

2.117 Hospital/Medical/Infectious Waste Incinerators (Constructed before June 20, 1996)

2.117.1 Applicability and Designation of Affected Facility

- (a) The provisions of this source category apply to each hospital/medical/infectious waste incinerator (HMIWI) for which construction is commenced before June 20, 1996, except as provided in paragraphs (b) through (g) of this section.
- (b) A combustor is not subject to this section during periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste (all defined in §60.51c^{*}) is burned, provided the owner or operator of the combustor:
 - (1) Notifies the Director of an exemption claim; and
 - (2) Keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste and/or chemotherapeutic waste is burned.
- (c) Any co-fired combustor (defined in §60.51c^{*}) is not subject to this section if the owner or operator of the co-fired combustor:
 - (1) Notifies the Director of an exemption claim;
 - (2) Provides an estimate of the relative amounts of hospital waste, medical/infectious waste, and other fuels and wastes to be combusted; and
 - (3) Keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor.
- (d) Any combustor required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to this section.
- (e) Any combustor which meets the applicability requirements under subpart Cb, Ea, Eb, or Ec of 40CFR Part 60^{*} is not subject to this section.
- (f) Any pyrolysis unit (defined in §60.51c^{*}) is not subject to this section.
- (g) Cement kilns firing hospital waste and/or medical/infectious waste are not subject to this section.

2.117.2 Test Methods and Procedures and Compliance Provisions

- (a) The emission limits under this section apply at all times except during periods of startup, shutdown, or malfunction, provided that no hospital waste or medical/infectious waste is charged to the affected facility during startup, shutdown, or malfunction.
- (b) The owner or operator of an affected facility shall conduct an initial performance test on or before the required date given in Georgia Rules for Air Quality Control (Georgia Rule)

391-3-1-.02(2)(iii)4 as required in Section 1.2 to determine compliance with the emission limits using the procedures and test methods listed in paragraphs (b)(1) through (b)(11) of this section. The use of the bypass stack during a performance test shall invalidate the performance test.

- (1) All performance tests shall consist of a minimum of three test runs conducted under representative operating conditions.
- (2) The minimum sample time shall be 1 hour per test run unless otherwise indicated.
- (3) Method 1 of appendix A of this text shall be used to select the sampling location and number of traverse points.
- (4) Method 3A or 3B of appendix A of this text shall be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of appendix A of this text shall be used simultaneously with each reference method.
- (5) The pollutant concentrations shall be adjusted to 7 percent oxygen using the following equation:

$$C_{adj} = C_{meas} (20.9-7)/(20.9-\%O_2)$$

where:

C_{adj} = pollutant concentration adjusted to 7 percent oxygen

C_{meas} = pollutant concentration measured on a dry basis

$(20.9-7)$ = 20.9 percent oxygen - 7 percent oxygen (defined oxygen correction basis)

20.9 = oxygen concentration in air, percent

$\%O_2$ = oxygen concentration measured on a dry basis, percent

- (6) Method 5 or 29 of appendix A of this text shall be used to measure the particulate matter emissions.
- (7) Method 9 of appendix A and the procedures of Section 1.3 of this text shall be used to measure stack opacity.
- (8) Method 10 or 10B of appendix A of this text shall be used to measure the CO emissions.
- (9) Method 23 of appendix A of this text shall be used to measure total dioxin/furan emissions. The minimum sample time shall be 4 hours per test run. If the affected facility has selected the toxic equivalency standards for dioxin/furans, under Georgia Rule 391-3-1-.02(2)(iii)7(iii)(I), the following procedures shall be used to determine compliance:

TABLE 2. TOXIC EQUIVALENCY FACTORS

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

- (i) Measure the concentration of each dioxin/furan tetra- through octa-congener emitted using Method 23.
- (ii) For each dioxin/furan congener measured in accordance with paragraph (b)(9)(i) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 2 of this section.
- (iii) Sum the products calculated in accordance with paragraph (b)(9)(ii) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

- (10) Method 26 or 26A of appendix A of this text shall be used to measure HCl emissions. If the affected facility has selected the percentage reduction standards for HCl under Georgia Rule 391-3-1-.02(2)(iii)7(iii)(I), the percentage reduction in HCl emissions (%R_{HCl}) is computed using the following formula:

$$(\%R_{HCl}) = \left(\frac{E_i - E_o}{E_i} \right) \times 100$$

where:

- %R_{HCl} = percentage reduction of HCl emissions achieved;
- E_i = HCl emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis); and
- E_o = HCl emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

- (11) Method 29 of appendix A of this text shall be used to measure lead (Pb), cadmium (Cd), and mercury (Hg) emissions. If the affected facility has selected the percentage reduction standards for metals under Georgia Rule 391-3-1-.02(2)(iii)7(iii)(I), the percentage reduction in emissions (%R_{metal}) is computed using the following formula:

$$(\%R_{metal}) = \left(\frac{E_i - E_o}{E_i} \right) \times 100$$

where:

- %R_{metal} = percentage reduction of metal emission (Pb, Cd, or Hg) achieved;
- E_i = metal emission concentration (Pb, Cd, or Hg) measured at the control device inlet, corrected to 7 percent oxygen (dry basis); and
- E_o = metal emission concentration (Pb, Cd, or Hg) measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

- (c) Following the date on which the initial performance test, required by Georgia Rule 391-3-1-.02(2)(iii)4., which demonstrates compliance with the limits of Georgia Rule 391-3-1-.02(2)(iii)7(iii)(I) is completed or is required to be completed by Section 1.2, but no later than March 15, 2000, the owner or operator of an affected facility shall:

- (1) Determine compliance with the opacity limit by conducting an annual

performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in Section 2.117.2(b).

- (2) Determine compliance with the PM, CO, and HCl emission limits by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in Section 2.117.2(b). If all three performance tests over a 3-year period indicate compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for the subsequent 2 years. At a minimum, a performance test for PM, CO, and HCl shall be conducted every third year (no more than 36 months following the previous performance test). If a performance test conducted every third year indicates compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for an additional 2 years. If any performance test indicates noncompliance with the respective emission limit, a performance test for that pollutant shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the emission limit. The use of the bypass stack during a performance test shall invalidate the performance test.
- (3) [Reserved]
- (4) Facilities using a CEMS to demonstrate compliance with any of the emission limits under Georgia Rule 391-3-1-.02(2)(iii)7(iii)(I) shall:
 - (i) Determine compliance with the appropriate emission limit(s) using a 12-hour rolling average, calculated each hour as the average of the previous 12 operating hours (not including startup, shutdown, or malfunction).
 - (ii) Operate all CEMS in accordance with the applicable procedures under appendices B and F of this text.
- (d) The owner or operator of an affected facility equipped with a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and wet scrubber shall:
 - (1) Establish the appropriate maximum and minimum operating parameters, indicated in Table 3 of Section 2.117.3 for each control system, as site specific operating parameters during the initial performance test to determine compliance with the emission limits; and
 - (2) Following the date on which the initial performance test is completed or is required to be completed under Georgia Rule 391-3-1-.02(2)(iii)4 and Section 1.2, whichever date comes first, ensure that the affected facility does not operate above any of the applicable maximum operating parameters or below any of the applicable minimum operating parameters listed in Table 3 and measured as 3-hour rolling averages (calculated each hour as the average of

the previous 3 operating hours) at all times except during periods of startup, shutdown and malfunction. Operating parameter limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating parameter(s) shall constitute a violation of established operating parameter(s).

- (e) Except as provided in paragraph (h) of this section, for affected facilities equipped with a dry scrubber followed by a fabric filter:
 - (1) Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the CO emission limit.
 - (2) Operation of the affected facility above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit.
 - (3) Operation of the affected facility above the maximum charge rate and below the minimum HCl sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit.
 - (4) Operation of the affected facility above the maximum charge rate and below the minimum Hg sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit.
 - (5) Use of the bypass stack (except during startup, shutdown, or malfunction) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.
- (f) Except as provided in paragraph (h) of this section, for affected facilities equipped with a wet scrubber:
 - (1) Operation of the affected facility above the maximum charge rate and below the minimum pressure drop across the wet scrubber or below the minimum horsepower or amperage to the system (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the PM emission limit.
 - (2) Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the CO emission limit.
 - (3) Operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature, and below the minimum scrubber liquor flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit.

- (4) Operation of the affected facility above the maximum charge rate and below the minimum scrubber liquor pH (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit.
 - (5) Operation of the affected facility above the maximum flue gas temperature and above the maximum charge rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit.
 - (6) Use of the bypass stack (except during startup, shutdown, or malfunction) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.
- (g) Except as provided in paragraph (h) of this section, for affected facilities equipped with a dry scrubber followed by a fabric filter and a wet scrubber:
 - (1) Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the CO emission limit.
 - (2) Operation of the affected facility above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit.
 - (3) Operation of the affected facility above the maximum charge rate and below the minimum scrubber liquor pH (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit.
 - (4) Operation of the affected facility above the maximum charge rate and below the minimum Hg sorbent flow rate (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit.
 - (5) Use of the bypass stack (except during startup, shutdown, or malfunction) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.
- (h) The owner or operator of an affected facility may conduct a repeat performance test within 30 days of violation of applicable operating parameter(s) to demonstrate that the affected facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this paragraph shall be conducted using the identical operating parameters that indicated a violation under paragraph (e), (f), or (g) of this section.
- (i) The owner or operator of an affected facility using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber to comply with the emission limits under Georgia Rule 391-3-1-.02(2)(iii)7(iii)(I) shall petition the Director for other site-specific operating parameters to be established during the initial performance test and

continuously monitored thereafter. The owner or operator shall not conduct the initial performance test until after the petition has been approved by the Director.

- (j) The owner or operator of an affected facility may conduct a repeat performance test at any time to establish new values for the operating parameters. The Director may request a repeat performance test at any time.

2.117.3 Monitoring of Operations

- (a) The owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 3 such that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in Table 3 at all times except during periods of startup and shutdown.

TABLE 3. OPERATING PARAMETERS TO BE MONITORED AND MINIMUM MEASUREMENT AND RECORDING FREQUENCIES

Operating parameters to be monitored	Minimum frequency		Control system		
	Data measurement	Data recording	Dry scrubber followed by fabric filter	Wet scrubber	Dry scrubber followed by fabric filter and wet scrubber
Maximum operating parameters					
Maximum charge rate	continuous	1 x hour	X	X	X
Maximum fabric filter inlet temperature	continuous	1 x minute	X		X
Maximum flue gas temperature	continuous	1 x minute		X	X
Minimum operating parameters					
Minimum secondary chamber temperature	continuous	1 x minute	X	X	X
Minimum dioxin/furan sorbent flow rate	hourly	1 x hour	X		X
Minimum HCl sorbent flow rate	hourly	1 x hour	X		X
Minimum mercury (Hg) sorbent flow rate	hourly	1 x hour	X		X
Minimum pressure drop across the wet scrubber or minimum horsepower or amperage to wet scrubber	continuous	1 x minute		X	X
Minimum scrubber liquor flow rate	continuous	1 x minute		X	X
Minimum scrubber liquor pH	continuous	1 x minute		X	X

- (b) The owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time, and duration.
- (c) The owner or operator of an affected facility using something other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber to comply with the emission limits under Georgia Rule 391-3-1-.02(2)(iii)7(iii)(l) shall install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor the site-specific operating parameters developed pursuant to Section 2.117.2(i).

- (d) The owner or operator of an affected facility shall obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. At a minimum, valid monitoring data shall be obtained for 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter that the affected facility is combusting hospital waste and/or medical/infectious waste.

2.117.4 Record Keeping and Reporting Requirements

- (a) The owner or operator of an affected facility shall submit notification, as provided by Section 1.5 of this text. In addition, the owner or operator shall provide the Division thirty (30) days prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the test and shall provide with the notification a test plan in accordance with Division guidelines.
- (b) The owner or operator of an affected facility shall maintain the following information (as applicable) for a period of at least 5 years:
 - (1) Calendar date of each record;
 - (2) Records of the following data:
 - (i) Concentrations of any pollutant listed in Georgia Rule 391-3-1-.02(2)(iii)7(iii)(l) or measurements of opacity as determined by the continuous emission monitoring system (if applicable);
 - (ii) [Reserved]
 - (iii) HMIWI charge dates, times, and weights and hourly charge rates;
 - (iv) Fabric filter inlet temperatures during each minute of operation, as applicable;
 - (v) Amount and type of dioxin/furan sorbent used during each hour of operation, as applicable;
 - (vi) Amount and type of Hg sorbent used during each hour of operation, as applicable;
 - (vii) Amount and type of HCl sorbent used during each hour of operation, as applicable;
 - (viii) Secondary chamber temperatures recorded during each minute of operation;
 - (ix) Liquor flow rate to the wet scrubber inlet during each minute of operation, as applicable;

- (x) Horsepower or amperage to the wet scrubber during each minute of operation, as applicable;

- (xi) Pressure drop across the wet scrubber system during each minute of operation, as applicable,
 - (xii) Temperature at the outlet from the wet scrubber during each minute of operation, as applicable;
 - (xiii) pH at the inlet to the wet scrubber during each minute of operation, as applicable,
 - (xiv) Records indicating use of the bypass stack, including dates, times, and durations, and
 - (xv) For affected facilities complying with Section 2.117.2(i) and 2.117.3(c), the owner or operator shall maintain all operating parameter data collected.
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- (3) Identification of calendar days for which data on emission rates or operating parameters specified under paragraph (b)(2) of this section have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken.
 - (4) Identification of calendar days, times and durations of malfunctions, a description of the malfunction and the corrective action taken.
 - (5) Identification of calendar days for which data on emission rates or operating parameters specified under paragraph (b)(2) of this section exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken.
 - (6) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating parameters, as applicable.
 - (7) [Reserved]
 - (8) Records showing the names of HMIWI operators who have completed the required review of the information in Georgia Rule 391-3-1-.02(2)(iii)7(iv), including the date of the initial review and all subsequent annual reviews;
 - (9) Records showing the names of the HMIWI operators who have completed the operator training requirements, including documentation of training and the dates of the training;
 - (10) Records showing the names of the HMIWI operators who have met the criteria for qualification under Georgia Rule 391-3-1-.02(2)(iii)7(iv) and the dates of their qualification; and
 - (11) Records of calibration of any monitoring devices as required under Section

2.117.3 (a), (b), and (c).

- (c) The owner or operator of an affected facility shall submit the information specified in paragraphs (c)(1) through (c)(3) of this section no later than 60 days following the initial performance test. All reports shall be signed by the facilities manager.
 - (1) The initial performance test data as recorded under Section 2.117.2(b)(1) through (b)(11), as applicable.
 - (2) The values for the site-specific operating parameters established pursuant to Section 2.117.2(d) or (i), as applicable.
 - (3) The waste management plan as specified in Georgia Rule 391-3-1-.02(2)(iii)7(vi).
- (d) An annual report shall be submitted 1 year following the submission of the information in paragraph (c) of this section and subsequent reports shall be submitted no more than 12 months following the previous report (once the unit is subject to permitting requirements under Title V of the Clean Air Act, the owner or operator of an affected facility must submit these reports semiannually). The annual report shall include the information specified in paragraphs (d)(1) through (d)(8) of this section. All reports shall be signed by the facilities manager.
 - (1) The values for the site-specific operating parameters established pursuant to Section 2.117.2(d) or (i), as applicable.
 - (2) The highest maximum operating parameter and the lowest minimum operating parameter, as applicable, for each operating parameter recorded for the calendar year being reported, pursuant to Section 2.117.2(d) or (i), as applicable.
 - (3) The highest maximum operating parameter and the lowest minimum operating parameter, as applicable for each operating parameter recorded pursuant to Section 2.117.2(d) or (i) for the calendar year preceding the year being reported, in order to provide the Director with a summary of the performance of the affected facility over a 2-year period.
 - (4) Any information recorded under paragraphs (b)(3) through (b)(5) of this section for the calendar year being reported.
 - (5) Any information recorded under paragraphs (b)(3) through (b)(5) of this section for the calendar year preceding the year being reported, in order to provide the Director with a summary of the performance of the affected facility over a 2-year period.
 - (6) If a performance test was conducted during the reporting period, the results of that test.
 - (7) If no exceedances or malfunctions were reported under paragraphs (b)(3)

through (b)(5) of this section for the calendar year being reported, a statement that no exceedances occurred during the reporting period.

- (8) Any use of the bypass stack, the duration, reason for malfunction, and corrective action taken.
- (e) The owner or operator of an affected facility shall submit semiannual reports containing any information recorded under paragraphs (b)(3) through (b)(5) of this section no later than 60 days following the reporting period. The first semiannual reporting period ends 6 months following the submission of information in paragraph (c) of this section. Subsequent reports shall be submitted no later than 6 calendar months following the previous report. All reports shall be signed by the facilities manager.
- (f) All records specified under paragraph (b) of this section shall be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Director.

* Code of Federal Regulations, Title 40, Part 60