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waste); and purchasing recycled or recyclable products. A waste management plan may include different goals or approaches for different areas or departments of the facility and need not include new waste management goals for every waste stream. It should identify, where possible, reasonably available additional waste management measures, taking into account the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have. The American Hospital Association publication entitled ''An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities'' (incorporated by reference, *see* § 60.17) shall be considered in the development of the waste management plan. The owner or operator of each commercial HMIWI company shall conduct training and education programs in waste segregation for each of the company's waste generator clients and ensure that each client prepares its own waste management plan that includes, but is not limited to, the provisions listed previously in this section.

[74 FR 51409, Oct. 6, 2009]

§ 60.56c Compliance and performance testing.

(a) The emissions limits apply at all times.

(b) The owner or operator of an affected facility as defined in § 60.50c(a)(1) and (2), shall conduct an initial performance test as required under § 60.8 to determine compliance with the emissions limits using the procedures and test methods listed in paragraphs (b)(1) through (b)(6) and (b)(9) through (b)(14) of this section. The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4), shall conduct an initial performance test as required under § 60.8 to determine compliance with the emissions limits using the procedures and test methods listed in paragraphs (b)(1) through (b)(14). 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) EPA Reference Method 1 of appendix A of this part shall be used to select the sampling location and number of traverse points.

(4) EPA Reference Method 3, 3A, or 3B of appendix A–2 of this part shall be used for gas composition analysis, including measurement of oxygen concentration. EPA Reference Method 3, 3A, or 3B of appendix A–2 of this part shall be used simultaneously with each of the other EPA reference methods. As an alternative to EPA Reference Method 3B, ASME PTC–19–10–1981–Part 10 may be used (incorporated by reference, *see* § 60.17).

(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; and

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

(6) EPA Reference Method 5 of appendix A–3 or Method 26A or Method 29 of appendix A–8 of this part shall be used to measure the particulate matter emissions. As an alternative, PM CEMS may be used as specified in paragraph (c)(5) of this section.

(7) EPA Reference Method 7 or 7E of appendix A–4 of this part shall be used to measure NO_X emissions.

(8) EPA Reference Method 6 or 6C of appendix A–4 of this part shall be used to measure SO_2 emissions.

(9) EPA Reference Method 9 of appendix A–4 of this part shall be used to measure stack opacity. As an alternative, demonstration of compliance with the PM standards using bag leak detection systems as specified in § 60.57c(h) or PM CEMS as specified in paragraph (c)(5) of this section is considered demonstrative of compliance with the opacity requirements.

(10) EPA Reference Method 10 or 10B of appendix A–4 of this part shall be used to measure the CO emissions. As specified in paragraph (c)(4) of this section, use of CO CEMS are required for affected facilities under §60.50c(a)(3) and (4).

(11) EPA Reference Method 23 of appendix A–7 of this part shall be used to measure total dioxin/furan emissions. As an alternative, an owner or operator may elect to sample dioxins/furans by installing, calibrating, maintaining, and operating a continuous automated sampling system for monitoring dioxin/furan emissions as specified in paragraph (c)(6) of this section. For Method 23 of appendix A–7 sampling, the minimum sample time shall be 4 hours per test run. If the affected facility has selected the toxic equivalency standards for dioxins/furans, under §60.52c, the following procedures shall be used to determine compliance:

(i) Measure the concentration of each dioxin/furan tetra-through octa-congener emitted using EPA Reference 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 subpart.

(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.

(12) EPA Reference Method 26 or 26A of appendix A–8 of this part shall be used to measure HCl emissions. As an alternative, HCl CEMS may be used as specified in paragraph (c)(5) of this section.

(13) EPA Reference Method 29 of appendix A–8 of this part shall be used to measure Pb, Cd, and Hg emissions. As an alternative, Hg emissions may be measured using ASTM D6784–02 (incorporated by reference, *see* §60.17). As an alternative for Pb, Cd, and Hg, multimetals CEMS or Hg CEMS, may be used as specified in paragraph (c)(5) of this section. As an alternative, an owner or operator may elect to sample Hg by installing, calibrating, maintaining, and operating a continuous automated sampling system for monitoring Hg emissions as specified in paragraph (c)(7) of this section.

(14) The EPA Reference Method 22 of appendix A–7 of this part shall be used to determine compliance with the fugitive ash emissions limit under §60.52c(c). The minimum observation time shall be a series of three 1-hour observations.

(c) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, 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 paragraph (b) of this section.

(2) Except as provided in paragraphs (c)(4) and (c)(5) of this section, determine compliance with the PM, CO, and HCl emissions 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 paragraph (b) of this section. If all three performance tests over a 3-year period indicate compliance with the emissions 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 emissions 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 emissions 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 emissions limit. The use of the bypass stack during a performance test shall invalidate the performance test.

(3) For an affected facility as defined in §60.50c(a)(1) and (2) and utilizing a

large HMIWI, and in § 60.50c(a)(3) and (4), determine compliance with the visible emissions limits for fugitive emissions from flyash/bottom ash storage and handling by conducting a performance test using EPA Reference Method 22 of appendix A–7 on an annual basis (no more than 12 months following the previous performance test).

(4) For an affected facility as defined in § 60.50c(a)(3) and (4), determine compliance with the CO emissions limit using a CO CEMS according to paragraphs (c)(4)(i) through (c)(4)(iii) of this section:

(i) Determine compliance with the CO emissions limit using a 24-hour block average, calculated as specified in section 12.4.1 of EPA Reference Method 19 of appendix A–7 of this part.

(ii) Operate the CO CEMS in accordance with the applicable procedures under appendices B and F of this part.

(iii) Use of a CO CEMS may be substituted for the CO annual performance test and minimum secondary chamber temperature to demonstrate compliance with the CO emissions limit.

(5) Facilities using CEMS to demonstrate compliance with any of the emissions limits under § 60.52c shall:

(i) For an affected facility as defined in § 60.50c(a)(1) and (2), determine compliance with the appropriate emissions limit(s) using a 12-hour rolling average, calculated each hour as the average of the previous 12 operating hours.

(ii) For an affected facility as defined in § 60.50c(a)(3) and (4), determine compliance with the appropriate emissions limit(s) using a 24-hour block average, calculated as specified in section 12.4.1 of EPA Reference Method 19 of appendix A–7 of this part.

(iii) Operate all CEMS in accordance with the applicable procedures under appendices B and F of this part. For those CEMS for which performance specifications have not yet been promulgated (HCl, multi-metals), this option for an affected facility as defined in § 60.50c(a)(3) and (4) takes effect on the date a final performance specification is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan.

(iv) For an affected facility as defined in § 60.50c(a)(3) and (4), be allowed to substitute use of an HCl CEMS for the HCl annual performance test, minimum HCl sorbent flow rate, and minimum scrubber liquor pH to demonstrate compliance with the HCl emissions limit.

(v) For an affected facility as defined in § 60.50c(a)(3) and (4), be allowed to substitute use of a PM CEMS for the PM annual performance test and minimum pressure drop across the wet scrubber, if applicable, to demonstrate compliance with the PM emissions limit.

(6) An affected facility as defined in § 60.50c(a)(3) and (4) using a continuous automated sampling system to demonstrate compliance with the dioxin/furan emissions limits under § 60.52c shall record the output of the system and analyze the sample according to EPA Reference Method 23 of appendix A–7 of this part. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to dioxin/furan from monitors is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan. The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) who elects to continuously sample dioxin/furan emissions instead of sampling and testing using EPA Reference Method 23 of appendix A–7 shall install, calibrate, maintain, and operate a continuous automated sampling system and shall comply with the requirements specified in § 60.58b(p) and (q) of subpart Eb of this part.

(7) An affected facility as defined in § 60.50c(a)(3) and (4) using a continuous automated sampling system to demonstrate compliance with the Hg emissions limits under § 60.52c shall record the output of the system and analyze the sample at set intervals using any suitable determinative technique that can meet appropriate performance criteria. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to Hg from monitors is published in the FEDERAL REGISTER or the date of approval of a site-specific monitoring plan. The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) who elects to continuously sample Hg

emissions instead of sampling and testing using EPA Reference Method 29 of appendix A–8 of this part, or an approved alternative method for measuring Hg emissions, shall install, calibrate, maintain, and operate a continuous automated sampling system and shall comply with the requirements specified in §60.58b(p) and (q) of subpart Eb of this part.

(d) Except as provided in paragraphs (c)(4) through (c)(7) of this section, 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 this subpart 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 §60.8, 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 of this subpart and measured as 3-hour rolling averages (calculated each hour as the average of the previous 3 operating hours) at all times. 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 (i) 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 shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emissions limits.

(6) Operation of the affected facility as defined in §60.50c(a)(3) and (4) above the CO emissions limit as measured by the CO CEMS specified in paragraph (c)(4) of this section shall constitute a violation of the CO emissions limit.

(7) For an affected facility as defined in §60.50c(a)(3) and (4), failure to initiate corrective action within 1 hour of a bag leak detection system alarm; or failure to operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period shall constitute a violation of the PM emissions limit. If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If it takes longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action. If the bag leak detection system is used to demonstrate compliance with the opacity limit, this would also constitute a violation of the opacity emissions limit.

(8) Operation of the affected facility as defined in §60.50c(a)(3) and (4) above the PM, HCl, Pb, Cd, and/or Hg emissions limit as measured by the CEMS

specified in paragraph (c)(5) of this section shall constitute a violation of the applicable emissions limit.

(9) Operation of the affected facility as defined in § 60.50c(a)(3) and (4) above the dioxin/furan emissions limit as measured by the continuous automated sampling system specified in paragraph (c)(6) of this section shall constitute a violation of the dioxin/furan emissions limit.

(10) Operation of the affected facility as defined in § 60.50c(a)(3) and (4) above the Hg emissions limit as measured by the continuous automated sampling system specified in paragraph (c)(7) of this section shall constitute a violation of the Hg emissions limit.

(f) Except as provided in paragraph (i) 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 shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emissions limits.

(7) Operation of the affected facility as defined in § 60.50c(a)(3) and (4) above the CO emissions limit as measured by the CO CEMS specified in paragraph (c)(4) of this section shall constitute a violation of the CO emissions limit.

(8) Operation of the affected facility as defined in § 60.50c(a)(3) and (4) above the PM, HCl, Pb, Cd, and/or Hg emissions limit as measured by the CEMS specified in paragraph (c)(5) of this section shall constitute a violation of the applicable emissions limit.

(9) Operation of the affected facility as defined in § 60.50c(a)(3) and (4) above the dioxin/furan emissions limit as measured by the continuous automated sampling system specified in paragraph (c)(6) of this section shall constitute a violation of the dioxin/furan emissions limit.

(10) Operation of the affected facility as defined in § 60.50c(a)(3) and (4) above the Hg emissions limit as measured by the continuous automated sampling system specified in paragraph (c)(7) of this section shall constitute a violation of the Hg emissions limit.

(g) Except as provided in paragraph (i) 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 shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emissions limits.

(6) Operation of the affected facility as defined in §60.50c(a)(3) and (4) above the CO emissions limit as measured by the CO CEMS specified in paragraph (c)(4) of this section shall constitute a violation of the CO emissions limit.

(7) For an affected facility as defined in §60.50c(a)(3) and (4), failure to initiate corrective action within 1 hour of a bag leak detection system alarm; or failure to operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period shall constitute a violation of the PM emissions limit. If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If it takes longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action. If the bag leak detection system is used to demonstrate compliance with the opacity limit, this would also constitute a violation of the opacity emissions limit.

(8) Operation of the affected facility as defined in §60.50c(a)(3) and (4) above the PM, HCl, Pb, Cd, and/or Hg emissions limit as measured by the CEMS specified in paragraph (c)(5) of this section shall constitute a violation of the applicable emissions limit.

(9) Operation of the affected facility as defined in §60.50c(a)(3) and (4) above the dioxin/furan emissions limit as measured by the continuous automated sampling system specified in paragraph (c)(6) of this section shall constitute a violation of the dioxin/furan emissions limit.

(10) Operation of the affected facility as defined in §60.50c(a)(3) and (4) above the Hg emissions limit as measured by the continuous automated sampling system specified in paragraph (c)(7) of this section shall constitute a violation of the Hg emissions limit.

(h) The owner or operator of an affected facility as defined in §60.50c(a)(3) and (4) equipped with selective noncatalytic reduction technology shall:

(1) Establish the maximum charge rate, the minimum secondary chamber temperature, and the minimum reagent flow rate as site specific operating parameters during the initial performance test to determine compliance with the emissions limits;

(2) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, ensure that the affected facility does not operate above the maximum charge rate, or below the minimum secondary chamber temperature or the minimum reagent flow rate measured as 3-hour rolling averages (calculated each hour as the average of the previous 3 operating hours) at all times. Operating parameter limits do not apply during performance tests.

(3) Except as provided in paragraph (i) of this section, operation of the affected facility above the maximum charge rate, below the minimum secondary chamber temperature, and below the minimum reagent flow rate simultaneously shall constitute a violation of the NO_X emissions limit.

(i) 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 emissions 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), (g), or (h) of this section.

(j) 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, a dry scrubber followed by a fabric filter and a wet scrubber, or selective noncatalytic reduction technology to comply with the emissions limits under §60.52c shall petition the

Administrator 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 Administrator.

(k) 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 Administrator may request a repeat performance test at any time.

[62 FR 48382, Sept. 15, 1997, as amended at 65 FR 61753, Oct. 17, 2000; 74 FR 51409, Oct. 6, 2009; 78 FR 28066, May 13, 2013]

§ 60.57c Monitoring requirements.

(a) Except as provided in § 60.56c(c)(4) through (c)(7), 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 to this subpart (unless CEMS are used as a substitute for certain parameters as specified) such that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times.

(b) The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) that uses selective noncatalytic reduction technology shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the operating parameters listed in § 60.56c(h) such that the devices (or methods) measure and record values for the operating parameters at all times. Operating parameter values shall be measured and recorded at the following minimum frequencies:

(1) Maximum charge rate shall be measured continuously and recorded once each hour;

(2) Minimum secondary chamber temperature shall be measured continuously and recorded once each minute; and

(3) Minimum reagent flow rate shall be measured hourly and recorded once each hour.

(c) 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.

(d) 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, a dry scrubber followed by a fabric filter and a wet scrubber, or selective noncatalytic reduction technology to comply with the emissions limits under § 60.52c shall install, calibrate (to manufacturers' specifications), maintain, and operate the equipment necessary to monitor the site-specific operating parameters developed pursuant to § 60.56c(j).

(e) 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 for 90 percent of the operating days per calendar quarter that the affected facility is combusting hospital waste and/or medical/infectious waste.

(f) The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) shall ensure that each HMIWI subject to the emissions limits in § 60.52c undergoes an initial air pollution control device inspection that is at least as protective as the following:

(1) At a minimum, an inspection shall include the following:

(i) Inspect air pollution control device(s) for proper operation, if applicable;

(ii) Ensure proper calibration of thermocouples, sorbent feed systems, and any other monitoring equipment; and

(iii) Generally observe that the equipment is maintained in good operating condition.

(2) Within 10 operating days following an air pollution control device inspection, all necessary repairs shall be completed unless the owner or operator