STATE OF CONNECTICUT
Regulation of Environmental Protection

Section 22a-174-38. Municipal Waste Combustors

(a) Definitions. For purposes of this section:

(1) "Calendar quarter" means a consecutive three-month period (nonoverlapping) beginning on January 1, April 1, July 1 or October 1.

(2) "Chief operator" means an individual who is in direct charge of the operation of a municipal waste combustor plant and who is responsible for overall on-site supervision, technical direction, management and performance of the plant.

(3) "Cofired combustor" means an emissions unit that combusts municipal solid waste with nonmunicipal solid waste fuel (e.g., coal, industrial process waste) and that is subject to a federally enforceable permit limiting the unit to combusting a fuel feed stream, thirty percent (30%) or less of the weight of which is composed, in the aggregate, of municipal solid waste as measured on a calendar quarter basis.

(4) "Continuous burning" means the continuous, semi-continuous or batch feeding of municipal solid waste for purposes of waste disposal, energy production or providing heat to the combustion system in preparation for waste disposal or energy production. Continuous burning does not include the use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate.

(5) "Continuous emission monitoring system" or "CEM system" means a monitoring system for continuously measuring the emissions of any pollutant from a MWC unit.

(6) "Dioxin/furan" means tetra-chlorinated dibenzo-p-dioxins and dibenzofurans through octa- chlorinated dibenzo-p-dioxins and dibenzofurans.

(7) "Dscf/mmBTU" means dry cubic feet at standard conditions per million British thermal unit.

(8) "F-factor," "fc" or "fd" means a ratio of combustion gas volumes to heat inputs either unit-specific or as defined in 40 CFR Part 60, Appendix A, Method 19.

(9) "Four-hour block average" or "4-hour block average" means the average of all hourly emission concentrations when a municipal waste combustor is operating and combusting municipal solid waste measured over 4-hour periods from midnight to 4 a.m., 4 a.m. to 8 a.m., 8 a.m. to noon, noon to 4 p.m., 4 p.m. to 8 p.m., and 8 p.m. to midnight.

(10) "Historical actual twenty-four hour daily NOx average" means one or more calendar years of CEM data from no earlier than 1994 or another period of data approved by the commissioner as representative of NOx emissions.

(11) "Malfunction" means any sudden, infrequent and not reasonably preventable failure of air pollution control equipment, process equipment or a process to operate in a normal or usual manner. A failure that is caused in part by poor maintenance or negligent or careless operation shall not be considered a malfunction.

(12) "Mass burn waterwall combustor" means a field-erected combustor that combusts primarily unprocessed municipal solid waste (i.e., municipal solid waste that is not processed-municipal solid waste) in a waterwall furnace.

(13) "Maximum demonstrated municipal waste combustor unit load" means the highest 4-hour arithmetic average municipal waste combustor unit load achieved during four consecutive hours of operation that corresponds to a test run during the most recent dioxin/furan emissions performance test that demonstrates compliance with the applicable limit for dioxin/furan specified in subsection (c) of this section.

(14) "Maximum demonstrated particulate matter control device temperature" means the highest 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during four consecutive hours of operation that corresponds to a test run during the most recent dioxin/furan emissions performance test that demonstrates compliance with the applicable limit for dioxin/furan specified in subsection (c) of this section.

(15) "mg/dscm" means milligrams of air pollutant per dry standard cubic meter.

(16) "Municipal solid waste" means municipal solid waste as defined in section 22a-207 of the general statutes.

(17) "Municipal waste combustor," "municipal waste combustor unit" or "MWC" means any part or activity of any stationary source which part or activity emits or has the potential to emit any regulated air pollutant or any hazardous air pollutant, exclusive of associated air pollution control equipment, that combusts municipal

solid waste, inclusive of those emissions units combusting a single-item waste stream of tires. Combustors that combust landfill gases collected by landfill gas collection systems are not municipal waste combustors.

(18) "Municipal waste combustor plant" or "plant" means any premises at which one or more municipal waste combustor units are situated.

(19) "Municipal waste combustor unit load" means the rate at which steam is produced at a municipal waste combustor (measured in lbs/hr or kg/hr).

(20) "ng/dscm" means nanograms of air pollutant per dry standard cubic meter.

(21) "NOx Emissions Reductions Credit" or "ERC" means an air pollutant reduction created in the nitrogen oxides emissions trading program described by this section.

(22) "NOx Trading Baseline" means that value, determined as specified in subsection (d) of this section, used to calculate the quantity of ERCs created or used by a MWC unit.

(23) "Ozone season" means the period of any calendar year beginning on May 1 and ending on September 30.

(24) "Premises" means the grouping of all stationary sources at any one location and owned by or under the control of the same person or persons.

(25) "Processed-municipal solid waste" means a type of municipal solid waste produced by sorting municipal solid waste by size and/or altering the size of municipal solid waste through mechanical means.

(26) "Processed-municipal solid waste combustor" means a steam-generating MWC that burns processed-municipal solid waste in a semisuspension firing mode using air-fed distributors.

(27) "Reciprocating grate waste tire fired incinerator/boiler" means a combustor that burns tires as its principal fuel.

(28) "Scf/mmBTU" means cubic feet at standard conditions per million British thermal unit.

(29) "Shift operator" means an individual who is in direct charge of the operation of a shift of a municipal waste combustor plant and who is responsible for on-site

supervision, technical direction, management and overall performance of the plant during a shift.

(30) "Shutdown period" means the period of time commencing when a municipal waste combustor operator discontinues the feed of municipal solid waste to the combustor in order to cease operation.

(31) "Six-minute arithmetic average" or "6-minute arithmetic average" means the arithmetic mean calculated from thirty-six (36) or more data points equally spaced over each 6-minute period.

(32) "Standard conditions" means a temperature of 20 degrees centigrade and a pressure of 101.3 kilopascals.

(33) "Startup period" means that period of time commencing when a municipal waste combustor begins the continuous burning of municipal solid waste, exclusive of any warmup period when a municipal waste combustor is combusting fossil fuel or other nonmunicipal solid waste fuel, and no municipal solid waste is being fed to the combustor.

(34) "Total mass" or "total mass dioxin/furan" means the total mass of tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans, as determined using EPA Reference Method 23 and the procedures specified under subdivision (4) of subsection (i) of this section.

(35) "Twenty-four hour daily average" means the arithmetic mean of all hourly emission concentrations as required by this section when a unit is operating and combusting municipal solid waste measured over a 24-hour period between midnight and the following midnight.

(36) "Twenty-four hour geometric average" means the geometric mean of hourly emission concentrations regulated by this section when a unit is operating and combusting municipal solid waste measured over a 24-hour period between midnight and the following midnight. The geometric mean shall be calculated using the following equation:

$$E_{ga} = e^{\left[\frac{1}{n}\sum_{j=1}^{n}\left[\ln(E_{hj})\right]\right]}$$

where:

E_{ga} = *daily geometric average pollutant concentration, corrected to 7% O_2 or equivalent percent CO_2;*

E_{hj} = *hourly arithmetic average pollutant concentration, corrected to 7% O_2 or equivalent percent CO_2;*

n = *total number of hourly averages for which pollutant concentrations are available within the 24 hour midnight to midnight daily period;*

ln = *natural log of the indicated value; and*

e = *the natural logarithmic base (2.718) raised to the value enclosed by the brackets.*

(37) "Waterwall furnace" means a combustion unit having energy (heat) recovery in the furnace (i.e., radiant heat transfer section) of the combustor.

(b) Applicability.

(1) This section shall apply to the owner or operator of any municipal waste combustor.

(2) Physical or operational changes made to a municipal waste combustor primarily for the purpose of complying with the requirements of this section are not considered in determining whether the unit is a modified or reconstructed facility under Subpart Ea or Subpart Eb of 40 CFR Part 60.

(3) The owner or operator of any municipal waste combustor required to have a permit under section 3005 of the Solid Waste Disposal Act (42 U.S.C.A. section 6925) is not subject to this section.

(4) The owner or operator of any recycling facility as defined in section 22a-207 of the general statutes, including a primary or secondary smelter, that combusts waste for the primary purpose of recovering metals is not subject to this section.

(5) This section shall not apply to cement kilns firing municipal solid waste.

(6) The owner or operator of any cofired combustor is not subject to this section provided such owner or operator:

(A) Notifies the commissioner in writing prior to the compliance date indicated in subsection (m) of this section that the owner or operator claims such combustor is not subject to this section, if the cofired combustor is an existing unit, or such owner or operator notifies the commissioner in writing prior to commencing operation, if the cofired combustor is a unit for which construction commences after the effective date of this section.

(B) Provides the commissioner with a copy of the federally enforceable permit limiting the unit to combusting a fuel feed stream, thirty percent (30%) or less of the weight of which is composed, in the aggregate, of municipal solid waste as measured on a calendar quarter basis;

(C) Records on a calendar quarter basis the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor; and

(D) Maintains the records required by subparagraph (C) of this subdivision at the premises for a period of five (5) years from the date of the record's creation and makes such records available to the commissioner or administrator upon request.

(c) Emission limits.

* * *

(8) On and after the date specified in subsection (m) of this section, no owner or operator of a municipal waste combustor shall cause or allow the emission of nitrogen oxides (NOx) in excess of the applicable emission limit identified in Tables 38-3 and 38-3a of this subdivision.

Table 38-3. Nitrogen Oxides Emission Limits.

Municipal waste combustor technology	Nitrogen oxides emission limit, measured in parts per million volume, corrected to seven percent oxygen, dry basis, or equivalent percentage carbon dioxide as specified in subdivision (12) of this subsection
Mass burn refractory combustor	185
Mass burn waterwall combustor for which construction commenced on or before December 20, 1989	205
Mass burn waterwall combustor for which construction commenced after December 20, 1989 and on or before September 20, 1994	180
Mass burn waterwall combustor for which	180 for the one-year period beginning on the

construction commenced after September 20, 1994	date of completion of the initial performance test required by this section, and 150 for that period of time subsequent to the one-year period identified above
Processed-municipal solid waste combustor	220
Reciprocating grate waste tire fired incinerator/boiler	79

Table 38-3a. Nitrogen Oxides Emission Limits.

Municipal waste combustor technology	Nitrogen oxides emission limit, measured in parts per million volume, corrected to seven percent oxygen, dry basis, or equivalent percentage carbon dioxide as specified in subdivision (12) of this subsection
Mass burn refractory combustor	177
Mass burn waterwall combustor for which construction commenced on or before December 31, 1985	200
Mass burn waterwall combustor for which construction commenced after December 31, 1985 and on or before September 20, 1994	177
Mass burn waterwall combustor for which construction commenced after September 20, 1994	177 for the one-year period beginning on the date of completion of the initial performance test required by this section, and 150 for that period of time subsequent to the one-year period identified above
Processed-municipal solid waste combustor	146

(9) Continuous compliance with the nitrogen oxides emission limits contained herein shall be based on a 24-hour daily arithmetic average.

* * *

(11) The emission limits specified in this subsection shall apply at all times except during periods of startup, shutdown or malfunction as specified in this subdivision:

(A) The duration of each startup, shutdown or malfunction period shall be limited to three hours per occurrence for all MWC * * * ; and

(B) The provisions of subparagraph (A) of this subdivision shall not apply to opacity limits. However, during each period of startup, shutdown or

malfunction, the opacity limits shall not be exceeded during more than five (5) 6-minute arithmetic average measurements.

(12) All emission limits in this subsection, except for those identified for opacity, shall be corrected to seven percent oxygen (7% O_2), unless the owner or operator submits information to justify a correction to an equivalent percent carbon dioxide (% CO_2) and receives the commissioner's written approval. If the owner or operator of a MWC seeks to use an equivalent % CO_2, the owner or operator must demonstrate the relationship between O_2 and CO_2 levels as specified in subparagraph (J) of subdivision (4) of subsection (i) of this section and submit a written report to the commissioner summarizing the results of the demonstration. This relationship may be reestablished during any performance test conducted pursuant to subsection (i) of this section.

(13) * * *

(14) Notwithstanding subparagraph * * * (E) * * * of subdivision (4) of subsection (i) of this section, for the purpose of submitting compliance certifications or for the purpose of the commissioner establishing whether the owner or operator has violated or is in violation of any emission limit or standard in this subdivision, nothing shall preclude the commissioner's use, including the exclusive use, of any appropriate performance test results, credible evidence or information relevant to demonstrating compliance with the applicable requirements of this section.

(d) Nitrogen oxides (NOx) emissions trading program.

(1) The owner or operator of a MWC unit for which construction commenced prior to December 20, 1989 may use emissions trading to meet some or all of the NOx emission reductions required for compliance with the emission limits in subdivision (8) of subsection (c) of this section, subject to the limitations described in this subsection for the NOx emissions trading program.

(2) The owner or operator of a municipal waste combustor for which construction commenced on or after December 20, 1989 may participate in the NOx emissions trading program described in this subsection as follows:

(A) Such owner or operator may not use NOx Emission Reduction Credits (ERCs) to comply with the applicable NOx emission limits in subsection (c) of this section; and

(B) Such owner or operator may create ERCs in accordance with the requirements of this subsection if actual NOx emissions from a unit are

lower than the applicable NOx emission limits in subsection (c) of this section and lower than any applicable NOx Trading Baseline.

(3) For inclusion in the NOx emissions trading program, an owner or operator of a municipal waste combustor unit shall submit a NOx trading protocol to the commissioner for review and written approval on or before December 1, 1999. The protocol shall include, at a minimum:

(A) A formal request to participate in the NOx trading program;

(B) A NOx Trading Baseline and supporting data. The NOx Trading Baseline shall be determined as follows:

(i) If the historical actual twenty-four hour daily NOx average (ppmv @ 7% O_2 or ppmv @ an equivalent % CO_2, as specified in subdivision (12) of subsection (c) of this section) is higher than the applicable NOx limit set forth in subsection (c) of this section, then the applicable subsection (c) NOx limit shall be the NOx Trading Baseline,

(ii) If the historical actual twenty-four hour daily NOx average (ppmv @ 7% O_2 or ppmv @ an equivalent % CO_2, as specified in subdivision (12) of subsection (c) of this section) is lower than the applicable NOx limit set forth in subsection (c) of this section and such lower average concentration is the result of installation of control equipment or modification of a MWC unit solely for the purposes of meeting the requirements of this regulation or section 22a-174-22 of the Regulations of Connecticut State Agencies, then the applicable NOx limit of subsection (c) of this section shall be the NOx Trading Baseline. Control equipment or modifications installed prior to 1990, or installed on new sources since 1990 or installed to meet BACT or LAER requirements shall not be considered as having been installed as a result of the requirements of this section or section 22a-174-22, or

(iii) If the historical actual twenty-four hour daily NOx average (ppmv @ 7% O_2 or ppmv @ an equivalent % CO_2, as specified in subdivision (12) of subsection (c) of this section) is lower than the applicable NOx limit set forth in subsection (c) of this section, then a NOx Trading Baseline shall be established based on the historical actual twenty-four hour daily NOx average;

(C) A detailed methodology for determining and recording hourly heat input (mmBTU/hr); and

(D) All calculations, using the formulas provided in subparagraph (E) of subdivision (4) of this subsection, of the number of ERCs created and/or used. Calculations shall specify unit-specific values for NOx limits, f-factors and CO_2 correction factors, as applicable.

(4) The owner or operator of a municipal waste combustor unit participating in the MWC NOx emissions trading program shall use the following methodology to determine on a daily basis the quantity of ERCs created or used:

(A) Calculate NOx Daily Average Concentration (24-hour block arithmetic average basis) and compare it to the applicable NOx limit of subdivision (8) of subsection (c) of this section;

(B) If the NOx Daily Average Concentration is greater than the applicable NOx limit of subdivision (8) of subsection (c) of this section, then calculate the number of ERCs used;

(C) If the NOx Daily Average Concentration is less than the applicable NOx limit of subdivision (8) of subsection (c) of this section but greater than the NOx Trading Baseline, then ERCs shall neither be used nor created;

(D) If the NOx Daily Average Concentration is less than the NOx Trading Baseline, calculate the number of ERCs created; and

(E) Use the following formulas to calculate the number of ERCs used or created:

lbs ERCs used =
[NOx Daily Average Concentration - (0.95 x applicable NOx limit of subdivision (8) of subsection (c) of this section)]
x [1.194 x 10^{-7}] x [Diluent Correction] x [f-factor]
x [Daily Heat Input Rate Average]
x [# of Actual Operating Hours in Daily Averaging Period]

lbs ERCs created =
[NOx Trading Baseline - NOx Daily Average Concentration]
x [1.194 x 10^{-7}] x [Diluent Correction] x [f-factor]
x [Daily Heat Input Rate Average]
x [# of Actual Operating Hours in the Daily Averaging Period]
x [0.85]

where:

NOx Daily Average Concentration: Average of all valid hourly NOx values (ppmvd @ 7% O_2 or ppmv @ an equivalent % CO_2) recorded during the Daily Averaging Period.

1.194×10^{-7}: NOx concentration conversion factor.

Diluent Correction: If O_2 is used as the diluent, then the diluent correction = [20.9 / 20.9 - 7]. If CO_2 is used as the diluent, then the diluent correction = [100 / equivalent % CO_2].

f-factor: If O_2 is used as the diluent, then fd is in the units of dscf/mmBTU. If CO_2 is used as the diluent, then fc is in the units of scf/mmBTU. An f-factor may be either unit-specific or adopted from Table 19-1 in 40 CFR Part 60, Appendix A, Method 19.

Daily Heat Input Rate Average: Average of all valid hourly Heat Input Rate values (mmBTU/hr) recorded during the Daily Averaging Period.

Daily Averaging Period: The total of all operating hours in a day during which municipal solid waste is being fed to a boiler and/or when the boiler load is at least 75% of maximum rated capacity.

NOx Trading Baseline: The NOx concentration used as the baseline from which ERC creation is determined. The Trading Baseline will be the applicable NOx limit of subdivision (8) of subsection (c) of this section or, if the historical actual daily average concentration is less than the applicable NOx limit of subdivision (8) of subsection (c) of this section, the value established by the commissioner (ppmvd @ 7% O_2 or ppmv @ an equivalent % CO_2).

0.85: This factor represents 10% ERC retirement for environmental benefits and 5% retirement for heat input measurement uncertainties. If the owner or operator installs and calibrates exhaust gas flow monitors in a manner acceptable to the commissioner, certifies that the equipment specifications have been met and are being met and uses such monitors to determine heat input to the unit, then 0.90 can be substituted for 0.85.

(5) Any MWC owner or operator seeking to create ERCs pursuant to this subsection shall:

(A) In accordance with subsection (k) of this section, maintain records for each MWC unit showing daily NOx mass emissions, actual NOx concentration (24-hour average), daily operating hours and ERCs created; and

(B) Submit a written request to the commissioner for approval of ERCs created prior to the use, sale or transfer of such ERCs. Such request shall include the following minimum information:

(i) the monthly operating reports of actual fuel use in mmBTU,

(ii) the daily actual NOx mass emissions and NOx concentrations (24-hour average),

(iii) the number of valid data hours in each 24-hour period for which approval is requested,

(iv) the number of operating hours per day, and

(v) the quantity of ERCs created.

(6) Any MWC owner or operator intending to use ERCs pursuant to this subsection shall:

(A) No later than the first day of each calendar month, calculate, in tons, ERCs per month for each MWC unit, the projected maximum number of ERCs required for that calendar month using the formulas provided in subparagraph (E) of subdivision (4) of this subsection;

(B) No later than the first day of each calendar month, acquire a sufficient number of ERCs approved by the commissioner to match the quantity needed as determined according to subparagraph (A) of this subdivision. The quantity needed may be satisfied with unused ERCs created or acquired in previous months, subject to the restrictions of subparagraph (D) of this subdivision. Credits to be used during the ozone season must have been generated during the ozone season;

(C) No later than the twentieth day of each month, calculate and record the actual quantity of ERCs used in the preceding calendar month;

(D) Maintain documentation demonstrating that ERCs used during the ozone season were generated during an ozone season. An ERC generator certification shall be sufficient for such demonstration;

(E) Prior to May 1, 2001, any ERCs used for meeting the emission limits contained in subdivision (8) of subsection (c) of this section shall be created within the two (2) year period preceding the date of such ERC use; and

(F) On and after May 1, 2001, any ERCs used to meet the emission limits contained herein shall be created on or after May 1, 1999.

(7) No later than January 30 of each year, the MWC owner or operator shall provide to the commissioner a report containing the following information:

(A) A record for the previous calendar year of each use, sale or other transfer of any and all of the ERCs created in accordance with this subsection; and

(B) A record for the previous calendar year of actual NOx emissions from the facility and each MWC unit, the quantity of ERCs created and the quantity of ERCs used, on a monthly basis and an ozone season basis.

(8) Any reports required by this subsection shall be made on forms furnished or prescribed by the commissioner.

(9) Any creation or use of ERCs for the purposes of this subsection shall conform to the provisions of the U.S. Environmental Protection Agency's "Economic Incentive Program Rules," 40 CFR Part 51, Subpart U.

(10) Any emission reductions under this subsection for the purposes of ERC creation shall be:

(A) Calculated in a reliable and replicable manner; and

(B) Not a reduction required by any provision of the state implementation plan at the time the reduction was made, relied upon in an applicable attainment demonstration or required by state or federal permit or order, except where a state or federal permit or order is used to set a NOx trading baseline as defined by subdivision (3) of this subsection.

(11) It shall be a violation of this section if the calculation specified by subparagraph (C) of subdivision (6) of this subsection demonstrates that any MWC owner or operator did not hold or acquire a sufficient number of ERCs to comply with the NOx emission limits contained herein. In addition, the MWC owner or operator shall acquire additional ERCs in an amount equal to three (3) ERCs for every one (1) ERC needed for compliance, had the ERCs been held or acquired at the time specified in subparagraph (B) of subdivision (6) of this subsection. The additional ERCs shall be acquired on or before the last day of the calendar month in which the calculation specified by subparagraph (C) of subdivision (6) of this subsection is performed. Nothing herein shall preclude the commissioner from taking other enforcement action against the owner or operator for failing to hold or acquire a sufficient number of ERCs prior to their use.

(e) [Reserved.]

(f) * * *

(g) * * *

(h) * * *

(i) Performance testing.

(1) Each MWC owner or operator shall conduct an initial performance test to determine compliance with the emission limits specified in this section. All performance tests shall be conducted under representative full load operating conditions. The initial performance test for each pollutant for which a limit is specified in this section shall be completed within 180 days after the final compliance date identified in subsection (m) of this section.

* * *

(4) Each MWC owner or operator shall employ the following methodologies:

(A) * * *

(B) * * *

(C) * * *

(D) * * *

(E) Compliance with the nitrogen oxide emission limit shall be determined by using the CEM system specified in subdivision (1) of subsection (j) of this section;

(F) * * *

(G) * * *

(H) * * *

(I) * * *

(J) Testing for the relationship between carbon dioxide and oxygen shall be conducted in accordance with the following procedures:

(i) At least three (3) test runs of CO_2 and O_2 diluent data shall be obtained using the procedures and methods contained in 40 CFR Part 60, Appendix A, Reference Method 3A or 3B,

(ii) For each test run, using the following equation, a calculation shall be made of the CO_2 correction factor which is equivalent to a 7% O_2 correction factor:

$$CO_2 \text{ correction factor} = \frac{13.9}{(20.9 - O_{2\,\text{measured}})} \times CO_{2\text{measured}}$$

, and

(iii) Calculation of a unit-specific equivalent CO_2 correction factor shall be the arithmetic mean of the result obtained from the three (3) test runs and the calculation of the CO_2 correction factor for each test run pursuant to subparagraph (J)(ii) of this subdivision, rounded to the nearest whole number; and

(K) * * *

(5) The owner or operator of a municipal waste combustor may elect to use any results of performance tests conducted by the commissioner to determine compliance with the emission limits or standards contained herein.

(j) Compliance monitoring

(1) Continuous compliance with the emission limits specified in subsection (c) of this section for * * * nitrogen oxides (NOx) * * * shall be determined based on continuous emission monitoring system data. No later than the applicable compliance date specified in subsection (m) of this section, the owner or operator of a municipal waste combustor shall install, operate and calibrate such continuous emission monitoring system in a manner acceptable to the commissioner and certify to the commissioner, in writing, that the equipment specifications for the continuous emission monitoring system have been and are being met. In addition to the aforementioned continuous monitoring systems, the owner or operator of a municipal waste combustor shall also install, operate, calibrate and maintain continuous monitoring systems for measuring the final particulate control device inlet temperature, municipal waste combustor unit load and the oxygen or carbon dioxide content of the flue gas at each location where

carbon dioxide, sulfur dioxide or nitrogen oxide emissions are monitored. CEM systems shall meet the following requirements:

(A) * * *

(B) O_2 and CO_2 monitors shall meet the applicable performance and quality assurance requirements of 40 CFR Part 60, Appendix B, Performance Specification 3; 40 CFR Part 60, Appendix F, Procedure 1; and 40 CFR section 60.13;

(C) * * *

(D) NO_x monitors shall meet the applicable performance and quality assurance requirements of 40 CFR Part 60, Appendix B, Performance Specification 2; 40 CFR Part 60, Appendix F, Procedure 1; and 40 CFR section 60.13; and

(E) * * *

(2) A MWC owner or operator shall comply with the following minimum data requirements:

(A) Data available for gaseous and process CEMS shall not be less than ninety percent (90%) of the total operating hours in any one calendar quarter;

(B) * * *

(C) At least three equally spaced data points per hour shall be used to calculate a one-hour average; and

(D) The percentage of data available shall be calculated in accordance with the procedures specified on forms furnished or prescribed by the commissioner.

(3) * * *

(k) Record keeping requirements.

(1) The owner or operator of a municipal waste combustor shall maintain records of the information specified in subdivisions (2) through (11) of this subsection, as applicable, labeling each record with the calendar date on which the data was generated. Each record shall be maintained for a period of at least five (5) years from the date the record was created.

(2) Operator training and certification records shall be maintained on an annual basis, as follows:

(A) The names of the chief operators and shift operators, certified by the commissioner, and employed at the plant, including the dates of initial and renewal certifications and documentation of current certification;

(B) The names of the chief operators and shift operators who have completed an operator training course as required under subdivision (3) of subsection (h) of this section; and

(C) The names of the persons at the plant who have completed a training program as required under subdivision (5) of subsection (h) of this section.

(3) Emission concentrations and parameters, measured using a CEM system, shall be recorded as specified in this subdivision:

(A) * * *

(B) * * *

(C) * * *

(D) All one-hour average nitrogen oxides emission concentrations; and

(E) All * * * municipal waste combustor unit load measurements, and particulate matter control device inlet temperatures.

(4) Average concentrations and percent reductions, as applicable, shall be maintained as specified in this subdivision:

(A) * * *

(B) All 24-hour daily arithmetic average nitrogen oxides emission concentrations;

(C) * * *

(D) All 4-hour block arithmetic average municipal waste combustor unit loads and particulate matter control device inlet temperatures.

(5) The calendar dates when any of the average emission concentrations,* * * operating parameters * * * recorded under subdivisions (3) or (4) of this

subsection are above the applicable limit shall be identified. The reasons for such exceedances, a description of corrective actions taken and a description of the measures taken to prevent future exceedances shall also be recorded.

(6) The calendar dates for which the minimum number of hours of any of the date required by this section have not been obtained shall be identified, the reasons for not obtaining sufficient data, a description of corrective actions taken and a description of the measures taken to prevent future losses of data.

(7) Where* * * nitrogen oxides emissions data or operational data (i.e., * * * municipal waste combustor unit load and particulate matter control device temperature) have been excluded from the calculation of average emission concentrations or parameters, the owner or operator shall be identify such exclusion as well as the reason(s) for excluding the data.

(8) The results of daily calibrations and quarterly accuracy determinations for * * * nitrogen oxides * * * and oxygen or carbon dioxide continuous emission monitoring systems shall be recorded.

(9) * * *The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device temperature shall be recorded for the initial performance test * * * . The test results, and supporting calculations documenting the relationship between carbon dioxide and oxygen concentrations established in accordance with this section shall be recorded if established during the initial performance test.

(10) * * *

(11) * * *

(l) Reporting requirements.

(1) The MWC owner or operator shall submit an initial performance test report to the commissioner within sixty (60) days after the date of completion of the initial performance test as specified in subsection (i) of this section. Such an initial test report shall include the following:

(A) The initial performance test data for * * * nitrogen oxides, municipal waste combustor unit load and particulate matter control device inlet temperature;

(B) * * *

(C) The performance evaluation for the continuous emission monitoring system using the applicable performance specifications and procedures cited in subsection (j) of this section;

(D) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the initial * * * performance test;

(E) For those units for which the relationship between carbon dioxide and oxygen is established as required by subdivision (12) of subsection (c) of this section, the owner or operator shall submit the results of the tests establishing the relationship, including test results, identification of the unit test, the date and time of each test run, and, as necessary, a schedule for making the appropriate modifications to the CEM system to incorporate the equivalent % CO_2 correction factor;

(F) * * *

(G) * * *

(2) The MWC owner or operator shall submit a quarterly report to the commissioner within thirty (30) days following the end of each calendar quarter in which the data were collected. The first quarterly report shall be submitted within thirty (30) days following the end of the calendar quarter in which the initial performance test is conducted. Each quarterly report shall include the following:

(A) All emissions data recorded pursuant to this section during the calendar quarter;

(B) Each calendar date during the calendar quarter reported when any of the average emission concentrations, * * * operating parameters * * * recorded exceeded the applicable limit identified in this section; the reasons the limit was exceeded and a description of the corrective actions taken;

(C) * * *

(D) The data and results of any CEM quality assurance testing conducted pursuant to this section.

(3) Except as set forth in subparagraph (D) of this subdivision, the MWC owner or operator shall submit an annual report to the commissioner no later than January 30 of each year following the calendar year in which the data were collected. The

first annual report shall be submitted no later than January 30 of the first year following the end of the calendar year in which the initial performance test is conducted. Each annual report shall include the following:

(A) A summary of data collected for each pollutant regulated under this section and all applicable parameters, as follows:

(i) * * *

(ii) A list of the highest emission level recorded for* * * nitrogen oxides, based on the data recorded for * * * 24-hour daily arithmetic averages,

(iii) * * *

(iv) The relationship between carbon dioxide and oxygen, if such relationship is reestablished, including test results, identification of the units tested and the date and time of each test run, and, as necessary, a schedule for making the appropriate modifications to the CEM system to incorporate the equivalent % CO_2 correction factor,

(v) The total number of days that the minimum number of hours of data for * * * nitrogen oxides * * * were not obtained, and

(vi) The total number of hours that data for* * * nitrogen oxides * * * were excluded from the calculation of average emission concentrations or parameters;

(B) The information required by subparagraph * * * (A)(ii) and * * * of this subdivision for the previous calendar year;

(C) The data summaries required by subparagraphs (A) and (B) of this subdivision shall highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under this section; and

(D) If a MWC owner or operator is subject to more stringent annual reporting requirements pursuant to a permit issued under Title V of the Clean Air Act and section 22a-174-33 of the Regulations of Connecticut State Agencies, those requirements shall supersede the requirements of this subsection.

(4) At least ninety (90) days before any MWC owner or operator plans to conduct any performance test required under this subsection, such owner or operator shall

submit a performance test plan for review and written approval of the commissioner. Such plan shall contain, at a minimum, the following information:

(A) sampling locations;

(B) test methods;

(C) sampling protocols;

(D) sample analysis procedures; and

(E) any other information required by the commissioner.

(5) The MWC owner or operator shall provide written notification to the commissioner three (3) business days prior to conducting any performance test required under this subsection.

(6) * * *

(7) Any report required to be submitted to the commissioner by this section must include a certification signed by a responsible corporate officer or a duly authorized representative of such officer, as those terms are defined in subdivision (2) of subsection (b) of section 22a-430-3 of the Regulations of Connecticut State Agencies, and by the individual or individuals responsible for actually preparing such document, each of whom shall examine and be familiar with the information submitted in the document and all attachments thereto, and shall make inquiry of those individuals responsible for obtaining the information to determine that the information is true, accurate, and complete, and each of whom shall certify in writing as follows:

> "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes or, in accordance with section 22a-6 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

(8) The MWC owner or operator shall submit all reports and notifications required by this subsection on forms furnished or prescribed by the commissioner.

(9) The MWC owner or operator shall submit all reports specified under this subsection as a paper copy, with supporting data in either paper or electronic format, postmarked on or before the submittal dates specified in this subsection, and maintain such reports at the premises as a paper copy with any supporting data in the format submitted for a period of five (5) years from the date of submission to the commissioner.

(m) Compliance schedule.

(1) * * *

(2) * * *

(3) The owner or operator of a MWC for which construction, modification or reconstruction commenced on or after September 20, 1994 shall achieve final compliance with the applicable emission limits specified in subsections (c) and (f) of this section, with the exception of the emission limits of Tables * * * 38-3a, no later than December 19, 2000 or the date of initial operation, whichever is later.

(4) * * *

(5) The owner or operator of any MWC shall achieve final compliance with the applicable emission limit specified in Table 38-3a of subsection (c) of this section no later than May 1, 2003 or the date of initial operation, whichever is later.

(6) The owner or operator of a MWC subject to this section who is unable to comply with the requirements of this section within the final compliance dates specified in this subsection shall cease operation. Within one year of the effective date of this section such an owner or operator shall either immediately cease operation or, at the discretion of the commissioner, enter into a legally enforceable cease operation agreement with the commissioner that includes a date no later than December 19, 2000 on which operation will cease.

(7) On and after the date one year from the effective date of this section, any MWC that has been operated in full compliance with all requirements of this section for nitrogen oxides shall be exempt from the following provisions of the Regulations of Connecticut State Agencies:

(A) Section 22a-174-22(k) concerning nitrogen oxides emissions testing and monitoring; and

(B) Section 22a-174-22(l) concerning reporting and record keeping for nitrogen oxides.

(8) Any MWC that is operating in full compliance with all requirements of this section for nitrogen oxides, as determined by the commissioner, shall be exempt from the May 31, 1999 deadline contained in Section 22a-174-22, subsection (e), subdivision (2) of the Regulations of Connecticut State Agencies as of the effective date of this section.

EPA NOTE : Portions or words of Connecticut's Section 22a-174-38 which were not incorporated by referenced into the state implementation plan do not appear in the above text and are represented by * * * to indicate missing text.