

(f) Periodic Monitoring (PM).

- (1) Periodic monitoring applies to emission units at a site that are subject to 30 TAC Chapter 122 (Federal Operating Permits Program) provided that the emission unit is subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement, excluding those emission limitations or standards identified in 30 TAC §122.602(b) (Periodic Monitoring Applicability).
- (2) When reviewing the permit tables, if the index number has a Monitoring/Testing requirement listed as Periodic Monitoring, then the unit requires periodic monitoring and the selection of an option from the Periodic Monitoring Options Tables in Section (g).
- (3) Form OP-MON (Monitoring Requirements)
www.tceq.texas.gov/permitting/air/forms/titlev/monitoring/tv_mon_forms.html must be submitted for each monitoring option chosen. This form must include the pollutant being monitored, control device, deviation limit, and monitoring option used. Unless the deviation limit is specifically defined by the monitoring option (for example, 1500 degrees Fahrenheit), a proposed deviation limit, and a justification for the proposed deviation limit must be submitted on the Form OP-MON. If the deviation limit changes, for example due to recent testing, the GOP application must be revised with a new Form OP-MON for that option. Additional instructions for the addition of periodic monitoring into the application may be reviewed in the Municipal Solid Waste Landfill General Operating Permit Statement of Basis and in the Periodic Monitoring guidance document located at
www.tceq.texas.gov/permitting/air/guidance/titlev/tv_fop_guidance.html

(g) Periodic Monitoring Options Tables

Period Monitoring Option Tables

All Emission Units (Except Flare and Carbon Adsorption System)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Volatile Organic Compounds (VOC)	1. VOC Concentration	Measure and record the VOC concentration using a portable analyzer to monitor VOC concentration at the outlet of the control device. The monitoring device shall meet the requirements of 40 Code of Federal Regulations (40 CFR) Part 60, Appendix A-7, Method 21, Sections 3.0, 6.0, 8.0, 9.0, and 10.0. However, the words "leak definition" in Method 21 shall be the outlet concentration. Establish a maximum VOC concentration using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per month	n/a*	PMG-LF-V-001
Volatile Organic Compounds (VOC)	2. VOC Concentration	Measure and record the concentration of organic compounds in the exhaust stream with a continuous emission monitoring system (CEMS). The CEMS shall be operated in accordance with 40 CFR §60.13, Monitoring Requirements, and the Performance Specifications of 40 CFR Part 60, Appendix B). Establish a maximum VOC concentration using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Four times per hour	hourly	PMG-LF-V-002

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Units with a Control Device: Flare

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC <i>(continued)</i>	1. Pilot Flame	Measure and record the presence of the pilot flame or maintain records of alarm events and duration of alarm events. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame or using an alarm that uses a thermocouple or other equivalent device to detect the absence of a flame. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data, which indicates the lack of a pilot flame, shall be considered and reported as a deviation.	Once per hour	n/a*	PMG-LF-V-003
VOC <i>(continued)</i>	2. Visible Emissions	Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. If visible emissions are observed, the permit holder shall either report a deviation or determine visible emissions consistent with Test Method 22 or Test Method 9.	Once per day	n/a*	PMG-LF-V-004

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Units with a Control Device: Flare (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	3. Visible Emissions	<p>Visible emissions observations shall be made and recorded in the flare operation log. A daily notation in the flare operation log shall include the time of day and whether or not the flare had visible emissions. For flares operated less frequently than daily, the observation shall be made for each operation. The flare operator shall record at least 98% of these required observations. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes.</p> <p>If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine visible emissions consistent with Test Method 22, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 22 is performed and visible emissions are observed the permit holder shall report a deviation.</p>	Once per day	n/a*	PMG-LF-V-062
VOC (continued)	4. Inlet Flow Rate, and:	<p>Measure and record the inlet flow rate. Establish a maximum inlet flow rate using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.</p>	Once per week	n/a*	PMG-LF-V-005

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Units with a Control Device: Flare (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	Net Heating Value	Calculate and record the net heating value of the gas being combusted using the procedures and specifications of 40 CFR §60.18(f)(3). General control device and work practice requirements. The sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. The minimum net heating value of the gas being combusted is 11.2 megajoules per standard cubic meter (MJ/scm) (300 British thermal units per standard cubic meter (Btu/scf)) for steam assisted or air assisted flares. The minimum net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) for nonassisted flares. The minimum net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf) for steam-assisted and nonassisted flares designed for and operated with an exit velocity equal to or greater than 18.3 meters per second (m/sec) (60 feet per second (ft/sec)) but less than 122 m/sec (400 ft/sec). Any monitoring data below the minimum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-V-006

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Units with a Control Device: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Freq.	Average	PM Option No.
VOC <i>(continued)</i>	1. Combustion Temperature/Exhaust Gas Temperature	Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. Establish a minimum combustion temperature using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-V-007

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Units with a Control Device: Vapor Combustor

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	1. Combustion Temperature/ Exhaust Gas Temperature	Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. Establish a minimum combustion temperature using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-V-008

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Units with a Control Device: Catalytic Incinerator

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (<i>continued</i>)	1. Catalyst Bed Inlet and Outlet Gas Temperature	Measure and record the catalyst bed temperature across the inlet to and exit of the catalyst bed. Establish a minimum temperature difference across the inlet and outlet of the catalyst bed using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.	At each replacement of a carbon canister	n/a*	PMG-LF-V-009

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Units with a Control Device: Carbon Adsorption System (Non-Regenerative)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC <i>(continued)</i>	1. Carbon Replacement Interval	Monitor and record the replacement time interval of the carbon canister(s), as determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system. Establish a maximum carbon replacement interval using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. Any monitoring data, which exceeds the maximum carbon replacement interval, shall be considered and reported as a deviation.	At each replacement of a carbon canister	n/a*	PMG-LF-V-019

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Units with a Control Device: Carbon Adsorption System (Non-Regenerative)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	2. VOC Concentration	<p>Measure and record the VOC concentration using a portable analyzer to monitor VOC concentration at the outlet of the first, second canister but before the inlet to the second, third, or final polishing canister of the carbon adsorption system, as appropriate. The monitoring device shall meet the requirements of 40 CFR Part 60, Appendix A-7, Method 21, Sections 3.0, 6.0, 8.0, 9.0, and 10.0. However, the words “leak definition” in Method 21 shall be the outlet concentration.</p> <p>The probe inlet of the monitoring device shall be placed at approximately the center of the carbon absorber outlet vent. The probe shall be held there for at least 5 minutes during which flow into the carbon absorber is expected to occur. The monitoring instrumentation shall be maintained and operated in accordance with manufacturer’s specifications or other written procedures. Establish a maximum VOC concentration and that the carbon adsorption system will operate without breakthrough for more than two weeks using the most recent performance test, manufacturer’s recommendations, engineering calculations, and/or historical data. If the maximum reading after the outlet of the first, second, third canister (but not the final canister in the series), is above the maximum limit, that canister shall be replaced, and the event recorded before the next VOC reading is taken. If the canister is not replaced and the event not recorded, it shall be considered and reported as a deviation. If the VOC concentration from the final canister is above the maximum limit it shall be considered and reported as a deviation.</p>	Once per week	n/a*	PMG-LF-V-020

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Units with a Control Device: Carbon Adsorption System (Non-Regenerative) (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (<i>continued</i>)	3. VOC Concentration	Measure and record the concentration of organic compounds in the exhaust stream with a continuous emission monitoring system (CEMS). The CEMS shall be operated in accordance with 40 CFR §60.13 and the Performance Specifications of 40 CFR Part 60, Appendix B. Establish a maximum VOC concentration using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Four times per hour	hourly	PMG-LF-V-021

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Units with a Control Device: Condenser System

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC <i>(continued)</i>	1. Exhaust Gas Temperature	Measure and record the exhaust gas temperature at the outlet to the refrigeration condenser system. Establish a maximum exhaust gas temperature using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacture's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-V-022

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Units with a Passive Control Device: External or Internal Floating Roof

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (<i>continued</i>)	External Floating Roof	Visually inspect and record the inspection of the external floating roof to ensure: the roof is floating on the surface of the VOC and not on the leg supports, liquid has not accumulated on the external floating roof, the seals are not detached, and there are no holes or tears in the seal fabric. Any monitoring data in which the roof is not floating on the surface of the VOC, if liquid has accumulated on the external floating roof, the seals are detached, or if there are holes or tears in the seal fabric shall be considered and reported as a deviation.	Annually	n/a*	PMG-LF-V-041
VOC (<i>continued</i>)	Internal Floating Roof	Visually inspect and record the inspection of the internal floating roof to ensure the roof is floating on the surface of the VOC and not on the leg supports, liquid has not accumulated on the internal floating roof, the seals are not detached, and there are no holes or tears in the seal fabric. Any monitoring data in which the roof is not floating on the surface of the VOC, if liquid has accumulated on the internal floating roof, the seals are detached, or if there are holes or tears in the seal fabric shall be considered and reported as a deviation.	Annually	n/a*	PMG-LF-V-042

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Units with a Passive Control Device: Submerged Fill Pipe

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	1. Liquid Level, and:	Regardless of the location of the fill pipe, the fill pipe must be submerged at all times. Establish the depth of the highest point of the fill pipe. Soundings shall be made and recorded to determine the depth of the liquid. The soundings will be compared to the depth of the fill pipe. It shall be considered and reported as a deviation any time the liquid level falls below the fill pipe level.	At the end of each unloading operation	n/a*	PMG-LF-V-043
VOC (continued)	Structural Integrity of the Pipe	Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.	Emptied and degassed	n/a*	PMG-LF-V-044
VOC (continued)	2. Liquid Level, and:	Regardless of the location of the fill pipe, the fill pipe must be submerged at all times. Establish the depth of the highest point of the fill pipe. Monitor and record the depth of the liquid using an automated/remote sounding device or liquid level sensing alarm/monitor. It shall be considered and reported as a deviation any time the liquid level falls below the fill pipe level.	Once per day*	n/a*	PMG-LF-V-045

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Units with a Passive Control Device: Submerged Fill Pipe

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (<i>continued</i>)	Structural Integrity of the Pipe	Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.	Emptied and degassed	n/a*	PMG-LF-V-046
VOC (<i>continued</i>)	3. Liquid Level, and:	Regardless of the location of the fill pipe, the fill pipe must be submerged at all times. Establish the volume of liquid at the depth of the highest point of the fill pipe. Record the volume of liquid loaded and unloaded so that the storage vessel liquid volume is known. It shall be considered and reported as a deviation anytime the liquid volume falls below the liquid volume at the fill pipe.	At the end of each loading and unloading operation	n/a*	PMG-LF-V-047
VOC (<i>continued</i>)	Structural Integrity of the Pipe	Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.	Emptied and degassed	n/a*	PMG-LF-V-048

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Units with a Passive Control Device: Submerged Fill Pipe

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (<i>continued</i>)	4. Record of Tank Construction Specifications, and:	Keep a record of tank construction specifications (e.g. engineering drawings) that show a fill pipe that extends from the top of a tank to have a maximum clearance of six inches (15.2 centimeters) from the bottom or, when the tank is loaded from the side, a discharge opening entirely submerged when the pipe used to withdraw liquid from the tank can no longer withdraw liquid in normal operation.	n/a	n/a*	PMG-LF-V-060
VOC (<i>continued</i>)	Structural Integrity of the Pipe	Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed to ensure that it continues to meet the specifications in the above requirement. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.	Emptied and degassed	n/a*	PMG-LF-V-061

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Units with a Passive Control Device: VOC/Water Separator with Enclosed Compartment

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	1. VOC Concentration	<p>Measure and record the VOC concentration using a portable analyzer to monitor VOC concentration around the immediate area of the compartment in accordance with 40 CFR Part 60, Appendix A-7, Method 21, Determination of volatile organic compound leaks. Each potential leak interface (a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include but are not limited to the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring- loaded pressure relief valve. The owner or operator may choose to adjust the detection instrument readings for the background organic concentration level. For a potential leak interface other than a seal around a shaft that passes through a cover opening, the maximum deviation limit shall be 500 parts per million by volume (ppmv). For a seal around a shaft that passes through a cover opening the maximum deviation limit shall be 10,000 ppmv. The monitoring instrumentation shall be maintained and operated in accordance with manufacturer's specifications or other written procedures.</p> <p>Any monitoring data greater than the maximum VOC limit indicated in the Deviation Limit above shall be considered and reported as a deviation as required by 30 TAC §122.145(2), Reporting Terms and Conditions.</p>	Quarterly	n/a*	PMG-LF-V-049

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Units with a Passive Control Device: VOC/Water Separator with Enclosed Compartment (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	1. VOC Concentration	<p>Measure and record the VOC concentration using a portable analyzer to monitor VOC concentration around the immediate area of the compartment in accordance with 40 CFR Part 60, Appendix A-7, Method 21. Each potential leak interface (a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve. The owner or operator may choose to adjust the detection instrument readings for the background organic concentration level. For a potential leak interface other than a seal around a shaft that passes through a cover opening, the maximum deviation limit shall be 500 ppmv. For a seal around a shaft that passes through a cover opening the maximum deviation limit shall be 10,000 ppmv. The monitoring instrumentation shall be maintained and operated in accordance with manufacturer's specifications or other written procedures.</p> <p>Any monitoring data greater than the maximum VOC limit indicated in the Deviation Limit above shall be considered and reported as a deviation as required by 30 TAC §122.145(2).</p>	Annually	n/a*	PMG-LF-V-050

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Units with a Passive Control Device: VOC/Water Separator with Enclosed Compartment (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	Visual Inspection	<p>The oil-water separator and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to visible cracks, holes, or gaps in the roof sections or between the roof and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.</p> <p>Any monitoring data that indicates a gap or crack in a sealed opening shall be considered and reported as a deviation as required by 30 TAC §122.145(2).</p>	Once per month	n/a*	PMG-LF-V-051

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Units without a Control Device: Cold Solvent Cleaners

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC <i>(continued)</i>	Visual Inspection	Inspect equipment and record data monthly to ensure compliance with any applicable requirements in 30 TAC §115.412(a)(1)(A) - (F), Control Requirements. Any monitoring data which indicates that the cold cleaner is not in compliance with the applicable requirements of 30 TAC §115.412(a)(1)(A) - (F) shall be considered and reported as a deviation.	Once per month	n/a*	PMG-LF-V-052

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Units with a Control Device Steam Generating Unit: Boiler/Process Heater (Design Heat Input Capacity <44MW)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (<i>continued</i>)	1. Combustion Temperature/Exhaust Gas Temperature	Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. Establish a minimum combustion temperature using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-V-010
VOC (<i>continued</i>)	1. Period of Operation	Monitor and record the periods of operation of the steam generating units or process heater. All periods that are not recorded shall be considered and reported as a deviation. The records must be readily available for inspection.	n/a	n/a*	PMG-LF-V-011
VOC (<i>continued</i>)	2. Combustion Temperature/Exhaust Gas Temperature	Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. Establish a minimum combustion temperature using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-V-012

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Units with a Control Device Steam Generating Unit: Boiler/Process Heater (Design Heat Input Capacity <44MW) (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	1. VOC Concentration	Measure and record the concentration of organic compounds in the exhaust stream with a continuous emission monitoring system (CEMS). The CEMS shall be operated in accordance with 40 CFR §60.13 and the Performance Specifications of 40 CFR Part 60, Appendix B, Performance Specifications. Establish a maximum VOC concentration using the most recent performance test, manufacturer's recommendations, engineering calculations, and/or historical data. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Four times per hour	Hourly	PMG-LF-V-013

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Units with a Control Device Steam Generating Unit: Boiler/Process Heater (Design Heat Input Capacity <44MW) (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
VOC (continued)	2. VOC Concentration	<p>Use a portable analyzer to monitor exhaust gas VOC concentration at the outlet of the carbon adsorption system. The monitoring device shall be calibrated, operated, and maintained in accordance with the manufacturer's specifications or other written procedures that provide an adequate assurance that the device is calibrated, operated, and maintained accurately. The monitoring device shall meet the requirements of 40 CFR Part 60, Appendix A-7, Method 21, Sections 3.0, 6.0, 8.0, 9.0, and 10.0. However, the words "leak definition" in Method 21 shall be the outlet concentration.</p> <p>The calibration gas shall either be representative of the compounds to be measured or shall be methane, and shall be at a concentration associated with 125 percent of the expected organic compound concentration level for the carbon adsorber outlet vent. The probe inlet of the monitoring device shall be placed at approximately the center of the carbon adsorber outlet vent. The probe shall be held there for at least 5 minutes during which flow into the carbon adsorber is expected to occur. The maximum reading during that period shall be used as the measurement. A maximum VOC concentration shall be established using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. Any monitoring data above the maximum limit shall be considered and reported as a deviation.</p>	Once per week	n/a*	PMG-LF-V-014

*The permit holder may elect to collect monitoring data on a more frequent basis than is required by this Periodic Monitoring Guidance Document and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis, shall not be collected, and used in particular instances to avoid reporting deviations.

Boilers and Heaters authorized by 30 TAC §106.181 (Used-Oil Combustion Units) burning used oil

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Sulfur dioxide (SO ₂)	1. Fuel Records	The permit holder shall keep an annual record indicating that the only fuels burned by the unit are used oil generated on-site or received from household do-it-yourself used oil generators. Records of emission calculations shall demonstrate that the unit complies with the underlying applicable emission limitation (pounds per hour, tons per year or parts per million by volume). It shall be considered and reported as a deviation if other fuels are burned or if any data indicates that emissions exceeded the emission limitation.	Annually	n/a	PMG-LF-S-001

Emission Units firing liquid fuel

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Sulfur dioxide (SO ₂)	Sulfur Content of Fuel	Measure and record the sulfur content of the fuel. Establish a maximum sulfur concentration using the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Quarterly and within 24 hours of any fuel change	n/a	PMG-LF-S-002

All Emission Units

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Particulate Matter (PM)	1. Visible Emissions	<p>Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor.</p> <p>If visible emissions are observed, the permit holder shall report a deviation. As an alternative, if the facility is subject to an opacity standard, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is an opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.</p>	Once per week	n/a*	PMG-LF-P-001

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All Emission Units (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Particulate Matter (PM)	2. Visible Emissions	<p>Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor.</p> <p>If visible emissions are observed, the permit holder shall report a deviation. As an alternative, if the facility is subject to an opacity standard, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.</p>	Per occurrence or per load of asbestos containing material	n/a*	PMG-LF-P-004

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All Emission Units (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Particulate Matter (PM)	3. Opacity	Opacity shall be monitored, by a certified observer, for at least one, six-minute period in accordance with 40 CFR Part 60, Appendix A-4, Test Method 9. The deviation limit is the maximum opacity corresponding to the underlying applicable requirement. If there is no applicable or corresponding opacity limit, a maximum opacity shall be established using the most recent performance test. Any opacity readings that are above the opacity limit from the underlying applicable requirement shall be reported as a deviation.	Once per month	six-minutes	PMG-LF-P-002
Particulate Matter (PM)	4. Opacity	Measure and record the opacity with a continuous opacity monitoring system (COMS). The COMS shall be operated in accordance with 40 CFR §60.13. The maximum opacity is the applicable or corresponding opacity limit. If there is no applicable or corresponding opacity limit, a maximum opacity shall be established using the most recent performance test. Any opacity readings that are above the opacity limit from the underlying applicable requirement shall be considered and reported as a deviation.	Six times per minute	six-minutes	PMG-LF-P-003

Units with a Control Device: Catalytic Converters

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x)	1. Fuel Consumption, and:	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	One hour	PMG-LF-N-035
Nitrogen Oxides (NO _x) (<i>continued</i>)	NO _x Concentration	Measure and record the nitrogen oxides concentration of the exhaust gas on a biennial calendar basis using the method specified in 30 TAC §117.8000(b) - (d), Stack Testing Requirements. The maximum NO _x concentration (specified in units of the underlying applicable requirement) is the corresponding nitrogen oxide limit associated with the emission limitation in the underlying applicable requirement. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once every two years	n/a*	PMG-LF-N-036

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Units with a Control Device: Catalytic Converters (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) <i>(continued)</i>	2. Fuel Consumption, and:	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	One hour	PMG-LF-N-037
Nitrogen Oxides (NO _x) <i>(continued)</i>	NO _x Concentration	Measure and record the nitrogen oxides concentration of the exhaust gas on a biennial calendar basis using the method specified in 30 TAC §117.8000(b) - (d). The maximum NO _x concentration (specified in units of the underlying applicable requirement) is the corresponding nitrogen oxide limit associated with the emission limitation in the underlying applicable requirement. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Units authorized by 30 TAC §106.512, Stationary Engines and Turbines, every 15,000 hours of operation Units authorized by the standard permit for electric generating units every 16,000 hours of operation	n/a*	PMG-LF-N-038

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Units with a Control Device: Catalytic Converters (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) <i>(continued)</i>	3. Fuel Consumption, and:	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-039
Nitrogen Oxides (NO _x) <i>(continued)</i>	NO _x Concentration	Monitor and record the nitrogen oxide concentration in the exhaust stream using a portable analyzer to monitor nitrogen oxide. The portable analyzer shall be operated in accordance with the Environmental Protection Agency's, Office of Air Quality Planning & Standards, Emission Measurement Center Conditional Test Method - Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources for Periodic Monitoring (Portable Electrochemical Analyzer Procedure) [CTM-034] (September 8, 1999). NO _x emissions shall be corrected/calculated in units of the underlying applicable emission limitation (e.g. grams per horsepower hour, pounds per million British thermal units (MMBtu), pounds per hour, etc.)	Once per quarter	n/a*	PMG-LF-N-040
Nitrogen Oxides (NO _x) <i>(continued)</i>	4. Fuel Consumption, and:	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-041

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Units with a Control Device: Catalytic Converters (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) <i>(continued)</i>	Inlet Gas Temperature	Measure and record the temperature at the inlet to the catalytic converter. Establish a minimum and maximum temperature using the most recent performance test data, the manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data below the minimum or above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-042

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Stationary Gas Turbines with a Control Device Other Than Water or Steam Injection

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) (<i>continued</i>)	1. NO _x Concentration	Monitor and record the nitrogen oxide concentration in the exhaust stream using a portable analyzer to monitor nitrogen oxide. The portable analyzer shall be operated in accordance with the Environmental Protection Agency's, Office of Air Quality Planning & Standards, Emission Measurement Center Conditional Test Method - Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources for Periodic Monitoring (Portable Electrochemical Analyzer Procedure) [CTM-034] (September 8, 1999). NO _x emissions shall be corrected/calculated in units of the underlying applicable emission limitation (grams per horsepower hour, pounds per MMBtu, pounds per hour).	Once per month	n/a*	PMG-LF-043

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Stationary Gas Turbines with a Control Device Other Than Water or Steam Injection (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) <i>(continued)</i>	2. NO _x Concentration, and:	Monitor and record the nitrogen oxide concentration in the exhaust stream using a portable analyzer to monitor nitrogen oxide. The portable analyzer shall be operated in accordance with the Environmental Protection Agency's, Office of Air Quality Planning & Standards, Emission Measurement Center Conditional Test Method - Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources for Periodic Monitoring (Portable Electrochemical Analyzer Procedure) [CTM-034] (September 8, 1999). NO _x emissions shall be corrected/calculated in units of the underlying applicable emission limitation (grams per horsepower hour, pounds per MMBtu, pounds per hour).	Quarterly	n/a*	PMG-LF-N-044
Nitrogen Oxides (NO _x) <i>(continued)</i>	Fuel Consumption.	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-045

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Stationary Gas Turbines with a Control Device Other Than Water or Steam Injection (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) <i>(continued)</i>	3. Fuel Consumption, and:	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-046
Nitrogen Oxides (NO _x) <i>(continued)</i>	NO _x Concentration.	Measure and record the nitrogen oxides concentration of the exhaust gas on an annual calendar basis using the method specified in 30 TAC §117.8000(b) - (d). The maximum NO _x concentration (specified in units of the underlying applicable requirement) is the corresponding nitrogen oxide limit associated with the emission limitation in the underlying applicable requirement. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Annually	n/a*	PMG-LF-N-047

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Stationary Gas Turbines with a Control Device Other Than Water or Steam Injection (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) (continued)	4. Fuel Consumption, and:	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-048
Nitrogen Oxides (NO _x) (continued)	NO _x Concentration.	Measure and record the nitrogen oxides concentration of the exhaust gas on a biennial calendar basis using the method specified in 30 TAC §117.8000(b) - (d). The maximum NO _x concentration (specified in units of the underlying applicable requirement) is the corresponding nitrogen oxide limit associated with the emission limitation in the underlying applicable requirement. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once every two years	n/a*	PMG-LF-N-049

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Stationary Gas Turbines with a Control Device Other Than Water or Steam Injection (continued)

Emission	Indicator Monitored	Periodic Monitoring Requirement	Minimum Frequency	Average	PM Option No.
Nitrogen Oxides (NO _x) <i>(continued)</i>	NO _x Concentration, and:	Monitor and record the nitrogen oxide concentration in the exhaust stream each quarter that the emission unit is operational using a portable analyzer to monitor nitrogen oxide. The portable analyzer shall be operated in accordance with the Environmental Protection Agency's, Office of Air Quality Planning & Standards, Emission Measurement Center Conditional Test Method - Determination of Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources for Periodic Monitoring (Portable Electrochemical Analyzer Procedure) [CTM-034] (September 8, 1999). NO _x emissions shall be corrected/calculated in units of the underlying applicable emission limitation (grams per horsepower hour, pounds per MMBtu, pounds per hour).	Quarterly	n/a*	PMG-LF-N-050
Nitrogen Oxides (NO _x) <i>(continued)</i>	Fuel Consumption.	Measure and record fuel consumption. Establish a maximum fuel consumption limit using the most appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data. The monitoring instrumentation shall be maintained, calibrated, and operated in accordance with the manufacturer's specifications or other written procedures. Any monitoring data above the maximum limit shall be considered and reported as a deviation.	Once per week	n/a*	PMG-LF-N-051

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