annual average NO_x emissions rate for the same unit had it been operated, during the same period of time, in compliance with the applicable emissions limitations under 40 CFR Part 76.5, 76.6, or 76.7.</p> <p>(iii) If the designated representative demonstrates that the requirement of condition (ii) (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emissions limitation set in condition (i).</p> <p>In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.</p>					

Commented [PMZ56]: KDAQ needs to update tables in Section J

Affected Unit: 31					
Year for SO₂ Allowances*	2015	2016	2017	2018	2019
40 CFR Part 73.10	0*	0*	0*	0*	0*
NO_x Limits and Requirements					
N/A					

Affected Units: 25-30					
Year for SO₂ Allowances*	2015	2016	2017	2018	2019
40 CFR Part 73.10	0*	0*	0*	0*	0*
NO_x Limits and Requirements					
N/A					

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO₂ allowance allocations identified in this permit (See 40 CFR 72.84).

4. Compliance Plan:

- a. The permittee shall operate in compliance with the requirements contained in the Acid Rain application and incorporated into this permit [40 CFR 72.9].
- b. The Division approves the NO_x Average Plan submitted for these units for the NO_x Emissions Compliance Plan, effective for the duration of this permit. Under this plan, a unit's NO_x emissions shall not exceed the applicable annual average alternative contemporaneous emissions limitation (ACEL) listed in Subsection 3(a). [40 CFR 76]
 - (1) The actual Btu-weighted annual average NO_x emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NO_x emission rate for the same unit had it been operated, during the same period of time, in compliance with the individual applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7 and listed in Subsection 3(a).
 - (2) For each unit, if the designated representative demonstrates that the requirement of Subsection 4(b)(1) is met for the plan year, then the unit shall be deemed to be in compliance for the year with its ACEL and associated heat input limit in Subsection 3.
 - (3) If the designated representative cannot make the demonstration in Subsection 4(b)(1), according to 40 CFR 76.11(d)(1)(ii), for the plan year and if a unit fails to meet the annual average ACEL or has a heat input greater than the applicable value listed in

Subsection 3, then excess emissions of NO_x have occurred during the year for that unit.

- (4) As an alternative means of compliance demonstration, this emission unit shall not cause the system weighted average to exceed the applicable emission rate in accordance with 40 CFR 76.11(d)(B)(ii).

SECTION K – CLEAN AIR INTERSTATE RULE (CAIR)

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100, the Kentucky Energy and Environment Cabinet issues this permit pursuant to 401 KAR 52:020, Title V permits, 401 KAR 51:210, CAIR NOx Annual Trading Program, 401 KAR 51:220, CAIR NOx Ozone season trading program, and 401 KAR 51:230, CAIR SO₂ Trading Program.

2) CAIR Application

The CAIR application for eight electrical generating units was submitted to the Division and received on July 03, 2007. Requirements contained in that application are hereby incorporated into and made part of this CAIR Permit. Pursuant to 401 KAR 52:020, Section 3, the source shall operate in compliance with those requirements.

3) Comments, notes, justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

The Affected units are two pulverized coal-fired steam generators (Emission Units 1 and 31) and six (6) 150-megawatt natural gas fired simple cycle combustion turbines (Emission Units 25 through 30) used for peak electrical power production. Each unit has a nameplate capacity to generate greater than 25 megawatts of electricity, which is offered for sale. The units use coal and natural gas as fuel source, and are authorized as base load electric generating units.

4) Summary of Actions

The CAIR Permit is being issued as part of the Title V permit for this source. Public, affected states, and U.S. EPA review will follow procedures specified in 401 KAR 52:100.

A December 2008 court decision kept the requirements of CAIR in place temporarily but directed EPA to issue a new rule to implement Clean Air Act requirements concerning the transport of air pollution across state boundaries. On July 6, 2011, the U.S. EPA finalized the Cross-State Air Pollution Rule (CSAPR). On December 30, 2011, CSAPR was stayed prior to implementation. On April 29, 2014, the U.S. Supreme Court issued an opinion reversing an August 21, 2012 D.C. Circuit decision that had vacated CSAPR. Following the remand of the case to the D.C. Circuit, EPA requested that the court lift the CSAPR stay and toll the CSAPR compliance deadlines by three years. On October 23, 2014, the D.C. Circuit granted EPA's request. CSAPR Phase I implementation is now in place and replaces requirements under EPA's 2005 Clean Air Interstate Rule.

SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)

The TR subject unit(s), and the unit-specific monitoring provisions, at this source are identified in the following table(s). These unit(s) are subject to the requirements for the TR NO_x Annual Trading Program, TR NO_x Ozone Season Trading Program, and TR SO₂ Group 1 Trading Program.

Unit ID: 1, coal-fired EGU					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO ₂ monitoring) and 40 CFR part 75, subpart H (for NO _x monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO ₂	X				
NO _x	X				
Heat input	X				

Unit ID: 25-30, natural gas-fired simple cycle combustion turbines					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO ₂ monitoring) and 40 CFR part 75, subpart H (for NO _x monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO ₂		X			
NO _x	X				
Heat input		X			

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

Unit ID: 31, coal-fired EGU					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO ₂ monitoring) and 40 CFR part 75, subpart H (for NO _x monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO ₂	X				
NO _x	X				
Heat input	X				

1. The above description of the monitoring used by a unit does not change, create an exemption from, or otherwise affect the monitoring, recordkeeping, and reporting requirements applicable to the unit under 40 CFR 97.430 through 97.435 (TR NO_x Annual Trading Program), 97.530 through 97.535 (TR NO_x Ozone Season Trading Program), and 97.630 through 97.635 (TR SO₂ Group 1 Trading Program). The monitoring, recordkeeping and reporting requirements applicable to each unit are included below in the standard conditions for the applicable TR trading programs.
2. Owners and operators must submit to the Administrator a monitoring plan for each unit in accordance with 40 CFR 75.53, 75.62 and 75.73, as applicable. The monitoring plan for each unit is available at the EPA's website at <http://www.epa.gov/airmarkets/emissions/monitoringplans.html>.
3. Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR part 75, subpart E and 40 CFR 75.66 and 97.435 (TR NO_x Annual Trading Program), 97.535 (TR NO_x Ozone Season Trading Program), and/or 97.635 (TR SO₂ Group 1 Trading Program). The Administrator's response approving or disapproving any petition for an alternative monitoring system is available on the EPA's website at <http://www.epa.gov/airmarkets/emissions/petitions.html>.
4. Owners and operators that want to use an alternative to any monitoring, recordkeeping, or reporting requirement under 40 CFR 97.430 through 97.434 (TR NO_x Annual Trading Program), 97.530 through 97.534 (TR NO_x Ozone Season Trading Program), and/or 97.630 through 97.634 (TR SO₂ Group 1 Trading Program) must submit to the Administrator a

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

petition requesting approval of the alternative in accordance with 40 CFR 75.66 and 97.435 (TR NO_x Annual Trading Program), 97.535 (TR NO_x Ozone Season Trading Program), and/or 97.635 (TR SO₂ Group 1 Trading Program). The Administrator's response approving or disapproving any petition for an alternative to a monitoring, recordkeeping, or reporting requirement is available on the EPA's website at <http://www.epa.gov/airmarkets/emissions/petitions.html>.

5. The descriptions of monitoring applicable to the unit included above meet the requirement of 40 CFR 97.430 through 97.434 (TR NO_x Annual Trading Program), 97.530 through 97.534 (TR NO_x Ozone Season Trading Program), and 97.630 through 97.634 (TR SO₂ Group 1 Trading Program), and therefore minor permit modification procedures, in accordance with 40 CFR 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B), may be used to add or change this unit's monitoring system description.

TR NO_x Annual Trading Program requirements (40 CFR 97.406)

a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.413 through 97.418.

b) Emissions monitoring, reporting, and recordkeeping requirements.

- 1) The owners and operators, and the designated representative, of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.430 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.431 (initial monitoring system certification and recertification procedures), 97.432 (monitoring system out-of-control periods), 97.433 (notifications concerning monitoring), 97.434 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.435 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
- 2) The emissions data determined in accordance with 40 CFR 97.430 through 97.435 shall be used to calculate allocations of TR NO_x Annual allowances under 40 CFR 97.411(a)(2) and (b) and 97.412 and to determine compliance with the TR NO_x Annual emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.430 through 97.435 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

c) NO_x emissions requirements.

- 1) TR NO_x Annual emissions limitation.
 - i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall hold, in the source's compliance account, TR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.424(a) in an amount

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

- not less than the tons of total NO_x emissions for such control period from all TR NO_x Annual units at the source.
- ii) If total NO_x emissions during a control period in a given year from the TR NO_x Annual units at a TR NO_x Annual source are in excess of the TR NO_x Annual emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - A) The owners and operators of the source and each TR NO_x Annual unit at the source shall hold the TR NO_x Annual allowances required for deduction under 40 CFR 97.424(d); and
 - B) The owners and operators of the source and each TR NO_x Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.
- 2) TR NO_x Annual assurance provisions.
- i) If total NO_x emissions during a control period in a given year from all TR NO_x Annual units at TR NO_x Annual sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.425(b), of multiplying— (A) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and (B) The amount by which total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the state for such control period exceed the state assurance level.
 - ii) The owners and operators shall hold the TR NO_x Annual allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - iii) Total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the State during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the state NO_x Annual trading budget under 40 CFR 97.410(a) and the state's variability limit under 40 CFR 97.410(b).
 - iv) It shall not be a violation of 40 CFR part 97, subpart AAAAA or of the Clean Air Act if total NO_x emissions from all TR NO_x Annual units at TR NO_x Annual sources in the State during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the TR NO_x Annual

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

units at TR NO_x Annual sources in the state during a control period exceeds the common designated representative's assurance level.

- v) To the extent the owners and operators fail to hold TR NO_x Annual allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - B) Each TR NO_x Annual allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.

3) Compliance periods.

- i) A TR NO_x Annual unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.
- ii) A TR NO_x Annual unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.

4) Vintage of allowances held for compliance.

- i) A TR NO_x Annual allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_x Annual allowance that was allocated for such control period or a control period in a prior year.
- ii) A TR NO_x Annual allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_x Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

5) Allowance Management System requirements. Each TR NO_x Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart AAAAA.

6) Limited authorization. A TR NO_x Annual allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:

- i) Such authorization shall only be used in accordance with the TR NO_x Annual Trading Program; and
- ii) Notwithstanding any other provision of 40 CFR part 97, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

7) Property right. A TR NO_x Annual allowance does not constitute a property right.

d) Title V permit revision requirements.

- l) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_x Annual allowances in accordance with 40 CFR part 97, subpart AAAAA.

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.430 through 97.435, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.406(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

e) Additional recordkeeping and reporting requirements.

- 1) Unless otherwise provided, the owners and operators of each TR NO_x Annual source and each TR NO_x Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - i) The certificate of representation under 40 CFR 97.416 for the designated representative for the source and each TR NO_x Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.416 changing the designated representative.
 - ii) All emissions monitoring information, in accordance with 40 CFR part 97, subpart AAAAA.
 - iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_x Annual Trading Program.
- 2) The designated representative of a TR NO_x Annual source and each TR NO_x Annual unit at the source shall make all submissions required under the TR NO_x Annual Trading Program, except as provided in 40 CFR 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

f) Liability.

- 1) Any provision of the TR NO_x Annual Trading Program that applies to a TR NO_x Annual source or the designated representative of a TR NO_x Annual source shall also apply to the owners and operators of such source and of the TR NO_x Annual units at the source.
- 2) Any provision of the TR NO_x Annual Trading Program that applies to a TR NO_x Annual unit or the designated representative of a TR NO_x Annual unit shall also apply to the owners and operators of such unit.

g) Effect on other authorities.

No provision of the TR NO_x Annual Trading Program or exemption under 40 CFR 97.405 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_x Annual source or TR NO_x Annual unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

TR NO_x Ozone Season Trading Program Requirements (40 CFR 97.506)

a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.513 through 97.518.

b) Emissions monitoring, reporting, and recordkeeping requirements.

- 1) The owners and operators, and the designated representative, of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.530 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.531 (initial monitoring system certification and recertification procedures), 97.532 (monitoring system out-of-control periods), 97.533 (notifications concerning monitoring), 97.534 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.535 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
- 2) The emissions data determined in accordance with 40 CFR 97.530 through 97.535 shall be used to calculate allocations of TR NO_x Ozone Season allowances under 40 CFR 97.511(a)(2) and (b) and 97.512 and to determine compliance with the TR NO_x Ozone Season emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.530 through 97.535 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

c) NO_x emissions requirements.

- 1) TR NO_x Ozone Season emissions limitation.
 - i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_x Ozone Season allowances available for deduction for such control period under 40 CFR 97.524(a) in an amount not less than the tons of total NO_x emissions for such control period from all TR NO_x Ozone Season units at the source.
 - ii) If total NO_x emissions during a control period in a given year from the TR NO_x Ozone Season units at a TR NO_x Ozone Season source are in excess of the TR NO_x Ozone Season emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - A) The owners and operators of the source and each TR NO_x Ozone Season unit at the source shall hold the TR NO_x Ozone Season allowances required for deduction under 40 CFR 97.524(d); and
 - B) The owners and operators of the source and each TR NO_x Ozone Season unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart BBBBBB and the Clean Air Act.
- 2) TR NO_x Ozone Season assurance provisions.

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

- i) If total NO_x emissions during a control period in a given year from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_x Ozone Season allowances available for deduction for such control period under 40 CFR 97.525(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.525(b), of multiplying—
 - A) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and
 - B) The amount by which total NO_x emissions from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state for such control period exceed the state assurance level.
- ii) The owners and operators shall hold the TR NO_x Ozone Season allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
- iii) Total NO_x emissions from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the State NO_x Ozone Season trading budget under 40 CFR 97.510(a) and the state's variability limit under 40 CFR 97.510(b).
- iv) It shall not be a violation of 40 CFR part 97, subpart BBBBBB or of the Clean Air Act if total NO_x emissions from all TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the TR NO_x Ozone Season units at TR NO_x Ozone Season sources in the state during a control period exceeds the common designated representative's assurance level.
- v) To the extent the owners and operators fail to hold TR NO_x Ozone Season allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - B) Each TR NO_x Ozone Season allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart BBBBBB and the Clean Air Act.

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

- 3) Compliance periods.
 - i) A TR NO_x Ozone Season unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of May 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.530(b) and for each control period thereafter.
 - ii) A TR NO_x Ozone Season unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.530(b) and for each control period thereafter.
 - 4) Vintage of allowances held for compliance.
 - i) A TR NO_x Ozone Season allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_x Ozone Season allowance that was allocated for such control period or a control period in a prior year.
 - ii) A TR NO_x Ozone Season allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_x Ozone Season allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
 - 5) Allowance Management System requirements. Each TR NO_x Ozone Season allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart BBBBBB.
 - 6) Limited authorization. A TR NO_x Ozone Season allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - i) Such authorization shall only be used in accordance with the TR NO_x Ozone Season Trading Program; and
 - ii) Notwithstanding any other provision of 40 CFR part 97, subpart BBBBBB, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
 - 7) Property right. A TR NO_x Ozone Season allowance does not constitute a property right.
- d) Title V permit revision requirements.**
- 1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_x Ozone Season allowances in accordance with 40 CFR part 97, subpart BBBBBB.
 - 2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.530 through 97.535, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.506(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

e) Additional recordkeeping and reporting requirements.

- 1) Unless otherwise provided, the owners and operators of each TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - i) The certificate of representation under 40 CFR 97.516 for the designated representative for the source and each TR NO_x Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.516 changing the designated representative.
 - ii) All emissions monitoring information, in accordance with 40 CFR part 97, subpart BBBBBB.
 - iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_x Ozone Season Trading Program.
- 2) The designated representative of a TR NO_x Ozone Season source and each TR NO_x Ozone Season unit at the source shall make all submissions required under the TR NO_x Ozone Season Trading Program, except as provided in 40 CFR 97.518. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

f) Liability.

- 1) Any provision of the TR NO_x Ozone Season Trading Program that applies to a TR NO_x Ozone Season source or the designated representative of a TR NO_x Ozone Season source shall also apply to the owners and operators of such source and of the TR NO_x Ozone Season units at the source.
- 2) Any provision of the TR NO_x Ozone Season Trading Program that applies to a TR NO_x Ozone Season unit or the designated representative of a TR NO_x Ozone Season unit shall also apply to the owners and operators of such unit.

g) Effect on other authorities.

No provision of the TR NO_x Ozone Season Trading Program or exemption under 40 CFR 97.505 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_x Ozone Season source or TR NO_x Ozone Season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

TR SO₂ Group 1 Trading Program requirements (40 CFR 97.606)

a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.613 through 97.618.

b) Emissions monitoring, reporting, and recordkeeping requirements.

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

- 1) The owners and operators, and the designated representative, of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.630 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.631 (initial monitoring system certification and recertification procedures), 97.632 (monitoring system out-of-control periods), 97.633 (notifications concerning monitoring), 97.634 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.635 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
 - 2) The emissions data determined in accordance with 40 CFR 97.630 through 97.635 shall be used to calculate allocations of TR SO₂ Group 1 allowances under 40 CFR 97.611(a)(2) and (b) and 97.612 and to determine compliance with the TR SO₂ Group 1 emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.630 through 97.635 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.
- c) SO₂ emissions requirements.**
- 1) TR SO₂ Group 1 emissions limitation.
 - i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall hold, in the source's compliance account, TR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.624(a) in an amount not less than the tons of total SO₂ emissions for such control period from all TR SO₂ Group 1 units at the source.
 - ii) If total SO₂ emissions during a control period in a given year from the TR SO₂ Group 1 units at a TR SO₂ Group 1 source are in excess of the TR SO₂ Group 1 emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - A) The owners and operators of the source and each TR SO₂ Group 1 unit at the source shall hold the TR SO₂ Group 1 allowances required for deduction under 40 CFR 97.624(d); and
 - B) The owners and operators of the source and each TR SO₂ Group 1 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation 40 CFR part 97, subpart CCCCC and the Clean Air Act.
 - 2) TR SO₂ Group 1 assurance provisions.
 - i) If total SO₂ emissions during a control period in a given year from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such SO₂ emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

for the owners and operators of such group) TR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.625(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.625(b), of multiplying—

- A) The quotient of the amount by which the common designated representative's share of such SO₂ emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such SO₂ emissions exceeds the respective common designated representative's assurance level; and
 - B) The amount by which total SO₂ emissions from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state for such control period exceed the state assurance level.
- ii) The owners and operators shall hold the TR SO₂ Group 1 allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - iii) Total SO₂ emissions from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state during a control period in a given year exceed the state assurance level if such total SO₂ emissions exceed the sum, for such control period, of the state SO₂ Group 1 trading budget under 40 CFR 97.610(a) and the state's variability limit under 40 CFR 97.610(b).
 - iv) It shall not be a violation of 40 CFR part 97, subpart CCCCC or of the Clean Air Act if total SO₂ emissions from all TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total SO₂ emissions from the TR SO₂ Group 1 units at TR SO₂ Group 1 sources in the state during a control period exceeds the common designated representative's assurance level.
 - v) To the extent the owners and operators fail to hold TR SO₂ Group 1 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - B) Each TR SO₂ Group 1 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart CCCCC and the Clean Air Act.
- 3) Compliance periods.
- i) A TR SO₂ Group 1 unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.
 - ii) A TR SO₂ Group 1 unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.

- 4) Vintage of allowances held for compliance.
 - i) A TR SO₂ Group 1 allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR SO₂ Group 1 allowance that was allocated for such control period or a control period in a prior year.
 - ii) A TR SO₂ Group 1 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR SO₂ Group 1 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- 5) Allowance Management System requirements. Each TR SO₂ Group 1 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart CCCCC.
- 6) Limited authorization. A TR SO₂ Group 1 allowance is a limited authorization to emit one ton of SO₂ during the control period in one year. Such authorization is limited in its use and duration as follows:
 - i) Such authorization shall only be used in accordance with the TR SO₂ Group 1 Trading Program; and
 - ii) Notwithstanding any other provision of 40 CFR part 97, subpart CCCCC, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- 7) Property right. A TR SO₂ Group 1 allowance does not constitute a property right.

d) Title V permit revision requirements.

- 1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR SO₂ Group 1 allowances in accordance with 40 CFR part 97, subpart CCCCC.
- 2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.630 through 97.635, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR part 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.606(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

e) Additional recordkeeping and reporting requirements.

- 1) Unless otherwise provided, the owners and operators of each TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - i) The certificate of representation under 40 CFR 97.616 for the designated representative for the source and each TR SO₂ Group 1 unit at the source and all documents that demonstrate the truth of the statements in the certificate of

**SECTION L – CROSS-STATE AIR POLLUTION RULE (CSAPR)
(CONTINUED)**

representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.616 changing the designated representative.

- ii) All emissions monitoring information, in accordance with 40 CFR part 97, subpart CCCCC.
 - iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO₂ Group 1 Trading Program.
- 2) The designated representative of a TR SO₂ Group 1 source and each TR SO₂ Group 1 unit at the source shall make all submissions required under the TR SO₂ Group 1 Trading Program, except as provided in 40 CFR 97.618. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.
- f) Liability.**
- 1) Any provision of the TR SO₂ Group 1 Trading Program that applies to a TR SO₂ Group 1 source or the designated representative of a TR SO₂ Group 1 source shall also apply to the owners and operators of such source and of the TR SO₂ Group 1 units at the source.
 - 2) Any provision of the TR SO₂ Group 1 Trading Program that applies to a TR SO₂ Group 1 unit or the designated representative of a TR SO₂ Group 1 unit shall also apply to the owners and operators of such unit.
- g) Effect on other authorities.**
- No provision of the TR SO₂ Group 1 Trading Program or exemption under 40 CFR 97.605 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR SO₂ Group 1 source or TR SO₂ Group 1 unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

Emission Unit 57 NG Process Heater/Preheater for CT 25 & 26 (LG&E 5 & 6)
Emission Unit 58 NG Process Heater/Preheater for CT 27 & 28 (LG&E 7 & 8)
Emission Unit 59 NG Process Heater/Preheater for CT 29 & 30 (LG&E 9 & 10)

Description:

Emission Unit	Maximum Heat Input (MMBtu/hr)	Fuel	Construction Commenced
57	8.08	Natural Gas	2001
58	8.0	Natural Gas	2003
59	8.0	Natural Gas	2003

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Commented [PMZ1]: Typo, the heat input of 57 is 8.8, not 8.0. Units 58 and 59 are both 8.0.

APPLICABLE REGULATIONS:

401 KAR 59: 015, *New indirect heat exchangers*

401 KAR 63:002, Section 2(4)(iiii), 40 C.F.R. 63.7480 to 63.7575, Tables 1 to 13 (**Subpart DDDDD**), *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*

1. Operating Limitations:

- a. The permittee shall conduct a tune-up of the process heaters biennially (**every 2-years**) as specified in 40 CFR 63.7540(a)(10)(i) through (vi). These units are not subject to the emission limits in 40 CFR 63, Subpart DDDDD Table 1 and 2 or 11 through 13 or the operating limits in 40 CFR 63, Subpart DDDDD Table 4 [40 CFR 63.7500(e), 40 CFR 63.7540(a)(11) and 40 CFR 63, Table 3 2.]
 - i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; [40 CFR 63.7540(a)(10)(i)]
 - ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; [40 CFR 63.7540(a)(10)(ii)]
 - iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown); [40 CFR 63.7540(a)(10)(iii)]
 - iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the units are subject; [40 CFR 63.7540(a)(10)(iv)]
 - v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis

Commented [PMZ2]: Request adding this for clarification to alleviate confusion between two times/year and every 2-years.

before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and [40 CFR 63.7540(a)(10)(v)]

- vi. Maintain on-site and submit, if requested by the Administrator, a report containing the information in 40 CFR 63.7540(a)(10)(vi)(A) through (C), [40 CFR 63.7540(a)(10)(vi)]
 - (1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; [40 CFR 63.7540(a)(10)(vi)(A)]
 - (2) A description of any corrective actions taken as part of the tune-up; and [40 CFR 63.7540(a)(10)(vi)(B)]
 - (3) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. [40 CFR 63.7540(a)(10)(vi)(C)]
- b. The permittee shall have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in 40 CFR 63, Table 3, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in 40 CFR 63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment shall include the following with extent of the evaluation for 40 CFR 63, Table 3 4. a. through e. appropriate for the on-site technical hours listed in 40 CFR 63.7575; [40 CFR 63, Subpart DDDDD, Table 3 4.]
 - i. A visual inspection of the boiler or process heater system. [40 CFR 63, Subpart DDDDD, Table 3 4. a.]
 - ii. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating, and maintenance procedures, and unusual operating constraints. [40 CFR 63, Subpart DDDDD, Table 3 4. b.]
 - iii. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the permittee [40 CFR 63, Subpart DDDDD, Table 3 4. c.]
 - iv. A review of available architectural and engineering plans, facility operation, and maintenance procedures and logs, and fuel usage. [40 CFR 63, Subpart DDDDD, Table 3 4. d.]

- v. A review of the facility energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified. [40 CFR 63, Subpart DDDDD, Table 3 4. e.]
 - vi. A list of cost-effective energy conservation measures that are within the facility's control [40 CFR 63, Subpart DDDDD, Table 3 4. f.]
 - vii. A list of the energy savings potential of the energy conservation measures identified. [40 CFR 63, Subpart DDDDD, Table 3 4. g.]
 - viii. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. [40 CFR 63, Subpart DDDDD, Table 3 4. h.]
- c. During a startup period or shutdown period, the permittee shall comply with the work practice standards established in 401 KAR 59:015, Section 7. The permittee shall meet the work practice standards established in 40 CFR Part 63, Table 3 to Subpart DDDDD, as established in 401 KAR 63:002, Section 2(4)(iiii) [401 KAR 59:015, Section 7 and 401 KAR 59:015, Section 7(2)(a)]

2. Emission Limitations:

- a. The permittee shall not cause emissions of particulate matter in excess of 0.10 lb/MMBtu [401 KAR 59:015, Section 4(1)(b)]
- b. Visible emissions shall not exceed 20 percent opacity except: [401 KAR 59:015, Section 4(2)]
 - ~~i. A maximum of 27 percent opacity shall be permissible for not more than one 6-minute period in any 60 consecutive minutes [401 KAR 59:015, Section 4(2)(a)].~~
 - ~~ii. 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 [401 KAR 59:015, Section 4(2)(b)].~~
- c. Emissions of sulfur dioxide from each unit shall not exceed 0.8 lb/MMBtu [401 KAR 59:015, Section 5(1)(b)1.].

Commented [PMZ3]: These units are process heaters, not boilers. They are assumed to be in compliance with opacity while burning NG.

Compliance Demonstration Method:

These units are assumed to be in compliance with the applicable 401 KAR 59:015 particulate matter, sulfur dioxide, and opacity standards while burning natural gas. [401 KAR 50:045, Section 4(3)(c)1.]

- d. See Section D., **Source Emission Limitations and Testing Requirements.**

3. Testing Requirements:

Testing shall be conducted at such times as may be requested by the Cabinet. [401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 4]

4. **Specific Monitoring Requirements:**

The permittee shall monitor natural gasfuel usage (MMscf) for each unit on a monthly basis [401 KAR 52:020, Section 10]

Commented [PMZ4]: These units, as noted in the description, are NG process heaters/preheaters.

5. **Specific Record Keeping Requirements:**

The permittee shall maintain records of natural gasfuel usage (MMscf) for each unit on a monthly basis [401 KAR 52:020, Section 10]

6. **Specific Reporting Requirements:**

- a. The permittee shall submit a biennial compliance report as specified in 40 CFR 63.7550(b)(1) through (4). [40 CFR 63.7550(b)]
 - i. The first compliance report shall cover the period beginning on the compliance date that is specified for each process heater in 40 CFR 63.7495 and ending on December 31, within 2 years after the compliance date that is specified for the source in 40 CFR 63.7495. [40 CFR 63.7550(b)(1)]
 - ii. The first biennial compliance report shall be postmarked or submitted no later than January 31. [40 CFR 63.7550(b)(2)]
 - iii. Biennial compliance reports shall cover the applicable 2-year periods from January 1 to December 31. [40 CFR 63.7550(b)(3)]
 - iv. Biennial compliance reports shall be postmarked or submitted no later than January 31. [40 CFR 63.7550(b)(4)]
 - v. The permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in 40 CFR 63.7550(b)(1) through (4). [40 CFR 63.7550(b)(5)]
- b. The compliance report shall contain:
 - i. Information required in 40 CFR 63.7750(c)(1) through (5); and
 - ii. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to the permit and there are no deviations from the requirements for work practice standards for periods of startup and shutdown in 40 CFR 63, Subpart DDDDD Table 3 that apply, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period.
 - iii. If you have a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report shall contain the information in 40 CFR 63.7550(d)
- c. See Section F., **Monitoring, Recordkeeping, and Reporting Requirements**

Trimble Permit V-14-017 R2 Suggested Edits [Compatibility Mode]

Main document changes and comments

Page 2: Deleted **Marlene Zeckner Pardee** **3/2/2020 8:50:00 AM**

(no later than February 9, 2016)

Page 2: Inserted **Pardee, Marlene Zeckner** **2/5/2020 11:34:00 AM**

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Page 2: Deleted **Pardee, Marlene Zeckner** **2/5/2020 11:34:00 AM**

, no later than April 16, 2015

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Page 2: Deleted **Pardee, Marlene Zeckner** **2/5/2020 11:35:00 AM**

The permittee shall demonstrate

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Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

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compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)], except for the tune-up requirement [40 CFR 63.10005(a)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016)

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April 16, 2015 [40 CFR 63.9984(b)]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016)

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The permittee shall submit within six (6) months of the issuance date of final permit V- 14-017 a schedule, to conduct a performance test for particulate matter (PM) within one year of issuance of this permit

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Why is the requirement 1 year for TC2 and 6-months for TC1? Test protocols are required to be submitted at least 60-days prior to the scheduled test date per 401 KAR 50:045, Section 1. Verbiage has been changed for clarification and to address permit testing requirements for overlapping renewal permits.

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The permittee shall submit a schedule according to 401 KAR 50:045 to test for particulate matter (PM) to demonstrate compliance with 40 CFR 60, Subpart D. Performance testing shall be conducted at a minimum of every five (5) years

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. Performance testing shall be conducted at a minimum of every five (5) years

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, no later than April 16, 2015. The permittee shall

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demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred eighty (180) days after February 9, 2016 (August 7, 2016)

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f. Test Summary Table:

Emission	Test Method	Frequency
PM	Method 5B or Other Acceptable Test Methods	Minimum of Every 5-Years.
Opacity	3-hr. Method 9	Varies, Minimum of Annual

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Page 4: Commented [MZP5] Marlene Zeckner Pardee 2/19/2020 4:19:00 PM

LG&E requests that a table of the emission tests be add

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Page 5: Inserted Pardee, Marlene Zeckner 2/5/2020 11:54:00 AM

If you choose to rely on paragraph (2) of the definition of "startup" in [§ 63.10042](#) for your [EGU](#) the

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Page 5: Commented [PMZ6] Pardee, Marlene Zeckner 2/5/2020 11:25:00 AM

TC currently relies on definition #1 instead of #2. Request adding this for clarification. Suggested verbiage is from the reg.

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, no later than April 16, 2015. The

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Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.

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permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016)

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, no later than April 16, 2015. The permittee shall demonstrate compliance

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no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015) [40 CFR 63.9984(f)]. However, the Division has granted a compliance extension until February 9, 2016 for this unit [Compliance Extension Letter, April 4, 2014]. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after February 9, 2016 (August 7, 2016)		
Page 10: Inserted	Pardee, Marlene Zeckner	2/5/2020 11:59:00 AM
a If using fuel oil, o		
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O		
Page 10: Commented [PMZ9]	Pardee, Marlene Zeckner	2/5/2020 11:59:00 AM
Adding for clarification. Unit currently uses NG.		
Page 11: Commented [MZP10]	Marlene Zeckner Pardee	2/28/2020 3:15:00 PM
LG&E requests that one of the CO limits be removed. See note 1. Reg only discussed 8-hr. Both are the same limits except for hour averages. Could we say that meeting the 8-hr. of 3,471/hr. (8 hr. avg) meets the 0.5 lbs/MMBtu (3-hr avg) limit? (0.5 lb./MMBtu * 6942 MMBtu/hr. = 3471 lb./hr.; 3471 lb./hr. * hr./6942 MMBtu = 0.5 lb./hr.)		
Page 11: Inserted	Marlene Zeckner Pardee	2/28/2020 3:12:00 PM
Compliance with the 8-hr. avg. of 3,471 lb./hr., is considered compliance with the 3-hr. rolling average of 0.5 lbs./MMBtu.		
Page 11: Commented [PMZ11]	Pardee, Marlene Zeckner	2/10/2020 7:49:00 AM
LG&E requests that one of the CO limits be removed. (0.5 lb./MMBtu * 6942 MMBtu/hr. = 3471 lb./hr.; 3471 lb./hr. * hr./6942 MMBtu = 0.5 lb./hr.)		
Page 11: Inserted	Marlene Zeckner Pardee	2/20/2020 8:17:00 AM
Page 11: Inserted	Marlene Zeckner Pardee	2/19/2020 7:40:00 AM
(CAM indicator – 2.78 lb./MWhr, 3-hr. rolling average)		
Page 11: Inserted	Marlene Zeckner Pardee	2/19/2020 7:40:00 AM
CAM		
Page 13: Inserted	Marlene Zeckner Pardee	2/19/2020 7:49:00 AM

(CAM indicator – 1.738 lb./MWhr, 3-hr. rolling average)

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CAM

Page 14: Inserted **Pardee, Marlene Zeckner** **2/5/2020 12:06:00 PM**

a.

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, no later than April 16, 2015. The permittee shall

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demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015)

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Within the first year of the life of the permit,

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Page 14: Commented [PMZ13] **Pardee, Marlene Zeckner** **2/5/2020 12:07:00 PM**

Added for clarification and to address permit testing requirements for overlapping renewal permits. Test protocols are required to be submitted at least 60-days prior to the scheduled test date per 401 KAR 50:045, Section 1.

Page 14: Inserted **Marlene Zeckner Pardee** **2/28/2020 3:03:00 PM**

according to 401 KAR 50:045 to test for particulate matter (PM) smaller than 10 microns to demonstrate compliance with 401 KAR 51:017. Testing shall be conducted at a minimum of every five (5) years [401 KAR 50:045].

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Page 14: Deleted **Marlene Zeckner Pardee** **2/28/2020 3:07:00 PM**

according to 401 KAR 50:045 to test for particulate matter smaller than 10 microns to demonstrate compliance with 401 KAR 51:017.

Page 14: Inserted **Marlene Zeckner Pardee** **2/27/2020 7:55:00 AM**

. Performance testing shall be conducted at a minimum of every five (5) years.

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Page 14: Inserted **Pardee, Marlene Zeckner** **2/5/2020 12:08:00 PM**

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, no later than April 16, 2015. The permittee shall

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demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015)

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Page 14: Inserted **Marlene Zeckner Pardee** **2/19/2020 2:15:00 PM**

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e. Testing Emission Summary Table:

Emission	Test Method	Frequency
PM/PM(10) filterable	Method 5B or Other Acceptable Test Methods	Minimum of Every 5-Years

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Monitoring the CO 8-hr. average. of 3,471 lb./hr. limit covers the monitoring requirement of the 3-hr. rolling average of 0.5 lbs./MMBtu CO limit.

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Until April 16, 2015, to meet the monitoring requirement for mercury, the permittee shall use

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Suggest deleting.....out of date condition.

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a CEM, mercury monitor, or equivalent EPA approved method [401 KAR 52:020, Section 10].

Page 17: Inserted Pardee, Marlene Zeckner 2/5/2020 11:23:00 AM

If you choose to rely on paragraph (2) of the definition of “startup” in

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Page 17: Inserted Pardee, Marlene Zeckner 2/5/2020 11:22:00 AM

§ 63.10042 for your

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Page 17: Commented [PMZ16] Pardee, Marlene Zeckner 2/5/2020 11:25:00 AM

TC currently relies on definition #1 instead of #2. Request adding this for clarification.

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Page 17: Inserted Marlene Zeckner Pardee 3/2/2020 2:15:00 PM

or WESP parameters

Page 17: Inserted Marlene Zeckner Pardee 2/19/2020 7:26:00 AM

OR

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Page 17: Commented [MZP17] Marlene Zeckner Pardee 2/17/2020 10:36:00 AM

A SO₂ CEM OR ,
WESP liquid flow rate, voltages, secondary current, OR,
other operating parameters, shall be monitored.

Page 17: Inserted Marlene Zeckner Pardee 3/2/2020 11:07:00 AM

OR

Page 17: Deleted Marlene Zeckner Pardee 3/2/2020 11:07:00 AM

and/or

Page 17: Inserted Marlene Zeckner Pardee 2/19/2020 7:26:00 AM

other

Page 18: Inserted Marlene Zeckner Pardee 3/2/2020 11:21:00 AM

Page 18: Inserted Marlene Zeckner Pardee 3/2/2020 11:07:00 AM

OR

Outside of acceptable WESP ranges
Secondary voltage- 50-60 kV
Secondary current- 7-350 mA
Flow- 180-290 gpm
Or most recent performance test ranges/limits.

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[Semi-Annual Monitoring Report, submitted July 25, 2014]		
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Semi-Annual Monitoring Report, submitted July 25, 2014]		
Page 18: Inserted	Marlene Zeckner Pardee	3/2/2020 11:22:00 AM
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Page 18: Deleted	Marlene Zeckner Pardee	2/17/2020 1:55:00 PM
WFGD/		
Page 18: Inserted	Marlene Zeckner Pardee	2/17/2020 1:55:00 PM
SO2 CEM and		
Page 18: Commented [MZP18]	Marlene Zeckner Pardee	2/17/2020 1:50:00 PM
Typo - This should be just the WESP for H2SO4. BACT for H2SO4 is the WESP as noted in original/2014 CAM plan.		
Page 18: Deleted	Marlene Zeckner Pardee	2/17/2020 1:54:00 PM
/WESP		
Page 18: Inserted	Marlene Zeckner Pardee	2/17/2020 1:54:00 PM
and SO2 CEM		
Page 18: Commented [MZP19]	Marlene Zeckner Pardee	2/17/2020 2:27:00 PM
Typo - This should be just the WFGD for fluoride. BACT for Fluoride is the WFGD as noted in original/2014 CAM plan.		
Page 18: Deleted	Pardee, Marlene Zeckner	2/5/2020 1:29:00 PM
, no later		
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Page 18: Commented [PMZ20]	Pardee, Marlene Zeckner	2/5/2020 1:30:00 PM
Suggest deleting out of date verbiage. Present and future requirement is to comply with 40 CFR 63, Subpart UUUUU.		
Page 18: Deleted	Pardee, Marlene Zeckner	2/5/2020 1:29:00 PM
than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015)		
a.		

Page 20: Deleted Pardee, Marlene Zeckner 2/5/2020 1:30:00 PM

, no later than April 16, 2015. The permittee shall demonstrate compliance

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Page 20: Commented [PMZ21] Pardee, Marlene Zeckner 2/5/2020 1:31:00 PM

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no later than one-hundred-eighty (180) days after April 16, 2015 (October 13, 2015)

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Page 21: Inserted Marlene Zeckner Pardee 2/20/2020 8:31:00 AM

Reporting of the 3,471 lb./hr., 8-hr. average CO limit, covers the reporting requirement for the 3-hr. rolling average of 0.5 lbs./MMBtu CO limit.

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Page 21: Inserted Marlene Zeckner Pardee 2/20/2020 8:29:00 AM

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whether that day falls before or after April 16

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Page 22: Commented [PMZ22] Pardee, Marlene Zeckner 2/5/2020 1:33:00 PM

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, no later than April 16, 2015. The permittee shall demonstrate compliance no later than one-hundred-eighty (180) days after April 16, 2015

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Page 22: Commented [PMZ23] Pardee, Marlene Zeckner 2/5/2020 1:34:00 PM

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(October 13, 2015)

a.

Page 24: Commented [MZP24] Pardee, Marlene Zeckner 7/10/2019 8:51:00 AM

Add (a)(12).....40 CFR 63.7540(a)(12).

Delete outdated verbiage.

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The initial tune-up shall be completed no later than January 31, 2016 [40 CFR 63.7495(b)].

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, if used,

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Page 25: Commented [PMZ25] Pardee, Marlene Zeckner 2/5/2020 1:40:00 PM

Added for clarification.

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The auxiliary steam boiler, except for testing purposes, shall only operate during periods when Emission Unit 01 or Emission Unit 31 are operating at less than 50 percent load [401 KAR 52:020, Section 10].

Compliance Demonstration Method:

Compliance shall be demonstrated by 6.d., Specific Reporting Requirements.

Page 25: Commented [PMZ26] Pardee, Marlene Zeckner 2/5/2020 1:45:00 PM

LG&E requests that this be removed. This was added when the Aux Boiler was initially added and before the DDDDD MACT was final. Since the original permitting, the unit has taken limits to operate as a limited use unit. We now have a federally enforceable limit that the fuel consumed in this unit shall be limited to 87,595 MMBtu/yr., based on a twelve (12)-month rolling total. This limit is less than 10% of the maximum potential heat input. (permit condition 1a). The unit currently operates on NG instead of fuel oil.

Page 25: Inserted Pardee, Marlene Zeckner 2/10/2020 8:25:00 AM

Unit is assumed to be on compliance while operating on

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Page 25: Inserted Marlene Zeckner Pardee 2/19/2020 7:55:00 AM

natural gas

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Page 25: Inserted Pardee, Marlene Zeckner 2/10/2020 8:26:00 AM

. A 30-day notice must be given if unit

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Page 25: Inserted Pardee, Marlene Zeckner 2/10/2020 8:27:00 AM

fuel oil.

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Page 26: Inserted	Pardee, Marlene Zeckner	2/6/2020 7:36:00 AM
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an annual qualitative

Page 26: Inserted	Pardee, Marlene Zeckner	2/6/2020 7:36:00 AM
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stack while operating on

Page 26: Inserted	Marlene Zeckner Pardee	2/19/2020 7:56:00 AM
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natural gas

Page 26: Inserted	Pardee, Marlene Zeckner	2/10/2020 8:23:00 AM
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. Qualitive Visuals are required every 10-boiler operating days if the unit operates on fuel oil.

Page 26: Deleted	Pardee, Marlene Zeckner	2/10/2020 8:24:00 AM
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stack once every 7 boiler operating

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NG.

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days and maintain a log of the observations

Page 26: Commented [PMZ27]	Pardee, Marlene Zeckner	2/5/2020 2:43:00 PM
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When the aux boiler was initially permitted the boiler operated on oil and the permit was based on a synthetic MACT (MACT was only proposed). Since 2006, the MACT has been finalized, and the boiler is now classified as a limit use boiler (federal limit) that currently operates on NG instead of fuel oil. Since many other units are assumed to in compliance for opacity if they operate on NG; LG&E is requesting that this be changed to an annual qualitative visual observation and a Method 9 if triggered OR an Annual Method 9 if the unit operates for events, others than testing during the calendar year. The unit does not need to be brought on-line if it did not operate during the calendar year.

Page 27: Deleted	Pardee, Marlene Zeckner	2/5/2020 2:53:00 PM
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The first tune-up report shall be submitted by July 31, 2016 [40 CFR 63.7550(c)(1), 63

Page 27: Commented [PMZ28]	Pardee, Marlene Zeckner	2/5/2020 2:53:00 PM
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Remove out of date requirement.

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.7550(a)(1)].

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The permittee shall report any violation of 1.e., **Operating Limitations**

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Page 29: Inserted Marlene Zeckner Pardee 2/20/2020 2:09:00 PM

Testing Emission Summary Table:

Emission	Test Method	Frequency
Formaldehyde	Method 323	Every 5-years

Page 30: Inserted Pardee, Marlene Zeckner 2/5/2020 3:07:00 PM

natural gas

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Page 30: Deleted Pardee, Marlene Zeckner 2/5/2020 2:58:00 PM

every six months

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annually

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Page 30: Inserted Marlene Zeckner Pardee 2/19/2020 9:47:00 AM

(once per calendar year). Permittee may

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Page 30: Inserted Pardee, Marlene Zeckner 2/5/2020 3:08:00 PM

/analysis, or tariffs,

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Page 30: Commented [PMZ30] Pardee, Marlene Zeckner 2/5/2020 3:01:00 PM

LG&E requests that this be reduced to annual These samples are very difficult to collect and costly. For the last almost 20 years our samples have been well below the limit. We utilize NG. The regulations do not specify a sampling frequency.

Page 30: Inserted Pardee, Marlene Zeckner 2/5/2020 3:09:00 PM

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Page 30: Formatted Pardee, Marlene Zeckner 2/6/2020 7:46:00 AM

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Page 30: Commented [PMZ31] Pardee, Marlene Zeckner 2/6/2020 7:44:00 AM

LG&E believes this is a typo. Should this be 40 CR 60.334(h) instead of 60.334(b)?

Page 33: Deleted Pardee, Marlene Zeckner 2/6/2020 7:48:00 AM

Beginning January 1, 2015,

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Page 33: Commented [PMZ32] Pardee, Marlene Zeckner 2/6/2020 7:48:00 AM

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Page 39: Formatted Pardee, Marlene Zeckner 2/5/2020 3:23:00 PM

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Page 39: Commented [PMZ33] Pardee, Marlene Zeckner 2/5/2020 3:23:00 PM

Assume typo, should be 6.h.

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Page 40: Commented [MZP34] Pardee, Marlene Zeckner 7/10/2019 8:56:00 AM

There is no 1.c. Assume typo, should be 1.b.

Page 46: Deleted Marlene Zeckner Pardee 2/19/2020 10:32:00 AM

Covers all paved road surfaces at the Trimble station facility used by truck delivering raw material s and shipping out raw materials

Page 46: Inserted Pardee, Marlene Zeckner 2/6/2020 8:04:00 AM

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Page 46: Inserted Pardee, Marlene Zeckner 2/6/2020 7:55:00 AM

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Page 46: Inserted Marlene Zeckner Pardee 2/28/2020 3:30:00 PM

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Page 47: Deleted Pardee, Marlene Zeckner 2/5/2020 3:53:00 PM

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Page 47: Inserted Marlene Zeckner Pardee 3/17/2020 3:07:00 PM

via trucks

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Page 47: Inserted Marlene Zeckner Pardee 3/17/2020 3:15:00 PM

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number of trucks/

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Page 47: Inserted Marlene Zeckner Pardee 2/18/2020 10:10:00 AM

as applicable,

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Page 47: Inserted Pardee, Marlene Zeckner 2/5/2020 4:11:00 PM

for raw material delivered

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Page 50: Commented [PMZ35] Pardee, Marlene Zeckner 2/6/2020 8:43:00 AM

The "-7" was a legacy from an older permit.

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Page 56: Commented [PMZ36] Pardee, Marlene Zeckner 2/6/2020 9:06:00 AM

Suggest highlighting table. The KYEIS has Unit 14 divided into 3 main groups.

Page 56: Inserted Marlene Zeckner Pardee 2/28/2020 3:35:00 PM

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Page 58: Commented [MZP37] Pardee, Marlene Zeckner 7/10/2019 8:59:00 AM

KDAQ approved the addition of the silos Dec. 14, 2011 but they are still on the IA list. Comments have also been added to remove the silos from the IA list. They are included in the KYEIS.

Page 58: Inserted Pardee, Marlene Zeckner 2/6/2020 9:24:00 AM

and 5000

Page 58: Inserted Pardee, Marlene Zeckner 2/6/2020 9:24:00 AM

s, and a 100 ton surge silo

Page 58: Inserted Marlene Zeckner Pardee 2/18/2020 10:44:00 AM

or, to the CCR Landfill

Page 62: Deleted Pardee, Marlene Zeckner 2/6/2020 9:43:00 AM

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Page 68: Inserted Pardee, Marlene Zeckner 2/6/2020 9:50:00 AM

CCR

Page 68: Commented [PMZ38] Pardee, Marlene Zeckner 2/6/2020 9:50:00 AM

Request to add CCR in the name to distinguish this from a sanitary landfill.

Page 68: Deleted Marlene Zeckner Pardee 2/19/2020 11:23:00 AM

(Anticipated) 2nd Quarter

Page 68: Inserted Marlene Zeckner Pardee 2/19/2020 11:23:00 AM

September

Page 68: Commented [MZP39] Marlene Zeckner Pardee 2/19/2020 11:24:00 AM

Added Construction Dates

Page 68: Deleted Marlene Zeckner Pardee 2/19/2020 11:23:00 AM

(Anticipated) 4th Quarter

Page 68: Inserted Marlene Zeckner Pardee 2/19/2020 11:23:00 AM

September 2017

Page 68: Deleted Marlene Zeckner Pardee 2/19/2020 11:23:00 AM

2016

Page 68: Inserted Pardee, Marlene Zeckner 2/6/2020 9:54:00 AM

CCR

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Page 68: Commented [PMZ40] Pardee, Marlene Zeckner 2/6/2020 10:03:00 AM

Requesting changes for clarification. Waste denotes hazardous. This is a CCR landfill. CCR materials are not limited to gypsum.

Page 68: Inserted Pardee, Marlene Zeckner 2/6/2020 10:02:00 AM

CCR materials

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gypsum and residual waste from the coal boilers

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Page 69: Deleted Pardee, Marlene Zeckner 2/6/2020 10:08:00 AM

road way

Page 69: Inserted Pardee, Marlene Zeckner 2/6/2020 10:08:00 AM

roadway

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The permittee shall perform qualitative v

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Page 69: Deleted Marlene Zeckner Pardee 3/2/2020 1:34:00 PM

shall be made each operating day

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on a weekly basis.

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Page 69: Commented [MZP41] Marlene Zeckner Pardee 3/2/2020 1:35:00 PM

Reg/Cabinet Provisions do not specify a frequency. We are monitor fugitive dust not opacity. This would address issues we have with performing readings on the weekends when minimal or no trucking operations are occurring.

Page 68: Commented [MZP42] Pardee, Marlene Zeckner 7/10/2019 9:03:00 AM

See DEP7007DD form for changes.

Page 68: Inserted Pardee, Marlene Zeckner 2/6/2020 10:19:00 AM

(THIS PAGE is based on R3 issued in Jan. 2020)

Page 69: Deleted Marlene Zeckner Pardee 2/19/2020 11:27:00 AM

5,000 ton flyash silo

Page 69: Commented [PMZ43] Pardee, Marlene Zeckner 2/6/2020 10:10:00 AM

This silo should be moved to Section B/Unit 42. See Dec. 14, 2011 KDAQ approval.

Page 69: Inserted Pardee, Marlene Zeckner 2/6/2020 10:51:00 AM

Page 69: Inserted Pardee, Marlene Zeckner 2/6/2020 10:46:00 AM

Page 69: Inserted Pardee, Marlene Zeckner 2/6/2020 10:46:00 AM

Page 69: Inserted Pardee, Marlene Zeckner 2/6/2020 10:42:00 AM

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hydrochloric acid

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Page 70: Commented [MZP44] Marlene Zeckner Pardee 2/17/2020 10:42:00 AM

This should have been deleted at the same time HCL was removed from Section D3; after the MATs requirements were added to the permit.

Page 70: Deleted	Pardee, Marlene Zeckner	2/6/2020 11:15:00 AM
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Page 70: Inserted	Pardee, Marlene Zeckner	2/6/2020 11:15:00 AM
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Page 70: Commented [PMZ45]	Pardee, Marlene Zeckner	2/6/2020 11:16:00 AM
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Page 70: Deleted	Pardee, Marlene Zeckner	2/6/2020 11:17:00 AM
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April 16, 2015, for		
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Page 70: Commented [PMZ46]	Pardee, Marlene Zeckner	2/6/2020 11:17:00 AM
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Page 70: Commented [PMZ47]	Pardee, Marlene Zeckner	2/6/2020 11:18:00 AM
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Page 71: Inserted	Pardee, Marlene Zeckner	2/6/2020 11:20:00 AM
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Page 71: Commented [PMZ48] Pardee, Marlene Zeckner 2/6/2020 11:20:00 AM

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Page 72: Deleted Pardee, Marlene Zeckner 2/6/2020 11:21:00 AM

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Page 72: Commented [PMZ49] Pardee, Marlene Zeckner 2/6/2020 11:21:00 AM

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Page 72: Deleted Pardee, Marlene Zeckner 2/6/2020 11:21:00 AM

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Page 72: Commented [PMZ50] Pardee, Marlene Zeckner 2/6/2020 11:22:00 AM

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Page 72: Deleted Pardee, Marlene Zeckner 2/6/2020 11:22:00 AM

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Page 72: Commented [PMZ51] Pardee, Marlene Zeckner 2/6/2020 11:22:00 AM

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Page 72: Deleted Pardee, Marlene Zeckner 2/6/2020 11:23:00 AM

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Page 72: Deleted Pardee, Marlene Zeckner 2/6/2020 11:23:00 AM

April 16, 2015,

Page 72: Commented [PMZ52] Pardee, Marlene Zeckner 2/6/2020 11:23:00 AM

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Page 72: Deleted Pardee, Marlene Zeckner 2/6/2020 11:23:00 AM

For Emission Unit 31, compliance shall be demonstrated no later than October 13, 2015 [40 CFR 63.9984(f)]. For Emission Unit 01, compliance shall be demonstrated no later than August 7, 2016.

Page 74: Deleted Pardee, Marlene Zeckner 2/6/2020 11:24:00 AM

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Page 74: Inserted Pardee, Marlene Zeckner 2/6/2020 11:24:00 AM

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Page 74: Deleted Pardee, Marlene Zeckner 2/6/2020 11:24:00 AM

October 13, 2015,

Page 74: Deleted Pardee, Marlene Zeckner 2/6/2020 11:25:00 AM

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Page 74: Inserted Pardee, Marlene Zeckner 2/6/2020 11:25:00 AM

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Page 74: Deleted Pardee, Marlene Zeckner 2/6/2020 11:25:00 AM

April 16, 2015,

Page 74: Commented [PMZ53] Pardee, Marlene Zeckner 2/6/2020 11:26:00 AM

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Page 74: Deleted Pardee, Marlene Zeckner 2/6/2020 11:25:00 AM

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Page 74: Deleted Pardee, Marlene Zeckner 2/6/2020 11:26:00 AM

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Page 74: Commented [PMZ54] Pardee, Marlene Zeckner 2/6/2020 11:26:00 AM

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Page 83: Deleted Marlene Zeckner Pardee 2/19/2020 11:32:00 AM

The permit does incorporate Emission Units 55 and 56 which did not require a permit revision and were approved by letter dated June 30, 2016.

Page 83: Commented [PMZ55] Pardee, Marlene Zeckner 2/6/2020 11:31:00 AM

KDAQ needs to update this section.

Page 88: Commented [PMZ56] Pardee, Marlene Zeckner 2/6/2020 11:35:00 AM

KDAQ needs to update tables in Section J

Header and footer changes

Text Box changes

Header and footer text box changes

Footnote changes

Endnote changes

