

# Statement of Basis of the Federal Operating Permit

MeadWestvaco Texas, L.P.

Site/Area Name: Evadale Mill  
Physical location: 1913 FM 105  
Nearest City: Evadale  
County: Jasper

Permit Number: O1265  
Project Type: Renewal

Standard Industrial Classification (SIC) Code: 2631  
SIC Name: Paperboard Mills

This Statement of Basis sets forth the legal and factual basis for the draft permit conditions in accordance with 30 TAC §122.201(a)(4). Per 30 TAC §§ 122.241 and 243, the permit holder has submitted an application under § 122.134 for permit renewal. This document includes the following information:

- A description of the facility/area process description;
- A basis for applying permit shields;
- A list of the federal regulatory applicability determinations;
- A table listing the determination of applicable requirements;
- A list of the New Source Review Requirements;
- The rationale for periodic monitoring methods selected;
- The rationale for compliance assurance methods selected;
- A compliance status; and
- A list of available unit attribute forms.

Prepared on: November 6, 2014

## **Operating Permit Basis of Determination**

### **Permit Area Process Description**

#### **Barkyard and Woodyard**

Wood preparation consists of a series of operations, which convert the wood into a form suitable for pulping. Wood is delivered to the mill in the form of long logs or chips, delivered by either truck or rail.

Logs are unloaded and stored in piles. From these piles, the logs are transported to a feed deck and then conveyed to a whole tree debarking drum, where the bark is removed. The debarked logs are transported to the chipper where they are reduced into chips suitable for subsequent pulping operations. The wood waste from the debarking drum is ground or “hogged” and conveyed to the bark storage pile by belt conveyors. The wood chips from the chipper are transported by belt conveyors to storage piles.

Chips that are delivered to the mill by truck or rail are unloaded and conveyed to appropriate chip piles. The chips are transferred to a belt conveyor system and begin the size classification process by first passing through a scalping screen to remove large debris. The chips are sorted for size and thickness using a series of covered screens. The chips are collected on belt conveyors and transported to the No. 4 Fiber Line or No. 5 Fiber Line chip bins.

The oversize chips discharged from the screens are reprocessed in a chip conditioner before they are sent to the pulping process. The undersized fines discharged from the enclosed screens are transported via an air entrainment system to a series of cyclones and eventually to the bark yard. The material collected in the bark pile is reclaimed in a similar manner as the chips and is transported by belt conveyors to the No. 2 and No. 6 Power Boilers as fuel.

#### **No. 4 and 5 Fiber Lines**

The kraft pulping/bleaching process at the mill is performed at the No. 4 and 5 Fiber Lines. Both of the fiber lines will be described together.

#### **Wood Pulping Process**

As described above, the screened wood chips are fed via conveyor into an air-lock feeder and then the chip bins. From the bins, chips drop into the steaming vessel. Flash steam is used to preheat the chips and drive off air. The chips are sluiced away from the steaming vessel with cooking liquor and sent to a high-pressure vessel system to ensure complete impregnation of the chips with the cooking liquor. After the impregnation vessel, the chips are mixed with additional white liquor and transferred to the continuous digester.

White liquor is added to the different cook zones of the digester. Chips are added continuously into the top inlet of the digester while the cooked pulp is withdrawn from the bottom. The pulp is cooled and blown to the diffusion washer. As the partially spent cooking liquor is extracted, the flash steam is liberated in flash tanks to be reused elsewhere in the process. Any excess flash steam is vented to the flash steam condenser.

The non-condensable gases (NCGs) from the fiber line process are routed to the No. 2 and/or No. 6 Power Boilers through either the low volume, high concentration (LVHC) system or the high volume, low concentration (HVLC) system. The foul condensate from the No. 4 Fiber Line is routed to a foul condensate tank. The foul condensate from the No. 4 Fiber Line is routed to a foul condensate tank. The foul condensate from the No. 5 Fiber Line process is routed to a foul condensate transfer tank then to a turpentine decanter. Turpentine is separated and sent to a storage tank. From there, it is shipped offsite.

## **Washing and Screening Process**

The pulp, which exits the No. 4 and No. 5 digesters, now contains several contaminants that must be removed before the bleaching process. The function of the washing and screening process is to separate the good fiber from the miscellaneous debris and spent cooking liquor and lignin (black liquor), so that each of these constituents can be recycled back into the process or disposed.

A two-stage diffusion washing system is located on the top of the brownstock high-density storage tank. Wash water is added through nozzles and displaced liquor is extracted through the washer drums. The filtrate (now “weak black liquor”) is collected in filtrate tanks and a portion is pumped to the digester for cold blow and additional washing. The washed pulp is thickened and placed in the unbleached high-density storage tanks, which serve to even out surges in production. The washers and filtrate tanks vent directly to the atmosphere.

Pulp from the unbleached high-density storage tanks is diluted and pumped to the screening system. The reject material is removed by pumping the stock through two stages of knotters. Some good fiber is also rejected from the primary knoter so that the rejects slurry is processed in a second stage knoter to reduce the loss of usable fiber. The rejected slurry from the second stage knoter is sent to a press for disposal and the accepted pulp slurry is sent to the screens, which use a process similar to the process for removing knots. The pulp is pumped through pressure screens that allow fiber and small material to pass but reject larger sizes. Some of the good fiber is rejected with the debris so the screening is repeated twice more to reduce fiber losses. From the third stage, the rejected slurry from the screen and knoter is combined and sent to the reject press.

The final stage in the washing and screening process is thickening the pulp in the “deckers” for storage prior to bleaching. The filtrate from the decker is pumped to the diffusion washers where it is used as wash water. The thickened pulp is removed from the decker and pumped to the bleached feed tank prior to beginning the bleaching process. The deckers, screen dilution tanks and unbleached high-density storage tanks vent directly to the atmosphere.

## **Pulp Bleaching Process**

Pulp is bleached to meet customer requirements. The process involves the use of chemicals to remove lignin. The mill has two four-stage processes that use sodium hydroxide, oxygen, hydrogen peroxide, and chlorine dioxide to bleach the hardwood and softwood pulps separately.

Pulp in the bleached feed tank is diluted and pumped to the first stage of the bleach plant where chlorine dioxide is added. After the reaction is carried out, the pulp is sent to a washer for the removal of the spent chemicals. The filtrate from this process is discharged into a vented effluent sewer line. The pulp then passes to the second stage where sodium hydroxide is added. Oxygen and/or hydrogen peroxide may also be added. The pulp is washed to remove spent chemicals and solubilized color bodies.

The third stage bleaching involves the addition of chlorine dioxide to the pulp. The washing step is repeated with the resulting filtrate being used for pulp dilution/washing in the first stage. In the final stage, the Bleach Plant reacts the pulp with chlorine dioxide and hydrogen peroxide again. The pulp is again washed and then pumped to the appropriate bleached feed hardwood/softwood tank. The exhaust air from the chlorine dioxide stages and chlorine dioxide filtrate tanks are vented to the bleach plant scrubbers. Alkaline solution is used in the wet scrubber to remove compounds containing chlorine. The alkaline diffusion washers and filtrate tanks vent directly to the atmosphere.

## **Chlorine Dioxide Generation Process**

The chlorine dioxide used in the pulp bleaching process is produced by the reaction of sodium chlorate and sulfuric acid with methanol. The resultant gas is absorbed in cold water for use as a bleaching liquid. The process generates a sodium sulfate salt cake make-up for small salt cake losses throughout the facility. The vents from this plant and the ClO<sub>2</sub> storage tanks are directed to two process absorption towers followed by a scrubber. The spent scrubbing solution is discharged to the mill effluent treatment system.

## **Paper Machines**

Nos. 2, 4 and 5 paper machines produce pulp and paperboard from the hardwood and softwood pulps produced on site. Recycled fiber is used on selected grades as available.

Hardwood and softwood pulps are pumped from the high-density chests to an agitated blend chest for each machine. The blended stock is then pumped through a series of refiners into the machine chest. From the machine chest, the stock is pumped through a refiner and stuff box, diluted to the required machine consistency in the machine silo, pumped to the primary cleaner pumps, then to the primary cleaners. The stock is cleaned by the primary cleaners and then transferred to the fan pump. The fan pump feeds primary screens and the inlet of the paper machine headbox.

The function of the headbox is to take the stock delivered by the fan pump and transform the pipeline flow into a uniform, rectangular flow equal in width to the paper machine and at uniform velocity in the machine direction.

The section of the paper machine after the headbox is the Fourdrinier, which contains a wire with a looping, finely woven screen. This wire travels between two large rolls: the breast roll near the headbox and the couch roll at the other end. When the stock is fed onto the wire, the fibers are suspended in water and free to move independently of one another. As soon as they come in contact with the moving wire, water drains through the screen and the fibers are deposited in discrete layers forming a continuous mat. The wire then passes over a series of vacuum-augmented devices, and finally over the high vacuum couch roll. The vacuum pumps for the fourdrinier exhaust to the atmosphere on each machine. All water removed from the sheet is collected under the fourdrinier in the wire pit and returned into the system.

The next section of the paper machine following the forming stage is the press section. In this section, the wet mat web of fiber is held between two fabric layers and pressed through rollers. The objectives of this section are to remove water to consolidate the paper web, provide surface smoothness, and promote higher wet paper web strength for good operation in the dryer section.

After the press section, the sheet enters the drying zone. The dryers evaporate the residual moisture from the pressed sheet. As the sheet leaves the main dryer section, it passes through a two-roll size press. Here a starch solution is applied to one or both sides of the sheet.

Following the size press is another dryer group similar to the main dryer section. The sheet at this point enters the calendar stack, which consists of several iron rolls stacked vertically. The primary objectives of machine calendaring are to even out sheet thickness and impart desirable surface properties, primarily smoothness. After the first calendar stack, the sheet passes through another short dryer section similar to the main dryers and then the second calendar and onto a roll. An overhead reel crane then removes the finished roll.

When a coated paper is being produced on the paper machines, the sheet leaving the calendars is threaded to the coating section. Depending on the final product requirements, various coating mixtures are applied. Excess coating is collected in pans below the section and reused. After each coater station, a series of gas fired infrared units, gas fired IR air dryers, and cast iron cylinder dryers are used to dry the coating.

After the coating application and drying, the sheet passes through the gloss calendar stack to improve smoothness. Either a primary or secondary reel then collects the final coated product. The parent or jumbo rolls from the reel are transferred to a winder unwind stand by an overhead reel crane. The function of the winder is to cut and wind the full-width, large diameter paper roll into suitable-size rolls for market to meet each customer's order requirement.

Starch preparation is a separate process area associated with the paper machines. Dry powdered starch is normally brought to the mill by railroad cars although trucks can be accommodated. There are four unloading

facilities each of which includes a blower, unloading dust abatement assembly, rotary seal valve, pipeline, and a silo. The three types of dry starch are pneumatically conveyed to several silos. Starch is removed from the silos by several conveyors, which lead to rotary valve-type feeders. The ends of these discharge pipes are submerged to form a seal in the starch mix tank, where a starch slurry is produced. The starch slurries from the starch mix tanks are pumped to the starch cookers. The starch cookers are enclosed in the main coating kitchen building. The purpose of the main coating kitchen is to supply the additives and coatings required by the paper machines to complete each order.

### **Recovery Area**

The mill recycles the spent chemicals used in the pulping process. During the washing stage of Fiber Lines No. 4 and 5, the spent cooking liquor from the digesters is mixed with washer filtrate and becomes known as weak black liquor (WBL). This WBL contains water, dissolved lignin, and spent chemicals such as sodium hydroxide and sodium sulfide, and solids. The first stage of the recovery process begins as a small percentage of the WBL is circulated through the two pre-evaporator sets to boost the solids content, improving the efficiency of the evaporator sets.

### **Evaporator Area**

The WBL now begins its sequence through one of the three multiple effect evaporator sets for the No. 3 and No. 4 Recovery Boilers. These indirect multiple effect evaporator sets remove moisture from the WBL in five or six stages or “effects,” each performed in a separate unit or “body.” After the third effect, the liquor has accumulated as a layer of foam floating on its surface. This foam, known as “soap,” reduces the efficiency of the evaporator body. On the No. 4 Evaporator Set, the soap is removed in a soap separator and collected in a storage tank as the black liquor separates from the soap, it is pumped back to the 3<sup>rd</sup> effect body. Soap is also skimmed off the WBL storage tanks and collected in the light soap storage tank. The soap is shipped offsite for processing.

The WBL is boiled and concentrated in each body until it exits the 1<sup>st</sup> effect as strong black liquor (SBL). The non-condensable gas emissions from the evaporators are removed by a steam ejector system, cooled, condensed, and collected in hotwells. These hotwells are vented to the NCG system and routed to No. 2 and/or No. 6 Power Boilers for destruction. The water evaporated from the black liquor is collected in three forms. The clean condensate is sent to the power boilers to be used as feedwater make-up. The dirty or “combined” condensate is collected in a storage tank where it can be used to clean the evaporators during boilouts or sent on to the wastewater sewer. Foul condensate is also collected from the feed end of the evaporators and sent to the effluent system for treatment.

The SBL is now sent through the respective two-body concentrator set or the single body finisher to further boost the solids content. After processing through the small concentrators or finishers, the liquor is processed through the No. 5 concentrators. The solids content of the liquor is typically between 72-74% solids. The liquor is now known as heavy black liquor (HBL). The HBL for the No. 3 Recovery Boiler is sent to its respective black liquor use tank. Liquor at the No. 3 Recovery Boiler is mixed with salt cake from the boiler and precipitator. The No. 4 Recovery Boiler HBL travels to a boiler ash mix tank where it is mixed with salt cake from the boiler. The HBL, with a solids content of approximately 72% to 74%, is now sent to the salt cake mix tanks before entering one of the two recovery boilers.

### **Recovery Boiler**

Operation of the two recovery boilers is similar. The concentrated black liquor is sprayed through a set of nozzles into the furnace. The liquor droplets dry and partially pyrolyze before falling onto the char bed. The sodium salts melt and flow from the char bed of the furnace through water-cooled spouts to the dissolving tank. These inorganic compounds are called smelt. Emissions from the smelt dissolving tanks are controlled by wet variable venturi scrubbers with cyclonic separators.

Combustion air is supplied into the furnace by forced-draft fans. The flue gas passes through the boiler superheater and steam generating section. Finally, the gas is cooled in the economizer section and goes directly to the precipitator where the fly ash particles are ionized, collected on electrodes, and discharged into mix tanks. The cleaned flue gas is then discharged through a stack to the atmosphere.

The No. 3 and No. 4 Recovery Boilers utilize to a dry bottom electrostatic precipitator (ESP) for collection and control of the particulate discharge from the boiler.

### **Causticizing**

As mentioned earlier, solids in the black liquor are converted to a mixture of molten sodium salts by burning in the recovery boiler. The major components of the salts, referred to as smelt, are sodium carbonate and sodium sulfide. The mixture leaves the recovery boiler in a molten state. On leaving the recovery boiler, the smelt is formed into small droplets using steam sprays at the smelt spouts and is then dissolved in weak wash where it becomes green liquor. The green liquor consists of sodium carbonate, sodium sulfide, and water.

In addition to sodium salts, the green liquor contains small amounts of contaminants known as dregs. The next step in the liquor recovery cycle is to remove these contaminants. This is done in a clarifier with the aid of polymers and/or coagulants. The semi-solid mass of contaminants is removed from the bottom of the clarifier and washed to recover more of the chemicals. The dregs are then disposed of in a landfill and the clarified green liquor is sent to storage.

From storage, the green liquor is pumped to the slakers where lime is mixed with the green liquor. The reaction of the lime with sodium carbonate produces sodium hydroxide and calcium carbonate. Unreacted particles, known as grits, are removed. The slakers vent through a water nozzle to control particulates prior to discharge. This reaction continues through the causticizers, which are stirred tanks providing retention time for the reaction. At this point, the liquid is called “white liquor.”

Next the white liquor is clarified to remove the precipitated calcium carbonate called lime mud. The clarified white liquor is then sent to storage or to a white liquor polisher to remove more of the fine particles of lime mud. The concentrated lime mud is then washed with water and filtered. The filtrate, called weak wash, is recycled to the dissolving tanks on each of the recovery boilers where it is reused to make green liquor. With 75-80% of the moisture removed, the lime mud is now sent to the lime kiln for conversion back to active lime, CaO.

There are two cylinder-shaped kilns that vary in length and diameter which use the same type of process. The kiln burner is located as the discharge end and lime mud is introduced into the opposite or cold end. The kiln has a gradual slope with the cold end being higher than the hot end. The shell is constant, slow rotation so that lime mud is gradually conveyed from the cold end to the hot end. As the lime mud travels down the length of the kiln, it is dried and the carbon dioxide is driven off. The lime is then conveyed to a storage silo. The exhaust gases from the No. 7 Lime Kiln are directed to an ESP for cleaning before discharge. The No. 1 Lime Kiln discharges through a wet variable venturi scrubber with cyclonic moisture separator to control particulates.

### **Power Boilers**

The No. 5 Power Boiler produces steam using natural gas fuel. The No. 2 and No. 6 Power Boilers are fired with a combination of biomass fuel and natural gas. Non-condensable gases (NCGs) are also burned in the No. 2 and No. 6 Power Boilers. The steam produced in these boilers is used for power generation, pulp and papermaking processes, and for heating purposes.

Combustion air to the boilers is supplied by forced draft fans. Before the air enters the furnace, it passes through a tubular air heater to improve overall boiler efficiency. Combustion air for the No. 5 Power Boiler is blended with recirculating flue gas before entering the low NO<sub>x</sub> burners. In the No. 2 and No. 6 Power Boilers,

the air is directed to the under grate plenum and the gas burner air ducts. Combustion of the solid biomass fuel (e.g., sludge, bark, wood residuals) in the No. 2 and No. 6 Power Boilers takes place on the grate and in the area immediately above.

After the combustion, in each boiler, the exhaust gases pass from the furnace through the superheater, boiler section, economizer and tubular air heater to the furnace exhaust point. The exhaust gases from the natural gas fired boiler, No. 5, are discharged directly to the atmosphere. The exhaust gases from the No. 2 and No. 6 Power Boilers are sent to multicyclone separators and then through venturi wet scrubbers. The cleaned exhaust gases are then discharged to atmosphere.

### **Wastewater Treatment Process**

The water needed to run the mill processes is taken from two primary sources, the Neches River and numerous wells located on the property. Water is treated and used for various processes throughout the plant. The bleach plants process streams mix and flow directly to the high biochemical oxygen demand (BOD) pond. The effluent from the rest of the Mill flows to a collection sump. The effluent is then pumped to the primary clarifier to reduce total suspended solids (TSS). The sludge removed from the clarifier is pumped to a thickener, where more filtrate can be removed. The removed solids are sent to an adjacent sludge press and then to the landfill on-site or recycled. The filtrate removed from the clarifier and thickener flows to the high BOD pond. The effluent from the high BOD pond then flows into the first of three aeration lagoons and then into a quiescent pond. The treated effluent flows to a final polishing pond before being gravity fed into the Neches River.

### **FOPs at Site**

The “application area” consists of the emission units and that portion of the site included in the application and this permit. Multiple FOPs may be issued to a site in accordance with 30 TAC § 122.201(e). When there is only one area for the site, then the application information and permit will include all units at the site. Additional FOPs that exist at the site, if any, are listed below.

Additional FOPs: None

### **Major Source Pollutants**

The table below specifies the pollutants for which the site is a major source:

Major Pollutants	VOC, SO <sub>2</sub> , PM, NO <sub>x</sub> , HAPs, CO
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### **Reading State of Texas’s Federal Operating Permit**

The Title V Federal Operating Permit (FOP) lists all state and federal air emission regulations and New Source Review (NSR) authorizations (collectively known as “applicable requirements”) that apply at a particular site or permit area (in the event a site has multiple FOPs). **The FOP does not authorize new emissions or new construction activities.** The FOP begins with an introductory page which is common to all Title V permits. This page gives the details of the company, states the authority of the issuing agency, requires the company to operate in accordance with this permit and 30 Texas Administrative Code (TAC) Chapter 122, requires adherence with NSR requirements of 30 TAC Chapter 116, and finally indicates the permit number and the issuance date.

This is followed by the table of contents, which is generally composed of the following elements. Not all permits will have all of the elements.

- General Terms and Conditions
- Special Terms and Conditions

- Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting
- Additional Monitoring Requirements
- New Source Review Authorization Requirements
- Compliance Requirements
- Protection of Stratosphere Ozone
- Permit Location
- Permit Shield (30 TAC § 122.148)
- Attachments
  - Applicable Requirements Summary
    - Unit Summary
    - Applicable Requirements Summary
  - Additional Monitoring Requirements
  - Permit Shield
  - New Source Review Authorization References
  - Compliance Plan
  - Alternative Requirements
- Appendix A
  - Acronym list
- Appendix B
  - Copies of major NSR authorizations

### General Terms and Conditions

The General Terms and Conditions are the same and appear in all permits. The first paragraph lists the specific citations for 30 TAC Chapter 122 requirements that apply to all Title V permit holders. The second paragraph describes the requirements for record retention. The third paragraph provides details for voiding the permit, if applicable. The fourth paragraph states that the permit holder shall comply with the requirements of 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit. The fifth paragraph provides details on submission of reports required by the permit.

### Special Terms and Conditions

Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting. The TCEQ has designated certain applicable requirements as site-wide requirements. A site-wide requirement is a requirement that applies uniformly to all the units or activities at the site. Units with only site-wide requirements are addressed on Form OP-REQ<sub>1</sub> and are not required to be listed separately on a OP-UA Form or Form OP-SUM. Form OP-SUM must list all units addressed in the application and provide identifying information, applicable OP-UA Forms, and preconstruction authorizations. The various OP-UA Forms provide the characteristics of each unit from which applicable requirements are established. Some exceptions exist as a few units may have both site-wide requirements and unit specific requirements.

Other conditions. The other entries under special terms and conditions are in general terms referring to compliance with the more detailed data listed in the attachments.

### Attachments

Applicable Requirements Summary. The first attachment, the Applicable Requirements Summary, has two tables, addressing unit specific requirements. The first table, the Unit Summary, includes a list of units with applicable requirements, the unit type, the applicable regulation, and the requirement driver. The intent of the

requirement driver is to inform the reader that a given unit may have several different operating scenarios and the differences between those operating scenarios.

The applicable requirements summary table provides the detailed citations of the rules that apply to the various units. For each unit and operating scenario, there is an added modifier called the “index number,” detailed citations specifying monitoring and testing requirements, recordkeeping requirements, and reporting requirements. The data for this table are based on data supplied by the applicant on the OP-SUM and various OP-UA forms.

**Additional Monitoring Requirement.** The next attachment includes additional monitoring the applicant must perform to ensure compliance with the applicable standard. Compliance assurance monitoring (CAM) is often required to provide a reasonable assurance of compliance with applicable emission limitations/standards for large emission units that use control devices to achieve compliance with applicant requirements. When necessary, periodic monitoring (PM) requirements are specified for certain parameters (i.e. feed rates, flow rates, temperature, fuel type and consumption, etc.) to determine if a term and condition or emission unit is operating within specified limits to control emissions. These additional monitoring approaches may be required for two reasons. First, the applicable rules do not adequately specify monitoring requirements (exception- Maximum Achievable Control Technology Standards (MACTs) generally have sufficient monitoring), and second, monitoring may be required to fill gaps in the monitoring requirements of certain applicable requirements. In situations where the NSR permit is the applicable requirement requiring extra monitoring for a specific emission unit, the preferred solution is to have the monitoring requirements in the NSR permit updated so that all NSR requirements are consolidated in the NSR permit.

**Permit Shield.** A permit may or may not have a permit shield, depending on whether an applicant has applied for, and justified the granting of, a permit shield. A permit shield is a special condition included in the permit document stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirement(s) or specified applicable state-only requirement(s).

**New Source Review Authorization References.** All activities which are related to emissions in the state of Texas must have a NSR authorization prior to beginning construction. This section lists all units in the permit and the NSR authorization that allowed the unit to be constructed or modified. Units that do not have unit specific applicable requirements other than the NSR authorization do not need to be listed in this attachment. While NSR permits are not physically a part of the Title V permit, they are legally incorporated into the Title V permit by reference. Those NSR permits whose emissions exceed certain PSD/NA thresholds must also undergo a Federal review of federally regulated pollutants in addition to review for state regulated pollutants.

**Compliance Plan.** A permit may have a compliance schedule attachment for listing corrective actions plans for any emission unit that is out of compliance with an applicable requirement.

**Alternative Requirements.** This attachment will list any alternative monitoring plans or alternative means of compliance for applicable requirements that have been approved by the EPA Administrator and/or the TCEQ Executive Director.

## Appendix A

**Acronym list.** This attachment lists the common acronyms used when discussing the FOPs.

## Appendix B

Copies of major NSR authorizations applicable to the units covered by this permit have been included in this Appendix, to ensure that all interested persons can access those authorizations.

**Stationary vents subject to 30 TAC Chapter 111, Subchapter A, § 111.111(a)(1)(B) addressed in the Special Terms and Conditions**

The site contains stationary vents with a flowrate less than 100,000 actual cubic feet per minute (acfm) and constructed after January 31, 1972 which are limited, over a six-minute average, to 20% opacity as required by 30 TAC § 111.111(a)(1)(B). As a site may have a large number of stationary vents that fall into this category, they are not required to be listed individually in the permit’s Applicable Requirement Summary. This is consistent with EPA’s White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995, that states that requirements that apply identically to emission units at a site can be treated on a generic basis such as source-wide opacity limits.

Periodic monitoring is specified in Special Term and Condition 3.A. for stationary vents subject to 30 TAC § 111.111(a)(1)(B) to verify compliance with the 20% opacity limit. These vents are not expected to produce visible emissions during normal operation. The TCEQ evaluated the probability of these sources violating the opacity standards and determined that there is a very low potential that an opacity standard would be exceeded. It was determined that continuous monitoring for these sources is not warranted as there would be very limited environmental benefit in continuously monitoring sources that have a low potential to produce visible emissions. Therefore, the TCEQ set the visible observation monitoring frequency for these sources to once per calendar quarter.

The TCEQ has exempted vents that are not capable of producing visible emissions from periodic monitoring requirements. These vents include sources of colorless VOCs, non-fuming liquids, and other materials that cannot produce emissions that obstruct the transmission of light. Passive ventilation vents, such as plumbing vents, are also included in this category. Since this category of vents are not capable of producing opacity due to the physical or chemical characteristics of the emission source, periodic monitoring is not required as it would not yield any additional data to assure compliance with the 20% opacity standard of 30 TAC § 111.111(a)(1)(B).

In the event that visible emissions are detected, either through the quarterly observation or other credible evidence, such as observations from company personnel, the permit holder shall either report a deviation or perform a Test Method 9 observation to determine the opacity consistent with the 6-minute averaging time specified in 30 TAC § 111.111(a)(1)(B). An additional provision is included to monitor combustion sources more frequently than quarterly if alternate fuels are burned for periods greater than 24 consecutive hours. This will address possible emissions that may arise when switching fuel types.

**Stationary Vents subject to 30 TAC Chapter 111 not addressed in the Special Terms and Conditions**

All other stationary vents subject to 30 TAC Chapter 111 not covered in the Special Terms and Conditions are listed in the permit’s Applicable Requirement Summary. The basis for the applicability determinations for these vents are listed in the Determination of Applicable Requirements table.

**Federal Regulatory Applicability Determinations**

The following chart summarizes the applicability of the principal air pollution regulatory programs to the permit area:

<b>Regulatory Program</b>	<b>Applicability (Yes/No)</b>
Prevention of Significant Deterioration (PSD)	Yes
Nonattainment New Source Review (NNSR)	No

Minor NSR	Yes
40 CFR Part 60 - New Source Performance Standards	Yes
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)	Yes
40 CFR Part 63 - NESHAPs for Source Categories	Yes
Title IV (Acid Rain) of the Clean Air Act (CAA)	No
Title V (Federal Operating Permits) of the CAA	Yes
Title VI (Stratospheric Ozone Protection) of the CAA	Yes
CAIR (Clean Air Interstate Rule)	No

### **Basis for Applying Permit Shields**

An operating permit applicant has the opportunity to specifically request a permit shield to document that specific applicable requirements do not apply to emission units in the permit. A permit shield is a special condition stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements. A permit shield has been requested in the application for specific emission units. For the permit shield requests that have been approved, the basis of determination for regulations that the owner/operator need not comply with are located in the "Permit Shield" attachment of the permit.

### **Insignificant Activities**

In general, units not meeting the criteria for inclusion on either Form OP-SUM or Form OP-REQ1 are not required to be addressed in the operating permit application. Examples of these types of units include, but are not limited to, the following:

1. Office activities such as photocopying, blueprint copying, and photographic processes.
2. Sanitary sewage collection and treatment facilities other than those used to incinerate wastewater treatment plant sludge. Stacks or vents for sanitary sewer plumbing traps are also included.
3. Food preparation facilities including, but not limited to, restaurants and cafeterias used for preparing food or beverages primarily for consumption on the premises.
4. Outdoor barbecue pits, campfires, and fireplaces.
5. Laundry dryers, extractors, and tumblers processing bedding, clothing, or other fabric items generated primarily at the premises. This does not include emissions from dry cleaning systems using perchloroethylene or petroleum solvents.
6. Facilities storing only dry, sweet natural gas, including natural gas pressure regulator vents.
7. Any air separation or other industrial gas production, storage, or packaging facility. Industrial gases, for purposes of this list, include only oxygen, nitrogen, helium, neon, argon, krypton, and xenon.
8. Storage and handling of sealed portable containers, cylinders, or sealed drums.
9. Vehicle exhaust from maintenance or repair shops.
10. Storage and use of non-VOC products or equipment for maintaining motor vehicles operated at the site (including but not limited to, antifreeze and fuel additives).
11. Air contaminant detectors and recorders, combustion controllers and shut-off devices, product analyzers, laboratory analyzers, continuous emissions monitors, other analyzers and monitors, and emissions associated with sampling activities. Exception to this category includes sampling activities that are deemed fugitive emissions and under a regulatory leak detection and repair program.

12. Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including but not limited to, assorted vacuum producing devices and laboratory fume hoods.
13. Steam vents, steam leaks, and steam safety relief valves, provided the steam (or boiler feedwater) has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
14. Storage of water that has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
15. Well cellars.
16. Fire or emergency response equipment and training, including but not limited to, use of fire control equipment including equipment testing and training, and open burning of materials or fuels associated with firefighting training.
17. Crucible or pot furnaces with a brim full capacity of less than 450 cubic inches of any molten metal.
18. Equipment used exclusively for the melting or application of wax.
19. All closed tumblers used for the cleaning or deburring of metal products without abrasive blasting, and all open tumblers with a batch capacity of 1,000 lbs. or less.
20. Shell core and shell mold manufacturing machines.
21. Sand or investment molds with a capacity of 100 lbs. or less used for the casting of metals;
22. Equipment used for inspection of metal products.
23. Equipment used exclusively for rolling, forging, pressing, drawing, spinning, or extruding either hot or cold metals by some mechanical means.
24. Instrument systems utilizing air, natural gas, nitrogen, oxygen, carbon dioxide, helium, neon, argon, krypton, and xenon.
25. Battery recharging areas.
26. Brazing, soldering, or welding equipment.

## **Determination of Applicable Requirements**

The tables below include the applicability determinations for the emission units, the index number(s) where applicable, and all relevant unit attribute information used to form the basis of the applicability determination. The unit attribute information is a description of the physical properties of an emission unit which is used to determine the requirements to which the permit holder must comply. For more information about the descriptions of the unit attributes specific Unit Attribute Forms may be viewed at [www.tceq.texas.gov/permitting/air/nav/air\\_all\\_ua\\_forms.html](http://www.tceq.texas.gov/permitting/air/nav/air_all_ua_forms.html).

A list of unit attribute forms is included at the end of this document. Some examples of unit attributes include construction date; product stored in a tank; boiler fuel type; etc.. Generally, multiple attributes are needed to determine the requirements for a given emission unit and index number. The table below lists these attributes in the column entitled "Basis of Determination." Attributes that demonstrate that an applicable requirement applies will be the factual basis for the specific citations in an applicable requirement that apply to a unit for that index number. The TCEQ Air Permits Division has developed flowcharts for determining applicability of state and federal regulations based on the unit attribute information in a Decision Support System (DSS). These flowcharts can be accessed via the internet at [www.tceq.texas.gov/permitting/air/nav/air\\_supportsys.html](http://www.tceq.texas.gov/permitting/air/nav/air_supportsys.html). The Air Permits Division staff may also be contacted for assistance at (512) 239-1250.

The attributes for each unit and corresponding index number provide the basis for determining the specific legal citations in an applicable requirement that apply, including emission limitations or standards, monitoring, recordkeeping, and reporting. The rules were found to apply or not apply by using the unit attributes as answers to decision questions found in the flowcharts of the DSS. Some additional attributes indicate which legal citations of a rule apply. The legal citations that apply to each emission unit may be found in the Applicable Requirements Summary table of the draft permit. There may be some entries or rows of units and rules not found in the permit, or if the permit contains a permit shield, repeated in the permit shield area.

These are sets of attributes that describe negative applicability, or; in other words, the reason why a potentially applicable requirement does not apply.

If applicability determinations have been made which differ from the available flowcharts, an explanation of the decisions involved in the applicability determination is specified in the column “Changes and Exceptions to RRT.” If there were no exceptions to the DSS, then this column has been removed.

The draft permit includes all emission limitations or standards, monitoring, recordkeeping and reporting required by each applicable requirement. If an applicable requirement does not require monitoring, recordkeeping, or reporting, the word “None” will appear in the Applicable Requirements Summary table. If additional periodic monitoring is required for an applicable requirement, it will be explained in detail in the portion of this document entitled “Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected.”

When attributes demonstrate that a unit is not subject to an applicable requirement, the applicant may request a permit shield for those items. The portion of this document entitled “Basis for Applying Permit Shields” specifies which units, if any, have a permit shield.

#### Operational Flexibility

When an emission unit has multiple operating scenarios, it will have a different index number associated with each operating condition. This means that units are permitted to operate under multiple operating conditions. The applicable requirements for each operating condition are determined by a unique set of unit attributes. For example, a tank may store two different products at different points in time. The tank may, therefore, need to comply with two distinct sets of requirements, depending on the product that is stored. Both sets of requirements are included in the permit, so that the permit holder may store either product in the tank.

## Determination of Applicable Requirements

Unit ID	Regulation	Index Number	Basis of Determination*
1	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.</p>
13	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
19-2021	40 CFR Part 60, Subpart Db	60Db-01	Construction/Modification Date = On or before June 19, 1984.
19-2021	40 CFR Part 60, Subpart Dc	60Dc-01	Construction/Modification Date = On or before June 9, 1989.
19-2021	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).
19-2021	40 CFR Part 60, Subpart BB	60BB-01	<p>Facility Type = Straight kraft recovery furnace.</p> <p>Construction/Modification Date = Affected source was constructed/modified after September 24, 1976.</p> <p>Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping.</p>
19-2021	40 CFR Part 63, Subpart MM	63MM-01	<p>Control System = Electrostatic precipitator.</p> <p>Source Type = Nondirect contact evaporator (NDCE) recovery furnace.</p> <p>New or Existing Source = Existing source.</p> <p>Alternative Operating Parameter = Prior approval has been received from the EPA</p> <p>Administrator to monitor an alternative control device operating parameters or no such approval has been requested.</p> <p>Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i).</p> <p>Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.</p>
19-2025	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).

Unit ID	Regulation	Index Number	Basis of Determination*
19-2025	30 TAC Chapter 112, Sulfur Compounds	REG2-01	Facility Type = Smelt dissolving tank. Alternate Emission Limitation = No alternate emission limitation (AEL) has been approved by the TCEQ Executive Director or none has been requested.
19-2025	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Smelt dissolving tank. Construction/Modification Date = Affected source was constructed/modified on or before September 24, 1976.
19-2025	40 CFR Part 63, Subpart MM	63MM-01	Control System = Wet scrubber. Source Type = Smelt dissolving tank. New or Existing Source = Existing source. Alternative Operating Parameter = Prior approval has been received from the EPA Administrator to monitor an alternative control device operating parameters or no such approval has been requested. Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i). Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.
19-2032	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).
19-2032	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Smelt dissolving tank. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Scrubber = The smelt dissolving tank or lime kiln uses a scrubber emission control device.
19-2032	40 CFR Part 63, Subpart MM	63MM-01	Control System = Wet scrubber. Source Type = Smelt dissolving tank. New or Existing Source = Existing source. Alternative Operating Parameter = Prior approval has been received from the EPA Administrator to monitor an alternative control device operating parameters or no such approval has been requested. Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i). Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.
19-2033	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).
19-2033	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Smelt dissolving tank. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Scrubber = The smelt dissolving tank or lime kiln uses a scrubber emission control device.

Unit ID	Regulation	Index Number	Basis of Determination*
19-2033	40 CFR Part 63, Subpart MM	63MM-01	<p>Control System = Wet scrubber.</p> <p>Source Type = Smelt dissolving tank.</p> <p>New or Existing Source = Existing source.</p> <p>Alternative Operating Parameter = Prior approval has been received from the EPA</p> <p>Administrator to monitor an alternative control device operating parameters or no such approval has been requested.</p> <p>Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i).</p> <p>Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.</p>
19-2098	40 CFR Part 60, Subpart Db	60Db-01	<p>Construction/Modification Date = On or after November 25, 1986, and on or before July 9, 1997.</p> <p>D-Series Fuel Type #1 = Natural gas.</p> <p>D-Series Fuel Type #2 = Byproduct/waste.</p> <p>Heat Input Capacity = Heat input capacity is greater than 250 MMBtu/hr (73 MW).</p> <p>PM Monitoring Type = No particulate monitoring.</p> <p>Opacity Monitoring Type = No particulate (opacity) monitoring.</p> <p>Subpart Da = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart Da.</p> <p>Changes to Existing Affected Facility = No change has been made to the existing steam generating unit, which was not previously subject to 40 CFR Part 60, Subpart Db, for the sole purpose of combusting gases containing totally reduced sulfur as defined under 40 CFR § 60.281.</p> <p>NOx Monitoring Type = No NO<sub>x</sub> monitoring.</p> <p>SO<sub>2</sub> Monitoring Type = No SO<sub>2</sub> monitoring.</p> <p>Subpart Ea, Eb or AAAA = The affected facility does not meet applicability requirements of and is subject to 40 CFR Part 60, Subpart Ea, Eb or AAAA.</p> <p>Subpart J = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart J.</p> <p>Subpart E = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart E.</p> <p>Subpart KKKK = The affected facility is not a heat recovery steam generator associated with combined cycle gas turbines and that meets applicability requirements of and is subject to 40 CFR Part 60, Subpart KKKK.</p> <p>Technology Type = None.</p> <p>ACF Option - SO<sub>2</sub> = Other ACF or no ACF.</p> <p>Subpart Cb or BBBB = The affected facility is not covered by an EPA approved State or Federal section 111(d)/129 plan implementing 40 CFR Part 60, Subpart Cb or BBBB emission guidelines.</p> <p>Unit Type = OTHER UNIT TYPE</p> <p>ACF Option - PM = Other ACF or no ACF.</p> <p>Heat Release Rate = Natural gas with a heat release rate less than or equal to 70 MBtu/hr/ft<sup>3</sup>.</p> <p>60.49Da(n) Alternative = The facility is not using the § 60.49Da(n) alternative.</p> <p>ACF Option - NO<sub>x</sub> = Coal, oil, or natural gas with byproduct/waste and coal, oil, and natural gas ACF is less than or equal to 10%.</p> <p>60.49Da(m) Alternative = The facility is not using the § 60.49Da(m) alternative.</p>
19-2098	40 CFR Part 60, Subpart Dc	60Dc-01	<p>Construction/Modification Date = After June 9, 1989 but on or before February 28, 2005.</p> <p>Maximum Design Heat Input Capacity = Maximum design heat input capacity is greater than 100 MMBtu/hr (29 MW).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
19-2098	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).
19-2098	40 CFR Part 60, Subpart BB	60BB-01	<p>Facility Type = Straight kraft recovery furnace.</p> <p>Construction/Modification Date = Affected source was constructed/modified after September 24, 1976.</p> <p>Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping.</p>
19-2098	40 CFR Part 63, Subpart MM	63MM-01	<p>Control System = Electrostatic precipitator.</p> <p>Source Type = Nondirect contact evaporator (NDCE) recovery furnace.</p> <p>New or Existing Source = Existing source.</p> <p>Alternative Operating Parameter = Prior approval has been received from the EPA Administrator to monitor an alternative control device operating parameters or no such approval has been requested.</p> <p>Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i).</p> <p>Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.</p>
1K-DRIV	40 CFR Part 60, Subpart IIII	60IIII-01	Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification on or before July 11, 2005.
1K-DRIV	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	<p>HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake hp less than 100 hp.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction before December 19, 2002.</p> <p>Service Type = Normal use.</p> <p>Stationary RICE Type = Compression ignition engine</p>

Unit ID	Regulation	Index Number	Basis of Determination*
21-2069	40 CFR Part 60, Subpart Db	60Db-01A	<p>60.42b(k)(2) Low Sulfur Exemption = The § 60.42b(k)(2) exemption applies.</p> <p>Construction/Modification Date = Modified after February 28, 2005.</p> <p>D-Series Fuel Type #1 = Nonsolid non fossil fuel other than nonsolid byproduct/waste or hazardous waste.</p> <p>D-Series Fuel Type #2 = Wood.</p> <p>Heat Input Capacity = Heat input capacity is greater than 250 MMBtu/hr (73 MW).</p> <p>PM Monitoring Type = No particulate monitoring.</p> <p>D-Series Fuel Type #3 = Natural gas.</p> <p>Opacity Monitoring Type = No particulate (opacity) monitoring.</p> <p>Subpart Da = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart Da.</p> <p>60.43b(h)(2) Alternative = The facility is not electing to use the alternative requirements of § 60.43b(h)(2) for PM.</p> <p>Changes to Existing Affected Facility = No change has been made to the existing steam generating unit, which was not previously subject to 40 CFR Part 60, Subpart Db, for the sole purpose of combusting gases containing totally reduced sulfur as defined under 40 CFR § 60.281.</p> <p>NO<sub>x</sub> Monitoring Type = No NO<sub>x</sub> monitoring.</p> <p>SO<sub>2</sub> Monitoring Type = Fuel certification (based on fuel analysis per § 60.49b(r)(2)).</p> <p>Subpart Ea, Eb or AAAA = The affected facility does not meet applicability requirements of and is subject to 40 CFR Part 60, Subpart Ea, Eb or AAAA.</p> <p>Subpart J = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart J.</p> <p>Subpart E = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart E.</p> <p>Subpart KKKK = The affected facility is not a heat recovery steam generator associated with combined cycle gas turbines and that meets applicability requirements of and is subject to 40 CFR Part 60, Subpart KKKK.</p> <p>Technology Type = None.</p> <p>ACF Option - SO<sub>2</sub> = Other ACF or no ACF.</p> <p>Subpart Cb or BBBB = The affected facility is not covered by an EPA approved State or Federal section 111(d)/129 plan implementing 40 CFR Part 60, Subpart Cb or BBBB emission guidelines.</p> <p>Unit Type = Spreader stoker.</p> <p>ACF Option - PM = Wood ACF greater than 30%.</p> <p>Heat Release Rate = Natural gas with a heat release rate less than or equal to 70 MBtu/hr/ft<sup>3</sup>.</p> <p>60.49Da(n) Alternative = The facility is not using the § 60.49Da(n) alternative.</p> <p>ACF Option - NO<sub>x</sub> = Natural gas with wood, municipal-type solid waste, or other solid fuel (except coal) and natural gas ACF is less than or equal to 10%.</p> <p>60.49Da(m) Alternative = The facility is not using the § 60.49Da(m) alternative.</p> <p>Heat Input Wood = The facility combusts over 30% wood by heat input.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
21-2069	40 CFR Part 60, Subpart Db	60Db-01B	<p>60.42b(k)(2) Low Sulfur Exemption = The § 60.42b(k)(2) exemption applies.</p> <p>Construction/Modification Date = Modified after February 28, 2005.</p> <p>D-Series Fuel Type #1 = Solid non fossil fuel other than municipal solid waste, solid hazardous waste, solid byproduct/waste or wood.</p> <p>Heat Input Capacity = Heat input capacity is greater than 250 MMBtu/hr (73 MW).</p> <p>PM Monitoring Type = No particulate monitoring.</p> <p>Opacity Monitoring Type = No particulate (opacity) monitoring.</p> <p>Subpart Da = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart Da.</p> <p>60.43b(h)(2) Alternative = The facility is not electing to use the alternative requirements of § 60.43b(h)(2) for PM.</p> <p>Changes to Existing Affected Facility = No change has been made to the existing steam generating unit, which was not previously subject to 40 CFR Part 60, Subpart Db, for the sole purpose of combusting gases containing totally reduced sulfur as defined under 40 CFR § 60.281.</p> <p>NOx Monitoring Type = No NO<sub>x</sub> monitoring.</p> <p>SO<sub>2</sub> Monitoring Type = Fuel certification (based on fuel analysis per § 60.49b(r)(2)).</p> <p>Subpart Ea, Eb or AAAA = The affected facility does not meet applicability requirements of and is subject to 40 CFR Part 60, Subpart Ea, Eb or AAAA.</p> <p>Subpart J = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart J.</p> <p>Subpart E = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart E.</p> <p>Subpart KKKK = The affected facility is not a heat recovery steam generator associated with combined cycle gas turbines and that meets applicability requirements of and is subject to 40 CFR Part 60, Subpart KKKK.</p> <p>Technology Type = None.</p> <p>ACF Option - SO<sub>2</sub> = Other ACF or no ACF.</p> <p>Subpart Cb or BBBB = The affected facility is not covered by an EPA approved State or Federal section 111(d)/129 plan implementing 40 CFR Part 60, Subpart Cb or BBBB emission guidelines.</p> <p>Unit Type = Spreader stoker.</p> <p>ACF Option - PM = Wood ACF greater than 30%.</p> <p>Heat Release Rate = Natural gas with a heat release rate less than or equal to 70 MBtu/hr/ft<sup>3</sup>.</p> <p>60.49Da(n) Alternative = The facility is not using the § 60.49Da(n) alternative.</p> <p>ACF Option - NO<sub>x</sub> = Natural gas with wood, municipal-type solid waste, or other solid fuel (except coal) and natural gas ACF is less than or equal to 10%.</p> <p>60.49Da(m) Alternative = The facility is not using the § 60.49Da(m) alternative.</p> <p>Heat Input Wood = The facility combusts over 30% wood by heat input.</p>
21-2069	40 CFR Part 60, Subpart Dc	60Dc-01	<p>Construction/Modification Date = After February 28, 2005.</p> <p>Maximum Design Heat Input Capacity = Maximum design heat input capacity is greater than 100 MMBtu/hr (29 MW).</p>
21-2069	40 CFR Part 63, Subpart DDDDD	63DDDDD-01	<p>Construction/Reconstruction Date = Construction or reconstruction began on or before June 4, 2010.</p>
21-2069	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	<p>Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
21-2069	40 CFR Part 61, Subpart E	61E-01	Emission Testing Waiver = No waiver of emission testing was obtained under 40 CFR § 61.13 Sludge Sampling = Sludge sampling is conducted to determine compliance with § 61.52(b). Mercury Emissions = Mercury emissions are less than 1,600 grams per 24-hour period
21-2081	40 CFR Part 60, Subpart Db	60Db-01	Construction/Modification Date = On or after November 25, 1986, and on or before July 9, 1997. D-Series Fuel Type #1 = Natural gas. Heat Input Capacity = Heat input capacity is greater than 250 MMBtu/hr (73 MW). PM Monitoring Type = No particulate monitoring. Opacity Monitoring Type = No particulate (opacity) monitoring. Subpart Da = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart Da. Changes to Existing Affected Facility = No change has been made to the existing steam generating unit, which was not previously subject to 40 CFR Part 60, Subpart Db, for the sole purpose of combusting gases containing totally reduced sulfur as defined under 40 CFR § 60.281. NOx Monitoring Type = Continuous emission monitoring system. Subpart D = The affected facility does not meet the applicability requirements of 40 CFR Part 60, Subpart D. SO2 Monitoring Type = No SO2 monitoring. Subpart Ea, Eb or AAAA = The affected facility does not meet applicability requirements of and is subject to 40 CFR Part 60, Subpart Ea, Eb or AAAA. Subpart J = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart J. Subpart E = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart E. Subpart KKKK = The affected facility is not a heat recovery steam generator associated with combined cycle gas turbines and that meets applicability requirements of and is subject to 40 CFR Part 60, Subpart KKKK. Technology Type = None. ACF Option - SO2 = Other ACF or no ACF. Subpart Cb or BBBB = The affected facility is not covered by an EPA approved State or Federal section 111(d)/129 plan implementing 40 CFR Part 60, Subpart Cb or BBBB emission guidelines. Unit Type = OTHER UNIT TYPE ACF Option - PM = Other ACF or no ACF. Heat Release Rate = Natural gas with a heat release rate less than or equal to 70 MBtu/hr/ft <sup>3</sup> . 60.49Da(n) Alternative = The facility is not using the § 60.49Da(n) alternative. ACF Option - NOx = Other ACF or no ACF. 60.49Da(m) Alternative = The facility is not using the § 60.49Da(m) alternative.
21-2081	40 CFR Part 60, Subpart Dc	60Dc-01	Construction/Modification Date = After June 9, 1989 but on or before February 28, 2005. Maximum Design Heat Input Capacity = Maximum design heat input capacity is greater than 100 MMBtu/hr (29 MW).
21-2081	40 CFR Part 63, Subpart DDDDD	63DDDDD-01	Construction/Reconstruction Date = Construction or reconstruction began on or before June 4, 2010.
21-2105	40 CFR Part 60, Subpart D	60D-01	Construction/Modification Date = On or before August 17, 1971.

Unit ID	Regulation	Index Number	Basis of Determination*
21-2105	40 CFR Part 60, Subpart Db	60Db-01	Construction/Modification Date = On or before June 19, 1984.
21-2105	40 CFR Part 60, Subpart Dc	60Dc-00	Construction/Modification Date = On or before June 9, 1989.
21-2105	40 CFR Part 63, Subpart DDDDD	63DDDDD-01	Construction/Reconstruction Date = Construction or reconstruction began on or before June 4, 2010.
21-2105	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).
21-2105	40 CFR Part 61, Subpart E	61E-01	Emission Testing Waiver = No waiver of emission testing was obtained under 40 CFR § 61.13 Sludge Sampling = Sludge sampling is conducted to determine compliance with § 61.52(b). Mercury Emissions = Mercury emissions are less than 1,600 grams per 24-hour period
24-2082	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).
24-2082	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Lime kiln. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Fuel Type = Gaseous fossil fuel.
24-2082	40 CFR Part 60, Subpart BB	60BB-02	Facility Type = Lime kiln. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Fuel Type = Liquid fossil fuel.
24-2082	40 CFR Part 63, Subpart MM	63MM-01	Control System = Electrostatic precipitator. Source Type = Lime kiln. New or Existing Source = Existing source. Alternative Operating Parameter = Prior approval has been received from the EPA Administrator to monitor an alternative control device operating parameters or no such approval has been requested. Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i). Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.
24-2154	30 TAC Chapter 111, Nonagricultural Processes	R1151-1	Effective Stack Height = The effective stack height as calculated in the equation specified by 30 TAC §111.151(c) is not less than the standard effective stack height as determined by Table 2 specified in 30 TAC §111.151(b).

Unit ID	Regulation	Index Number	Basis of Determination*
24-2154	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Lime kiln. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Fuel Type = Gaseous fossil fuel.
24-2154	40 CFR Part 63, Subpart MM	63MM-01	Control System = Wet scrubber. Source Type = Lime kiln. New or Existing Source = Existing source. Alternative Operating Parameter = Prior approval has been received from the EPA Administrator to monitor an alternative control device operating parameters or no such approval has been requested. Kraft or Soda Source Alternative = The source at an existing kraft or soda pulp mill either operates less than 6,300 hours per year or operates 6,300 hours per year or more and is complying with the requirements of 40 CFR § 63.862(a)(1)(i). Subject to 40 CFR Part 63, Subpart S = The source is not subject to 40 CFR Part 63, Subpart S.
26	30 TAC Chapter 111, Visible Emissions	R1111-01	Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113. Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit. Opacity Monitoring System = A continuous emissions monitoring system (CEMS) capable of measuring the opacity of emissions is installed in the vent in accordance with 30 TAC § 111.111(a)(1)(C). Construction Date = After January 31, 1972 Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.
3	30 TAC Chapter 111, Visible Emissions	R1111-01	Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113. Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit. Opacity Monitoring System = A continuous emissions monitoring system (CEMS) capable of measuring the opacity of emissions is installed in the vent in accordance with 30 TAC § 111.111(a)(1)(C). Construction Date = On or before January 31, 1972 Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.
30-2602	40 CFR Part 60, Subpart Kb	60Kb-01	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 19,800 gallons (75,000 liters) but less than 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is greater than or equal to 2.2 psia but less than 4.0 psia Storage Vessel Description = Emission controls not required (fixed roof)
4	30 TAC Chapter 111, Visible Emissions	R1111-01	Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113. Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit. Opacity Monitoring System = A continuous emissions monitoring system (CEMS) capable of measuring the opacity of emissions is installed in the vent in accordance with 30 TAC § 111.111(a)(1)(C). Construction Date = On or before January 31, 1972 Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.

Unit ID	Regulation	Index Number	Basis of Determination*
43	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = After January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
50	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = After January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.</p>
51	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = After January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.</p>
5B	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = Optical instrument capable of measuring the opacity of emissions is not installed in the vent or optical instrumentation does not meet the requirements of § 111.111(a)(1)(D), or the vent stream does not qualify for the exemption in § 111.111(a)(3).</p> <p>Construction Date = On or before January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is less than 100,000 actual cubic feet per minute.</p>
7	30 TAC Chapter 111, Visible Emissions	R1111-01	<p>Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113.</p> <p>Vent Source = The source of the vent is not a steam generator fired by solid fossil fuel, oil or a mixture of oil and gas and is not a catalyst regenerator for a fluid bed catalytic cracking unit.</p> <p>Opacity Monitoring System = A continuous emissions monitoring system (CEMS) capable of measuring the opacity of emissions is installed in the vent in accordance with 30 TAC § 111.111(a)(1)(C).</p> <p>Construction Date = After January 31, 1972</p> <p>Effluent Flow Rate = Effluent flow rate is at least 100,000 actual cubic feet per minute.</p>
705760-210	40 CFR Part 60, Subpart Kb	60Kb-01	<p>Product Stored = Petroleum liquid (other than petroleum or condensate)</p> <p>Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)</p>

<b>Unit ID</b>	<b>Regulation</b>	<b>Index Number</b>	<b>Basis of Determination*</b>
705760-210	40 CFR Part 60, Subpart Kb	60Kb-02	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)
71-2422	40 CFR Part 60, Subpart Kb	60Kb-01	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)
7K-DRIV	40 CFR Part 60, Subpart IIII	60IIII-01	Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification on or before July 11, 2005.
7K-DRIV	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2. Brake HP = Stationary RICE with a brake hp less than 100 hp. Construction/Reconstruction Date = Commenced construction or reconstruction before December 19, 2002. Service Type = Normal use. Stationary RICE Type = Compression ignition engine
7M-DRIV	40 CFR Part 60, Subpart IIII	60IIII-01	Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification on or before July 11, 2005.
7M-DRIV	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2. Brake HP = Stationary RICE with a brake hp less than 100 hp. Construction/Reconstruction Date = Commenced construction or reconstruction before December 19, 2002. Service Type = Normal use. Stationary RICE Type = Compression ignition engine
80-2865	40 CFR Part 60, Subpart Kb	60Kb-01	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 19,800 gallons (75,000 liters) but less than 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia
80-2867	40 CFR Part 60, Subpart Kb	60Kb-01	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 19,800 gallons (75,000 liters) but less than 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia
80-2869	40 CFR Part 60, Subpart Kb	60Kb-01	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 19,800 gallons (75,000 liters) but less than 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 2.2 psia

Unit ID	Regulation	Index Number	Basis of Determination*
DF-PMP1	40 CFR Part 60, Subpart IIII	60IIII-01	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after July 11, 2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating is greater than or equal to 130 KW and less than 450 KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder.</p> <p>Service = CI ICE is a fire-pump engine, an emergency engine certified to National Fire Protection Association requirements.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE that is commencing new construction.</p> <p>Compliance Option = The CI ICE and control device is installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions.</p> <p>Manufacture Date = Date of manufacture is after 07/01/2006.</p> <p>Model Year = CI ICE was manufactured in model year 2009.</p> <p>Options = The CI ICE rated speed is less than 2650 RPMs.</p>
DF-PMP1	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	<p>HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake hp greater than or equal to 250 hp and less than 300 hp.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p> <p>Service Type = Emergency use where the RICE does not operate or is not contractually obligated to be available for more than 15 hours per calendar year as specified in 40 CFR §63.6640(f)(2)(ii)-(iii) or does not operate as specified in 40 CFR §63.6640(f)(4)(ii).</p>
DF-PMP2	40 CFR Part 60, Subpart IIII	60IIII-01	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after July 11, 2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating is greater than or equal to 130 KW and less than 450 KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder.</p> <p>Service = CI ICE is a fire-pump engine, an emergency engine certified to National Fire Protection Association requirements.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE that is commencing new construction.</p> <p>Compliance Option = The CI ICE and control device is installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions.</p> <p>Manufacture Date = Date of manufacture is after 07/01/2006.</p> <p>Model Year = CI ICE was manufactured in model year 2009.</p> <p>Options = The CI ICE rated speed is less than 2650 RPMs.</p>
DF-PMP2	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	<p>HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake hp greater than or equal to 250 hp and less than 300 hp.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p> <p>Service Type = Emergency use where the RICE does not operate or is not contractually obligated to be available for more than 15 hours per calendar year as specified in 40 CFR §63.6640(f)(2)(ii)-(iii) or does not operate as specified in 40 CFR §63.6640(f)(4)(ii).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
DIESELLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-01	Chapter 115 Facility Type = Motor vehicle fuel dispensing facility
GASLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-01	Chapter 115 Facility Type = Motor vehicle fuel dispensing facility
GEN1	40 CFR Part 60, Subpart JJJJ	60JJJJ-01	Construction/Reconstruction/Modification Date = The stationary spark ignition (SI) internal combustion engine (ICE) commenced construction, reconstruction or modification prior to June 12, 2006.
GEN1	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2. Brake HP = Stationary RICE with a brake hp greater than or equal to 300 hp and less than or equal to 500 hp. Construction/Reconstruction Date = Commenced construction or reconstruction on or after December 19, 2002, but before June 12, 2006. Service Type = Emergency use where the RICE does not operate or is not contractually obligated to be available for more than 15 hours per calendar year as specified in 40 CFR §63.6640(f)(2)(ii)-(iii) or does not operate as specified in 40 CFR §63.6640(f)(4)(ii). Stationary RICE Type = 4 stroke spark ignited lean burn engine.
GRPDIG1	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Digester. Gas Control Techniques = Gases are combusted with other waste gases in an incinerator or other combustion device. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Minimum Temperature = The gases are subjected to a minimum temperature of 1200° F for at least 0.5 seconds.
GRPDIG2	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Digester. Gas Control Techniques = Gases are combusted with other waste gases in an incinerator or other combustion device. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Minimum Temperature = The gases are subjected to a minimum temperature of 1200° F for at least 0.5 seconds.
GRPEV1	40 CFR Part 60, Subpart BB	60BB-01	Facility Type = Multiple effect evaporator. Gas Control Techniques = Gases are combusted with other waste gases in an incinerator or other combustion device. Construction/Modification Date = Affected source was constructed/modified after September 24, 1976. Kraft Pulping Combination = Kraft pulping is not combined with neutral sulfite semi-chemical pulping. Minimum Temperature = The gases are subjected to a minimum temperature of 1200° F for at least 0.5 seconds.
GRPTK01	40 CFR Part 60, Subpart Kb	60Kb-22	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 0.5 psia
GRPTK02	40 CFR Part 60, Subpart Kb	60Kb-01	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)

Unit ID	Regulation	Index Number	Basis of Determination*
GRPTK05	40 CFR Part 60, Subpart Kb	60Kb-01	<p>Product Stored = Volatile organic liquid</p> <p>Storage Capacity = Capacity is greater than or equal to 10,600 gallons (40,000 liters) but less than 19,800 gallons (75,000 liters)</p>
LF-FUG	40 CFR Part 61, Subpart M	61M-01	<p>Waste Disposal Site = Active waste disposal site for manufacturing, fabricating, demolition, renovation, and spraying operations, an asbestos mill, or operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.</p> <p>Alternate Control Method = The facility is not using an EPA approved alternative control method or no such alternate has been requested.</p> <p>Emissions Compliance = No visible emissions are discharged to the outside air from the active waste disposal site.</p>
MEOHLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-01	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than gasoline.</p> <p>Transfer Type = Only unloading.</p>
PROKRAFT	40 CFR Part 63, Subpart S	63S-03	<p>Bleaching System = The bleaching system from the kraft, sulfite, or soda process uses chlorinated compounds.</p> <p>Clean Condensate Alternative = The affected source is complying with one of the requirements in § 63.443(a)(1)(ii)-(iv).</p> <p>Process = Kraft pulping process using wood.</p> <p>Pulp Process Condensates = Condensates generated from equipment in 40 CFR § 63.446(b)(1) - (5) are being controlled.</p> <p>By-pass Line = The process uses a by-pass line in the closed vent system that could divert vent streams containing hazardous air pollutants to the atmosphere.</p> <p>Reduction of Chlorinated HAP Emissions = Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP.</p> <p>Condensate Control Tank = A condensate tank is used in the collection system.</p> <p>Control Device at Kraft, Soda, or Semi-chemical Process = Reduce total HAP emissions using a boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.</p> <p>Flow Indicator = A flow indicator is installed to monitor the by-pass line.</p> <p>Monitoring Parameters = Complying with 40 CFR § 63.453(c).</p> <p>Alternative Monitoring = NO</p> <p>Bleaching Plant Provisions = Complying with 40 CFR § 63.440(d)(3)(i).</p> <p>Condensate Treatment = Treat the pulping process condensates to reduce or destroy the total hazardous air pollutants by at least 92 percent or more by weight and discharging the pulping process condensate below the liquid surface of a biological treatment system.</p> <p>Construction Date = On or before December 17, 1993.</p> <p>Hypochlorite or Chlorine Bleaching = Hypochlorite or chlorine is not used in the bleaching systems and lines.</p> <p>Mixed Pond = The biological treatment pond is non-thoroughly mixed.</p> <p>Daily Monitoring Procedures = As an alternative to the monitoring requirements of paragraph 40 CFR § 63.453(j)(1), conduct daily monitoring of the site-specific parameters established according to the procedures specified 40 CFR § 63.453(n).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
PROKRAFT	40 CFR Part 63, Subpart S	63S-04	<p>Bleaching System = The bleaching system from the kraft, sulfite, or soda process uses chlorinated compounds.</p> <p>Clean Condensate Alternative = The affected source is complying with one of the requirements in § 63.443(a)(1)(ii)-(iv).</p> <p>Process = Kraft pulping process using wood.</p> <p>Pulp Process Condensates = Condensates generated from equipment in 40 CFR § 63.446(b)(1) - (5) are being controlled.</p> <p>By-pass Line = The process uses a by-pass line in the closed vent system that could divert vent streams containing hazardous air pollutants to the atmosphere.</p> <p>Reduction of Chlorinated HAP Emissions = Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP.</p> <p>Condensate Control Tank = A condensate tank is used in the collection system.</p> <p>Control Device at Kraft, Soda, or Semi-chemical Process = Reduce total HAP emissions using a boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.</p> <p>Flow Indicator = A car-seal or lock-and-key closure is used to control the by-pass line.</p> <p>Monitoring Parameters = Complying with 40 CFR § 63.453(c).</p> <p>Alternative Monitoring = NO</p> <p>Bleaching Plant Provisions = Complying with 40 CFR § 63.440(d)(3)(i).</p> <p>Condensate Treatment = Treat the pulping process condensates to reduce or destroy the total hazardous air pollutants by at least 92 percent or more by weight and discharging the pulping process condensate below the liquid surface of a biological treatment system.</p> <p>Construction Date = On or before December 17, 1993.</p> <p>Hypochlorite or Chlorine Bleaching = Hypochlorite or chlorine is not used in the bleaching systems and lines.</p> <p>Mixed Pond = The biological treatment pond is non-thoroughly mixed.</p> <p>Daily Monitoring Procedures = As an alternative to the monitoring requirements of paragraph 40 CFR § 63.453(j)(1), conduct daily monitoring of the site-specific parameters established according to the procedures specified 40 CFR § 63.453(n).</p>
SOAPLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-01	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than gasoline.</p> <p>Transfer Type = Only loading.</p>
TURPLOAD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-01	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than gasoline.</p> <p>Transfer Type = Only loading.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
WW-PMP1	40 CFR Part 60, Subpart IIII	60IIII-01	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after July 11, 2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating is greater than or equal to 130 KW and less than or equal to 2237 KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder.</p> <p>Service = CI ICE is an emergency engine.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE that is commencing new construction.</p> <p>Compliance Option = Records are being kept of manufacturer data according to §60.4211(b)(3).</p> <p>Manufacture Date = Date of manufacture is after 04/01/2006.</p> <p>Model Year = CI ICE was manufactured prior to model year 2007.</p>
WW-PMP1	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	<p>HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake hp greater than or equal to 100 and less than 250 hp.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p> <p>Service Type = Emergency use where the RICE does not operate or is not contractually obligated to be available for more than 15 hours per calendar year as specified in 40 CFR §63.6640(f)(2)(ii)-(iii) or does not operate as specified in 40 CFR §63.6640(f)(4)(ii).</p>
WW-PMP2	40 CFR Part 60, Subpart IIII	60IIII-01	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after July 11, 2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating is greater than or equal to 130 KW and less than or equal to 2237 KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder.</p> <p>Service = CI ICE is an emergency engine.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE that is commencing new construction.</p> <p>Compliance Option = Records are being kept of manufacturer data according to §60.4211(b)(3).</p> <p>Manufacture Date = Date of manufacture is after 04/01/2006.</p> <p>Model Year = CI ICE was manufactured prior to model year 2007.</p>
WW-PMP2	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-01	<p>HAP Source = Any stationary source or group of stationary sources of hazardous air pollutants meeting the definition of a major source as described in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake hp greater than or equal to 100 and less than 250 hp.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p> <p>Service Type = Emergency use where the RICE does not operate or is not contractually obligated to be available for more than 15 hours per calendar year as specified in 40 CFR §63.6640(f)(2)(ii)-(iii) or does not operate as specified in 40 CFR §63.6640(f)(4)(ii).</p>

\* - The "unit attributes" or operating conditions that determine what requirements apply

## NSR Versus Title V FOP

The state of Texas has two Air permitting programs, New Source Review (NSR) and Title V Federal Operating Permits. The two programs are substantially different both in intent and permit content.

NSR is a preconstruction permitting program authorized by the Texas Clean Air Act and Title I of the Federal Clean Air Act (FCAA). The processing of these permits is governed by 30 Texas Administrative Code (TAC) Chapter 116.111. The Title V Federal Operating Program is a federal program authorized under Title V of the FCAA that has been delegated to the state of Texas to administer and is governed by 30 TAC Chapter 122. The major differences between the two permitting programs are listed in the table below:

NSR Permit	Federal Operating Permit(FOP)
Issued Prior to new Construction or modification of an existing facility	For initial permit with application shield, can be issued after operation commences; significant revisions require approval prior to operation.
Authorizes air emissions	Codifies existing applicable requirements, does not authorize new emissions
Ensures issued permits are protective of the environment and human health by conducting a health effects review and that requirement for best available control technology (BACT) is implemented.	Applicable requirements listed in permit are used by the inspectors to ensure proper operation of the site as authorized. Ensures that adequate monitoring is in place to allow compliance determination with the FOP.
Up to two Public notices may be required. Opportunity for public comment and contested case hearings for some authorizations.	One public notice required. Opportunity for public comments. No contested case hearings.
Applies to all point source emissions in the state.	Applies to all major sources and some non-major sources identified by the EPA.
Applies to facilities: a portion of site or individual emission sources	One or multiple FOPs cover the entire site (consists of multiple facilities)
Permits include terms and conditions under which the applicant must construct and operate its various equipment and processes on a facility basis.	Permits include terms and conditions that specify the general operational requirements of the site; and also include codification of all applicable requirements for emission units at the site.
Opportunity for EPA review for Federal Prevention of Significant Deterioration (PSD) and Nonattainment (NA) permits for major sources.	Opportunity for EPA review, Affected states review, and a Public petition period for every FOP.
Permits have a table listing maximum emission limits for pollutants	Permit has an applicable requirements table and Periodic Monitoring (PM) / Compliance Assurance Monitoring (CAM) tables which document applicable monitoring requirements.
Permits can be altered or amended upon application by company. Permits must be issued before construction or modification of facilities can begin.	Permits can be revised through several revision processes, which provide for different levels of public notice and opportunity to comment. Changes that would be significant revisions require that a revised permit be issued before those changes can be operated.
NSR permits are issued independent of FOP requirements.	FOP are independent of NSR permits, but contain a list of all NSR permits incorporated by reference

## New Source Review Requirements

Below is a list of the New Source Review (NSR) permits for the permitted area. These NSR permits are incorporated by reference into the operating permit and are enforceable under it. These permits can be found in the main TCEQ file room, located on the first floor of Building E, 12100 Park 35 Circle, Austin, Texas. The Public Education Program may be contacted at 1-800-687-4040 or the Air Permits Division (APD) may be contacted at 1-512-239-1250 for help with any question.

Additionally, the site contains emission units that are permitted by rule under the requirements of 30 TAC Chapter 106, Permits by Rule. The following table specifies the permits by rule that apply to the site. All current permits by rule are contained in Chapter 106. Outdated 30 TAC Chapter 106 permits by rule may be viewed at the following Web site:

[www.tceq.texas.gov/permitting/air/permitbyrule/historical\\_rules/old106list/index106.html](http://www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/old106list/index106.html)

Outdated Standard Exemption lists may be viewed at the following Web site:

[www.tceq.texas.gov/permitting/air/permitbyrule/historical\\_rules/oldselist/se\\_index.html](http://www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/oldselist/se_index.html)

<b>Prevention of Significant Deterioration (PSD) Permits</b>	
PSD Permit No.: PSDTX785M7	Issuance Date: 05/31/2013
<b>Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.</b>	
Authorization No.: 20365	Issuance Date: 05/31/2013
<b>Permits By Rule (30 TAC Chapter 106) for the Application Area</b>	
Number: 106.261	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 09/04/2000
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.264	Version No./Date: 03/14/1997
Number: 106.371	Version No./Date: 03/14/1997
Number: 106.371	Version No./Date: 09/04/2000
Number: 106.433	Version No./Date: 09/04/2000
Number: 106.452	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.473	Version No./Date: 09/04/2000
Number: 106.478	Version No./Date: 09/04/2000
Number: 106.511	Version No./Date: 09/04/2000
Number: 106.512	Version No./Date: 06/13/2001
Number: 106.532	Version No./Date: 09/04/2000

Number: 7	Version No./Date: 10/04/1995
Number: 51	Version No./Date: 05/04/1994
Number: 118	Version No./Date: 05/04/1994
Number: 118	Version No./Date: 06/07/1996

**Emission Units and Emission Points**

In air permitting terminology, any source capable of generating emissions (for example, an engine or a sandblasting area) is called an Emission Unit. For purposes of Title V, emission units are specifically listed in the operating permit when they have applicable requirements other than New Source Review (NSR), or when they are listed in the permit shield table.

The actual physical location where the emissions enter the atmosphere (for example, an engine stack or a sandblasting yard) is called an emission point. For New Source Review preconstruction permitting purposes, every emission unit has an associated emission point. Emission limits are listed in an NSR permit, associated with an emission point. This list of emission points and emission limits per pollutant is commonly referred to as the “Maximum Allowable Emission Rate Table”, or “MAERT” for short. Specifically, the MAERT lists the Emission Point Number (EPN) that identifies the emission point, followed immediately by the Source Name, identifying the emission unit that is the source of those emissions on this table.

Thus, by reference, an emission unit in a Title V operating permit is linked by reference number to an NSR authorization, and its related emission point.

**Monitoring Sufficiency**

Federal and state rules, 40 CFR § 70.6(a)(3)(i)(B) and 30 TAC § 122.142(c) respectively, require that each federal operating permit include additional monitoring for applicable requirements that lack periodic or instrumental monitoring (which may include recordkeeping that serves as monitoring) that yields reliable data from a relevant time period that are representative of the emission unit’s compliance with the applicable emission limitation or standard. Furthermore, the federal operating permit must include compliance assurance monitoring (CAM) requirements for emission sources that meet the applicability criteria of 40 CFR Part 64 in accordance with 40 CFR § 70.6(a)(3)(i)(A) and 30 TAC § 122.604(b).

With the exception of any emission units listed in the Periodic Monitoring or CAM Summaries in the FOP, the TCEQ Executive Director has determined that the permit contains sufficient monitoring, testing, recordkeeping, and reporting requirements that assure compliance with the applicable requirements. If applicable, each emission unit that requires additional monitoring in the form of periodic monitoring or CAM is described in further detail under the Rationale for CAM/PM Methods Selected section following this paragraph.

## Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected

### Periodic Monitoring:

The Federal Clean Air Act requires that each federal operating permit include monitoring sufficient to assure compliance with the terms and conditions of the permit. Most of the emission limits and standards applicable to emission units at Title V sources include adequate monitoring to show that the units meet the limits and standards. For those requirements that do not include monitoring, or where the monitoring is not sufficient to assure compliance, the federal operating permit must include such monitoring for the emission units affected. The following emission units are subject to periodic monitoring requirements because the emission units are subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement that does not already require monitoring, or the monitoring for the applicable requirement is not sufficient to assure compliance:

<b>Unit/Group/Process Information</b>	
ID No.: 1	
Control Device ID No.: C-512	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: One hour	
Deviation Limit: Maintain differential pressure across scrubber above 9 inches water column	
Basis of monitoring: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 1	
Control Device ID No.: C-512	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour average	
Deviation Limit: Minimum Liquid Flow Rate = 1,500 gpm	
<p>Basis of monitoring:  A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 13	
Control Device ID No.: C-724	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(A)
<b>Monitoring Information</b>	
Indicator: Visible Emissions	
Minimum Frequency: once per calendar quarter	
Averaging Period: n/a	
Deviation Limit: Maximum Opacity = 30%	
<p>Basis of monitoring:  The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations. The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 43	
Control Device ID No.: C-827	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(B)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 20 inches water column	
<p>Basis of monitoring:  A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 43	
Control Device ID No.: C-827	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(B)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 300 gpm	
<p>Basis of monitoring:  A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 50	
Control Device ID No.: C-515	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour average	
Deviation Limit: Minimum Liquid Flow Rate = 5.05 gallons of water per thousand pounds of gas (air) per hour	
<p>Basis of monitoring:  A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 50	
Control Device ID No.: C-515	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: One hour	
Deviation Limit: Required scrubber differential pressure: Across venturi (inches of water) = (0.1) x (percent hourly average boiler load) - 0.5. That is, at 100 percent full load, the required pressure drop would be 9.5 inches of water.	
<p>Basis of monitoring:</p> <p>A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 51	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
<b>Monitoring Information</b>	
Indicator: Fuel Type	
Minimum Frequency: Annually	
Averaging Period: n/a	
Deviation Limit: Fuel limited to natural gas.	
Basis of monitoring: Industry has demonstrated through performance tests and historical data that opacity and particulate matter standards are consistently met when combustion units fire natural gas only.	

<b>Unit/Group/Process Information</b>	
ID No.: 5B	
Control Device ID No.: C-635	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(A)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 6.3 inches	
<p>Basis of monitoring:  A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 5B	
Control Device ID No.: C-635	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-01
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(A)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 210.5 gpm	
<p>Basis of monitoring:  A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

**Compliance Assurance Monitoring (CAM):**

Compliance Assurance Monitoring (CAM) is a federal monitoring program established under Title 40 Code of Federal Regulations Part 64 (40 CFR Part 64).

Emission units are subject to CAM requirements if they meet the following criteria:

1. the emission unit is subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement;
2. the emission unit uses a control device to achieve compliance with the emission limitation or standard specified in the applicable requirement; and
3. the emission unit has the pre-control device potential to emit greater than or equal to the amount in tons per year for a site to be classified as a major source.

The following table(s) identify the emission unit(s) that are subject to CAM:

<b>Unit/Group/Process Information</b>	
ID No.: 19-2021	
Control Device ID No.: C-621	Control Device Type: Wet or Dry Electrostatic Precipitator
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum Opacity = 20%	
Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA’s “Compliance Assurance Monitoring (CAM) Technical Guidance Document” (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA’s Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to “EPA Reference Method 22” procedures.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2021	
Control Device ID No.: C-621	Control Device Type: Wet or Dry Electrostatic Precipitator
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(1)(i)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum Opacity = 20%	
<p>Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2025	
Control Device ID No.: C-635	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 6.3 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2025	
Control Device ID No.: C-635	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 210.5 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2032	
Control Device ID No.: C-623	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 6.6 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2032	
Control Device ID No.: C-623	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 204.1 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2032	
Control Device ID No.: C-623	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(2)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 6.6 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2032	
Control Device ID No.: C-623	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(2)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 204.1 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2033	
Control Device ID No.: C-264	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 6.6 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2033	
Control Device ID No.: C-624	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 204.8 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2033	
Control Device ID No.: C-624	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(2)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 6.6 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2033	
Control Device ID No.: C-624	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(2)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 204.8 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2098	
Control Device ID No.: C-618	Control Device Type: Wet or Dry Electrostatic Precipitator
Control Device ID No.: C-620	Control Device Type: Wet or Dry Electrostatic Precipitator
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum opacity = 20%	
<p>Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 19-2098	
Control Device ID No.: C-618	Control Device Type: Wet Scrubber
Control Device ID No.: C-620	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(1)(i)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum Opacity = 20%	
<p>Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 21-2069	
Control Device ID No.: C-515	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: One hour	
Deviation Limit: Required scrubber differential pressure: Across venturi (inches of water) = (0.1) x (percent hourly average boiler load) - 0.5. That is, at 100 percent full load, the required pressure drop would be 9.5 inches of water.	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 21-2069	
Control Device ID No.: C-515	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour average	
Deviation Limit: Minimum Liquid Flow Rate = 5.05 gallons of water per thousand pounds of gas (air) per hour	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 21-2069	
Control Device ID No.: C-515	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Db	SOP Index No.: 60Db-01A
Pollutant: PM	Main Standard: § 60.43b(h)(4)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: One hour	
Deviation Limit: Required scrubber differential pressure: Across venturi (inches of water) = (0.1) x (percent hourly average boiler load) - 0.5. That is, at 100 percent full load, the required pressure drop would be 9.5 inches of water.	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 21-2069	
Control Device ID No.: C-515	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Db	SOP Index No.: 60Db-01A
Pollutant: PM	Main Standard: § 60.43b(h)(4)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour average	
Deviation Limit: Minimum Liquid Flow Rate = 5.05 gallons of water per thousand pounds of gas (air) per hour	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 21-2105	
Control Device ID No.: C-512	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: four times per hour	
Averaging Period: one hour	
Deviation Limit: Maintain differential pressure across scrubber above 9 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 21-2105	
Control Device ID No.: C-512	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour average	
Deviation Limit: Minimum Liquid Flow Rate = 1,500 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2082	
Control Device ID No.: C-829	Control Device Type: Wet or Dry Electrostatic Precipitator
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum Opacity = 20%	
<p>Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2082	
Control Device ID No.: C-829	Control Device Type: Wet or Dry Electrostatic Precipitator
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(3)(i)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum Opacity = 20%	
<p>Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2082	
Control Device ID No.: C-829	Control Device Type: Wet or Dry Electrostatic Precipitator
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-02
Pollutant: PM	Main Standard: § 60.282(a)(3)(ii)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: six times per minute	
Averaging Period: six-minute	
Deviation Limit: Maximum Opacity = 20%	
<p>Basis of CAM: The option to perform opacity readings or visible emissions to demonstrate compliance is consistent with EPA Reference Test Method 9 and 22. Opacity and visible emissions have been used as an indicator of particulate emissions in many federal rules including 40 CFR Part 60, Subpart F and Subpart HH. In addition, use of these indicators is consistent with the EPA's "Compliance Assurance Monitoring (CAM) Technical Guidance Document" (August 1998). Monitoring specifications and procedures for the opacity are consistent with federal requirements and include the EPA's Test Method 9 for determining opacity by visual observations and the requirements of 40 CFR § 60.13 for a continuous opacity monitoring system (COMS). The monitoring specifications and procedures for the visible emissions monitoring are similar to "EPA Reference Method 22" procedures.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2154	
Control Device ID No.: C-827	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 20 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2154	
Control Device ID No.: C-827	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Nonagricultural Processes	SOP Index No.: R1151-1
Pollutant: PM	Main Standard: § 111.151(a)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 300 gpm	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2154	
Control Device ID No.: C-827	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(3)(i)
<b>Monitoring Information</b>	
Indicator: Pressure Drop	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Pressure Drop = 20 inches water column	
Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.	

<b>Unit/Group/Process Information</b>	
ID No.: 24-2154	
Control Device ID No.: C-827	Control Device Type: Wet Scrubber
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart BB	SOP Index No.: 60BB-01
Pollutant: PM	Main Standard: § 60.282(a)(3)(i)
<b>Monitoring Information</b>	
Indicator: Liquid Flow Rate	
Minimum Frequency: Four times per hour	
Averaging Period: 3-hour, rolling	
Deviation Limit: Minimum Liquid Flow Rate = 300 gpm	
<p>Basis of CAM: A common way to control particulate emissions is by use of a wet scrubber. The option to monitor pressure drop and liquid flow rate may indicate malfunctions in the liquid pumping equipment, blockage of pipes or spray nozzles or the need to adjust the variable throat opening (if applicable). This type monitoring for wet scrubbers is commonly required in federal rules including 40 CFR Part 60, Subparts Y, HH, LL, NN, OOO, and PPP.</p>	

## Compliance Review

### Compliance History Review

1. In accordance with 30 TAC Chapter 60, the compliance history was reviewed on ..... **11/6/14**
2. The compliance history review evaluated the period from ..... **10/17/08 - 11/6/14**  
Site rating: **4.67**      Company rating: **5.29**  
(*High < 0.10; Satisfactory > 0.10 and < 55; Unsatisfactory > 55*)
3. Has the permit changed on the basis of the compliance history or site/company rating? ..... **No**

### Site/Permit Area Compliance Status Review

1. Were there any out-of-compliance units listed on Form OP-ACPS? ..... **No**
2. Is a compliance plan and schedule included in the permit? ..... **No**

### Available Unit Attribute Forms

- OP-UA1 - Miscellaneous and Generic Unit Attributes
- OP-UA2 - Stationary Reciprocating Internal Combustion Engine Attributes
- OP-UA3 - Storage Tank/Vessel Attributes
- OP-UA4 - Loading/Unloading Operations Attributes
- OP-UA5 - Process Heater/Furnace Attributes
- OP-UA6 - Boiler/Steam Generator/Steam Generating Unit Attributes
- OP-UA7 - Flare Attributes
- OP-UA8 - Coal Preparation Plant Attributes
- OP-UA9 - Nonmetallic Mineral Process Plant Attributes
- OP-UA10 - Gas Sweetening/Sulfur Recovery Unit Attributes
- OP-UA11 - Stationary Turbine Attributes
- OP-UA12 - Fugitive Emission Unit Attributes
- OP-UA13 - Industrial Process Cooling Tower Attributes
- OP-UA14 - Water Separator Attributes
- OP-UA15 - Emission Point/Stationary Vent/Distillation Operation/Process Vent Attributes
- OP-UA16 - Solvent Degreasing Machine Attributes
- OP-UA17 - Distillation Unit Attributes
- OP-UA18 - Surface Coating Operations Attributes
- OP-UA19 - Wastewater Unit Attributes
- OP-UA20 - Asphalt Operations Attributes
- OP-UA21 - Grain Elevator Attributes
- OP-UA22 - Printing Attributes
- OP-UA24 - Wool Fiberglass Insulation Manufacturing Plant Attributes
- OP-UA25 - Synthetic Fiber Production Attributes
- OP-UA26 - Electroplating and Anodizing Unit Attributes
- OP-UA27 - Nitric Acid Manufacturing Attributes
- OP-UA28 - Polymer Manufacturing Attributes
- OP-UA29 - Glass Manufacturing Unit Attributes
- OP-UA30 - Kraft, Soda, Sulfite, and Stand-Alone Semicheical Pulp Mill Attributes
- OP-UA31 - Lead Smelting Attributes
- OP-UA32 - Copper and Zinc Smelting/Brass and Bronze Production Attributes
- OP-UA33 - Metallic Mineral Processing Plant Attributes
- OP-UA34 - Pharmaceutical Manufacturing
- OP-UA35 - Incinerator Attributes
- OP-UA36 - Steel Plant Unit Attributes
- OP-UA37 - Basic Oxygen Process Furnace Unit Attributes
- OP-UA38 - Lead-Acid Battery Manufacturing Plant Attributes

OP-UA39 - Sterilization Source Attributes  
OP-UA40 - Ferroalloy Production Facility Attributes  
OP-UA41 - Dry Cleaning Facility Attributes  
OP-UA42 - Phosphate Fertilizer Manufacturing Attributes  
OP-UA43 - Sulfuric Acid Production Attributes  
OP-UA44 - Municipal Solid Waste Landfill/Waste Disposal Site Attributes  
OP-UA45 - Surface Impoundment Attributes  
OP-UA46 - Epoxy Resins and Non-Nylon Polyamides Production Attributes  
OP-UA47 - Ship Building and Ship Repair Unit Attributes  
OP-UA48 - Air Oxidation Unit Process Attributes  
OP-UA49 - Vacuum-Producing System Attributes  
OP-UA50 - Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas Combustion Device/Claus Sulfur Recovery Plant Attributes  
OP-UA51 - Dryer/Kiln/Oven Attributes  
OP-UA52 - Closed Vent Systems and Control Devices  
OP-UA53 - Beryllium Processing Attributes  
OP-UA54 - Mercury Chlor-Alkali Cell Attributes  
OP-UA55 - Transfer System Attributes  
OP-UA56 - Vinyl Chloride Process Attributes  
OP-UA57 - Cleaning/Depainting Operation Attributes  
OP-UA58 - Treatment Process Attributes  
OP-UA59 - Coke By-Product Recovery Plant Attributes  
OP-UA60 - Chemical Manufacturing Process Unit Attributes  
OP-UA61 - Pulp, Paper, or Paperboard Producing Process Attributes  
OP-UA62 - Glycol Dehydration Unit Attributes  
OP-UA63 - Vegetable Oil Production Attributes