



Texas Commission on Environmental Quality

Title 30 Texas Administrative Code Chapter 117

Monitoring and Testing Protocol Options for the MECT

Annual Compliance Report (Form ECT-1)

Overview

This document summarizes the Title 30 Texas Administrative Code Chapter 117 monitoring and testing protocol options for units subject to the Mass Emissions Cap and Trade (MECT) Program to aid in the completion of the *MECT Annual Compliance Report* (Form ECT-1). This document is not a compliance substitute for the rule requirements in Chapter 117. The official version of the rules in [Chapter 117](#) is available on the Secretary of State's website.

Level of Activity Monitoring Protocol Options

The *MECT Annual Compliance Report* (Form ECT-1) must include the level of activity for each MECT facility and the Chapter 117 rule citation for the monitoring protocol used to determine the level of activity. This document summarizes the Chapter 117 monitoring protocol options for facilities subject to the MECT Program. Chapter 117 requires the use of this monitoring data for calculating actual emissions for compliance with the MECT Program. This document also lists the supporting documentation that should be included as an attachment to the Form ECT-1 to verify the reported level of activity.

Major Sources

[§117.340\(a\)\(1\)\(B\)](#): Totalizing fuel flow meter for each unit. Not required for wood-fired boilers that must comply by maintaining records of fuel usage as required in §117.345(f) or monitoring stack exhaust flow in accordance with §117.340(a)(2)(A).

Supporting documentation should include:

- Annual fuel usage for each unit
- Type of fuel burned and higher (gross) heating value of the fuel
- Manufacturer's heat rate for each engine in British thermal units per horsepower-hour (Btu/hp-hr)
- Annual production rate of an affected kiln or pulping liquor recovery furnace if emission factors are reported in pound per air-dried ton of pulp

[§117.340\(a\)\(2\)\(A\)](#): Stack exhaust flow monitoring for a unit with a continuous emissions monitoring system (CEMS). §117.340(c)(1)(H) requires stack exhaust flow monitoring for fluid catalytic cracking units (including carbon monoxide (CO) boilers, CO furnaces, and catalyst regenerator vents)

Supporting documentation should include:

- Annual stack exhaust flow for each unit

[§117.340\(a\)\(2\)\(B\)](#): Totalizing fuel flow meter for multiple units that vent to a common stack with a CEMS

Supporting documentation should include:

- Annual fuel usage for each unit
- Type of fuel burned and higher (gross) heating value of the fuel
- Annual production rate of an affected kiln

[§117.340\(a\)\(2\)\(C\)](#): Monthly fuel use records for each diesel engine operating with a run time meter

Supporting documentation should include:

- Annual fuel usage for each unit
- Type of fuel burned and higher (gross) heating value of the fuel
- Manufacturer's heat rate for each unit in Btu/hp-hr

[§117.340\(a\)\(2\)\(D\)](#): Continuous monitoring of horsepower and hours of operation for each stationary reciprocating internal combustion engine or stationary gas turbine

Supporting documentation should include:

- Total horsepower-hours (hp-hr) for the year determined by summing the total hp-hr for each day (calculated by multiplying the average hp for that day times the total hours of operation for that day)

Utility Electric Generation Sources

[§117.1240\(i\)\(2\)](#): Totalizing fuel flow meter or assume fuel consumption at maximum design fuel flow rates during hours of the unit's operation

Supporting documentation should include:

- Annual fuel usage for each unit
- Type of fuel burned and higher (gross) heating value of the fuel

Minor Sources

[§117.2035\(a\)\(1\)](#): Totalizing fuel flow meter

Supporting documentation should include:

- Annual fuel usage for each unit
- Type of fuel burned and higher (gross) heating value of the fuel
- Manufacturer's heat rate for each engine in Btu/hp-hr

[§117.2035\(a\)\(2\)\(A\)](#): Stack exhaust flow monitoring for units with a CEMS

Supporting documentation should include:

- Stack exhaust flow for each unit

[§117.2035\(a\)\(2\)\(B\)](#): Single totalizing fuel flow meter for multiple units that vent to a common stack with a CEMS

Supporting documentation should include:

- Annual fuel usage
- Type of fuel burned and higher (gross) heating value of the fuel

[§117.2035\(a\)\(2\)\(C\)](#): Monthly fuel use records for each diesel engine operating with a run time meter

Supporting documentation should include:

- Annual fuel usage for each unit

- Type of fuel burned and higher (gross) heating value of the fuel
- Manufacturer's heat rate for each engine in Btu/hp-hr

[§117.2035\(a\)\(2\)\(D\)](#): Single totalizing fuel flow meter for multiple units of the same equipment category if a stack test is performed for each unit and the test results from the unit with the highest emission rate are used for MECT Program reporting for all of the units

Supporting documentation should include:

- Annual fuel usage
- Type of fuel burned and higher (gross) heating value of the fuel

[§117.2035\(a\)\(2\)\(G\)](#): Continuous monitoring of horsepower and hours of operation for each stationary reciprocating internal combustion engine and stationary gas turbine

Supporting documentation should include:

- Total hp-hr for the year determined by summing the total hp-hr for each day (calculated by multiplying the average hp for that day times the total hours of operation for that day)

Emission Factor Monitoring and Testing Protocol Options

The *MECT Program Annual Compliance Report* (Form ECT-1) must include the emission factor for each MECT facility and the Chapter 117 rule citation for the monitoring or testing protocol used to determine the emission factor. This document summarizes the Chapter 117 monitoring and testing protocol options for facilities subject to the MECT Program. Chapter 117 requires the use of this monitoring and testing data for calculating actual emissions for compliance with the MECT Program. This document also lists the supporting documentation that should be included as an attachment to the Form ECT-1 to verify the reported emission factor.

Major Sources

Note: §117.340(c)(1) requires NO_x CEMS or PEMS for: stationary gas turbines with a megawatt (MW) rating ≥ 30 MW operated ≥ 850 hours per year; units using a chemical reagent to reduce NO_x; lime kilns and lightweight aggregate kilns; units with a rated heat input ≥ 100 million British thermal units per hour (MMBtu/hr); and fluid catalytic cracking units (including CO boilers, CO furnaces, and catalyst regenerator vents)

[§117.340\(c\) and \(f\)](#): NO_x CEMS

Supporting documentation should include:

- Actual annual emissions

[§117.340\(c\) and \(g\)](#): NO_x predictive emissions monitoring system (PEMS)

Supporting documentation should include:

- Actual annual emissions

[§117.340\(o\)](#): Stack test

Supporting documentation should include:

- NO_x emission rate in units of the applicable emission limit

Utility Electric Generation Sources

[§117.1240\(a\)](#): NO_x CEMS or PEMS

Supporting documentation should include:

- Actual annual emissions
- Emission rate in pounds per million British thermal units (lb/MMBtu)

[§117.1240\(e\)\(1\)](#): Operating parameter monitoring for an acid rain peaking unit in accordance with 40 Code of Federal Regulations Part 75, Appendix E

Supporting documentation should include:

- Operating parameter measurements
- Emission rate in lb/MMBtu

[§117.1240\(f\)\(2\)](#): Industrial boiler monitoring requirements in §117.340 for an auxiliary steam boiler

Supporting documentation should include:

- NO_x emission rate in lb/MMBtu determined during performance testing required in §117.340(o)
- Actual annual emissions from NO_x CEMS required in §117.340(c) and (f)
- Actual annual emissions from NO_x PEMS required in §117.340(c) and (g)

Minor Sources

Note: §117.2035 does not require any units to install CEMS or PEMS but does require any CEMS or PEMS installed to operate the monitoring equipment in accordance with these rules.

[§117.2035\(c\)](#): NO_x CEMS or PEMS

Supporting documentation should include:

- Actual annual emissions

[§117.2035\(e\)](#): Stack testing

Note: If using a single totalizing fuel flow meter for multiple units of the same equipment category, §117.2035(a)(2)(D) requires the test results from the unit with the highest emission rate to be used for reporting purposes for all units

Supporting documentation should include:

- NO_x emission rate in units of the applicable emission limit