

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 60**

[AD-FRL-6424-7]

RIN 2060-AI51

**New Source Performance Standards for New Small Municipal Waste Combustion Units**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** This action proposes to reestablish new source performance standards (NSPS) for new small municipal waste combustion (MWC) units. When implemented, these NSPS will result in stringent emission limits for organics (dioxins/furans), metals (cadmium, lead, mercury, and particulate matter), and acid gases (hydrogen chloride, sulfur dioxide, and nitrogen oxides). The NSPS for small MWC units were originally promulgated in December 1995 but were vacated by the U.S. Court of Appeals for the District of Columbia Circuit in March 1997. These proposed NSPS are functionally equivalent to the 1995 NSPS.

**DATES:** *Comments:* Comments on these proposed NSPS and comments on the Information Collection Request (ICR) document associated with these NSPS must be received on or before October 29, 1999.

*Public Hearing:* A public hearing will be held if requests to speak are received by September 14, 1999. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning these proposed NSPS. If requests to speak are received, the public hearing will take place in Research Triangle Park, North Carolina, approximately 30 days after August 30, 1999 and will begin at 10:00 a.m. A message regarding the status of the public hearing may be accessed by calling (919) 541-5264.

**ADDRESSES:** *Comments:* Submit comments on these proposed NSPS (in duplicate, if possible) to: Air and Radiation Docket and Information Center (MC-6102), Attention Docket No.

A-98-18, U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460. Comments may also be submitted electronically. Send electronic submittals to: "A-and-R-Docket@epamail.epa.gov". Submit electronic comments in American Standard Code for Information Interchange (ASCII) format. Avoid the use of special characters and any form of encryption. Electronic comments on these proposed NSPS may be filed online at any Federal Depository Library. For additional information on comments and public hearing see the **SUPPLEMENTARY INFORMATION** section.

*Docket:* Docket No. A-98-18 for this proposal and associated Docket Nos. A-90-45 and A-89-08 contain supporting information for these NSPS. These dockets are available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday, at EPA's Air and Radiation Docket and Information Center (MC-6102), 401 M Street SW, Washington, DC 20460 or by calling (202) 260-7548. The docket is located at the above address in Room M-1500, Waterside Mall (ground floor, central mall). A reasonable fee may be charged for copying.

**FOR FURTHER INFORMATION CONTACT:** Mr. Walt Stevenson at (919) 541-5264, Combustion Group, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, e-mail: stevenson.walt@epa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comment Information**

Comments and data will also be accepted on disks in WordPerfect® Version 5.1 or 6.1 file format (or ASCII file format). Address all comments and data for this proposal, whether in paper form or in electronic form such as through e-mail or disk, to Docket No. A-98-18.

Commenters wishing to submit proprietary information for consideration must clearly distinguish such information from other comments and clearly label it "Confidential Business Information." Send submissions containing proprietary

information directly to the following address, and not to the public docket, to ensure that proprietary information is not inadvertently placed in the docket: Attention: Ms. Melva Toomer, U.S. EPA, OAQPS Document Control Officer, 411 W. Chapel Hill Street, Room 944, Durham, NC 27701. Do not submit Confidential Business Information (CBI) electronically.

The EPA will disclose information covered by such a claim of confidentiality only to the extent allowed and by the procedures set forth in 40 CFR part 2. If no claim of confidentiality accompanies a submission when it is received by the EPA, the information may be made available to the public without further notice to the commenter.

**Public Hearing**

If a public hearing is held, it will take place at EPA's Office of Administration Auditorium, Research Triangle Park, NC, or at an alternate site nearby. Persons interested in presenting oral testimony at the public hearing should notify Ms. Libby Bradley, Combustion Group, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone (919) 541-5578, at least 2 days in advance of the public hearing. Persons interested in attending the public hearing must call Ms. Bradley to verify the time, date, and location of the hearing. The final hearing status and location may be obtained by calling (919) 541-5264.

**World Wide Web Site**

Electronic versions of this notice, the proposed regulatory text, and other background information are available at the World Wide Web site that EPA has established for these proposed NSPS for small MWC units. The address is: "http://www.epa.gov/ttn/uatw/129/mwc/rimwc2.html". For assistance in downloading files, call the EPA's Technology Transfer Network (TTN) HELP line at (919) 541-5384.

**Regulated Entities**

These NSPS would affect the following categories of sources:

| Category   | NAICS codes     | SIC codes    | Examples of regulated entities  |
|--|-----------------|--------------|---|
| Industry, Federal government, and State/local/ tribal governments. | 562213<br>92411 | 4953<br>9511 | Solid waste combustors or incinerators at waste-to-energy facilities that generate electricity or steam from the combustion of garbage (typically municipal waste); and solid waste combustors or incinerators at facilities that combust garbage (typically municipal waste) and do not recover energy from the waste. |

This list is not intended to be exhaustive, but rather provides a guide regarding the entities EPA expects to regulate with these NSPS for small MWC units. These NSPS would primarily impact facilities in North American Industrial Classification System (NAICS) codes 562213 and 92411, formerly Standard Industrial Classification (SIC) codes 4953 and 9511, respectively. Not all facilities classified under these codes would be affected. Other types of entities not listed in this table could also be affected. To determine whether your facility would be regulated by these NSPS, carefully examine the applicability criteria in section II.A of this preamble. If you have any questions regarding the applicability of this action to your small MWC unit or any other question or comment, please submit comments to Docket No. A-98-18 or refer to the **FOR FURTHER INFORMATION CONTACT** section.

*Organization of This Document.* The following outline is provided to aid in locating information in this preamble.

Each section heading of the preamble is presented as a question and the text in the section answers the question.

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- I. Executive Order 12898—Federal Actions to Address Environmental Justice on Minority Populations and Low-income Populations
- J. Executive Order 13045—Protection of Children from Environmental Health Risks and Safety Risks
- K. Executive Order 13084—Consultation and Coordination with Indian Tribal Governments
- L. Executive Memorandum on Plain Language in Government Writing

#### Abbreviations and Acronyms Used in This Document

- ASCII—American Standard Code for Information Interchange
- ASME—American Society of Mechanical Engineers
- ASTM—American Society for Testing and Materials
- CBI—Confidential Business Information
- CFR—Code of Federal Regulations
- CI—Carbon Injection
- EPA—Environmental Protection Agency
- FR—Federal Register
- ICR—Information Collection Request
- MACT—Maximum achievable control technology
- MSW—Municipal solid waste
- MWC—Municipal waste combustion
- NAICS—North American Industrial Classification System
- NSPS—New source performance standards
- NTTAA—National Technology Transfer and Advancement Act
- OAQPS—Office of Air Quality Planning and Standards
- OMB—Office of Management and Budget
- OP—Office of Policy
- Pub. L.—Public Law
- RFA—Regulatory Flexibility Act
- SBREFA—Small Business Regulatory Enforcement Fairness Act
- SD/FF/CI—Spray dryer/fabric filter/carbon injection
- SIC—Standard Industrial Classification
- SNCR—Selective non-catalytic reduction
- TTN—Technology Transfer Network
- UMRA—Unfunded Mandates Reform Act
- U.S.C.—United States Code

#### I. Background Information

On September 20, 1994, EPA proposed NSPS for large and small

MWC units under 40 CFR part 60, subpart Eb. Those NSPS covered all MWC units located at plants with an aggregate plant combustion capacity larger than 35 megagrams per day of MSW which is approximately 39 tons per day of MSW. The subpart Eb NSPS for large and small MWC units were promulgated on December 19, 1995.

The 1995 NSPS divided the MWC unit population into MWC units located at large or small MWC plants based on the total aggregate capacity of all MWC units at the MWC plant. The large plant category comprised all MWC units located at MWC plants with aggregate plant combustion capacities greater than 225 megagrams per day (approximately 248 tons per day). The small plant category comprised all MWC units located at MWC plants with aggregate plant combustion capacities of 35 to 225 megagrams per day (approximately 39 to 248 tons per day).

Following promulgation of the 1995 NSPS, a petition for review was filed with the U.S. Court of Appeals for the District of Columbia Circuit regarding the use of aggregate plant capacity as the basis for initial categorization of the MWC unit population. An initial opinion was issued by the court on December 6, 1996 (*Davis County Solid Waste Management and Recovery District v. EPA*, 101 F. 3d 1395, D.C. Circuit, 1996). The initial opinion would have vacated (canceled) the 1995 NSPS for both large and small MWC units.

The EPA filed a petition for rehearing on February 4, 1997 requesting the court to reconsider the remedy portion of its opinion and to vacate only the NSPS as they apply to small MWC units (units with an individual unit capacity of 35 to 250 tons per day). The court granted EPA's petition, reconsidered its opinion, and issued a revised opinion on March 21, 1997 (*Davis County Solid Waste Management and Recovery District v. EPA*, 108 F. 3d 1454, D.C. Circuit, 1997). The revised opinion remanded to EPA the 1995 NSPS for the large MWC unit category for amendment to be consistent with the court's final opinion and vacated these NSPS only as they applied to small MWC units.

Amendments to the 1995 NSPS incorporating the court's final opinion were published on August 25, 1997 (62 FR 45116). The amendments made the subpart Eb NSPS consistent with the court's decision and included other minor technical corrections to improve clarity. The principal change was to remove small MWC units from the applicability of subpart Eb. This was accomplished by increasing the lower size definition (cutoff) for large MWC

plants from 35 megagrams per day on a plant capacity basis to 250 tons per day on a unit capacity basis. No adverse comments were received on the proposal and the amendments became effective on October 24, 1997.

Today's proposal would reestablish NSPS for new small MWC units with combustion capacities of 35 to 250 tons per day of MSW.

## II. Summary of These Proposed NSPS

This section summarizes these proposed NSPS for small MWC units, including identification of the subcategories used in this proposal. Overall, these proposed NSPS for small MWC units are functionally equivalent to the 1995 NSPS for small MWC units. These proposed NSPS retain subcategorization by aggregate plant capacity. The following two subcategories are used in these NSPS for small MWC units: (1) Small MWC units located at plants with aggregate plant capacities greater than 250 tons of MSW per day; and (2) small MWC units located at plants with aggregate plant capacities less than or equal to 250 tons of MSW per day. The court allowed this subcategorization as a second step after first categorizing the MWC unit population into large MWC unit (subpart Eb) and small MWC unit (subpart AAAA) categories.

### A. What Sources Would Be Regulated by These Proposed NSPS?

Today's proposed NSPS, if promulgated in the current form, would apply to each new MWC unit that has a combustion design capacity of 35 to 250 tons of MSW, and commenced construction after August 30, 1999 or commenced modification or reconstruction 6 months after the date that these NSPS rule are promulgated. Small MWC units that commenced construction on or before August 30, 1999 are not covered under this subpart. These units would be subject to the emission guidelines for existing small MWC units that are proposed as subpart BBBB in a separate part of today's **Federal Register**.

### B. What Pollutants Would Be Regulated by These Proposed NSPS?

Section 129 of the Clean Air Act requires EPA to establish numerical emission limits for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, sulfur dioxide, hydrogen chloride, nitrogen oxides, and carbon monoxide. Section 129 specifies that EPA may also:

\* \* \* promulgate numerical emission limitations or provide for the monitoring of post-combustion concentrations of surrogate

substances, parameters, or periods of residence times in excess of stated temperatures with respect to pollutants other than those listed [above] \* \* \*

Therefore, in addition to the proposed emission limits, EPA is proposing limits for unit operating load, flue gas temperature at the particulate matter control device inlet, and carbon feed rate as part of the good combustion practice requirements. The EPA is also proposing limits for control of fugitive ash emissions. All of these requirements were contained in the 1995 NSPS.

### C. What Is the Format of the Proposed Emission Limits in These NSPS?

The format of the emission limits in these proposed NSPS is identical to the format of the 1995 NSPS. The format is in the form of emission limits based on pollutant concentration. Alternative percentage reduction requirements are provided for mercury, sulfur dioxide, and hydrogen chloride. Opacity and fugitive ash requirements in these NSPS are identical to the 1995 NSPS. In addition to controlling stack emissions, these proposed NSPS incorporate the same good combustion practice requirements (i.e., operator training, operator certification, and operating requirements) that were included in the 1995 NSPS. Additionally, this proposal includes a clarification to the operator certification requirements to address periods when the certified chief facility operators and certified shift supervisors must be offsite. Section III.E provides more detail on these proposed changes. Today's proposal also includes a revision to the carbon injection requirements. See section III.F of this preamble for more detail on the proposed changes.

### D. Where Can I Find a More Detailed Summary of These Proposed NSPS?

A concise summary of these proposed NSPS can be found either in: (1) tables 1 and 2 of the proposed subpart AAAA NSPS following this preamble, or (2) the Technical Fact Sheet for this proposal that can be downloaded from the EPA World Wide Web site for small MWC units (<http://www.epa.gov/ttn/uatw/129/mwc/rimwc2.html>).

## III. Changes in These Proposed NSPS Relative to the 1995 NSPS

This section summarizes the changes in these proposed NSPS compared to the 1995 NSPS. Overall, these NSPS are functionally equivalent to the 1995 NSPS, with minimal changes. The most significant change since the 1995 NSPS has been the use of the plain language style for organizing and writing these NSPS. These proposed NSPS retain

subcategorization by aggregate plant capacity as allowed by the court.

### A. How Has the Conversion to Plain Language Affected These NSPS?

The proposed NSPS are organized and written in the plain language style. This plain language style has not affected the content of these proposed NSPS compared to the 1995 NSPS. However, it has changed their appearance. The EPA considers the question and answer style used with plain language to be more user friendly and understandable to all audiences when compared with previous rules that were not written in this style. To improve the presentation of these NSPS requirements, additional tables have been added.

### B. How Has the Size Definition of the Small MWC Unit Category Been Revised?

As a result of the 1997 court decision, both the upper and lower size cutoffs have been changed for the small MWC unit category so that the size cutoffs are based on the capacity of an individual MWC unit rather than on the total capacity of the plant where an MWC unit is located. Additionally, English units of measure are used instead of metric units of measure.

#### 1. Upper Size Cutoff

The upper size cutoff for small MWC units is proposed as 250 tons per day on a unit capacity basis. In the 1995 NSPS, the upper size cutoff was 225 megagrams per day (approximately 248 tons per day) based on total plant capacity. The revised upper size cutoff is consistent with the 1997 court ruling.

#### 2. Lower Size Cutoff

The lower size cutoff is proposed as 35 tons per day on a unit capacity basis to make both the upper size cutoff and lower size cutoff consistent on a unit capacity basis. In the 1995 NSPS, the lower size cutoff for small MWC units was 35 megagrams per day (approximately 39 tons per day) based on total plant capacity.

### C. How Has the Population of Small MWC Units Been Subcategorized in These Proposed NSPS?

As stated in the **SUMMARY** section, these proposed NSPS are functionally equivalent to the 1995 NSPS and retain the use of aggregate plant capacity to subcategorize small MWC units within these proposed NSPS. The 1997 court decision allowed EPA to:

\* \* \* exercise its discretion to distinguish among units within a category and create subcategories of small units, for which it can then calculate MACT (maximum achievable

control technology) floors and standards separately.

After first categorizing the MWC unit population into large and small MWC units based on unit capacity, the court allowed EPA, as a second step, to subcategorize by unit location (aggregate plant capacity) at EPA discretion. The EPA has elected to retain the subcategorization used in the 1995 NSPS. Therefore, today's proposal divides the small MWC unit population into two classes: Class I and Class II. Class I comprises small MWC units located at MWC plants with an aggregate plant capacity greater than 250 tons of MSW per day. Class II comprises small MWC units located at MWC plants with an aggregate plant capacity less than or equal to 250 tons of MSW per day. The establishment of these two classes preserves the subcategorization used in the 1995 NSPS.

*D. Have Any Changes Been Made to the Emission Limits in These Proposed NSPS?*

The proposed emission limits are identical to those established in the 1995 NSPS. Based on a reevaluation of the best controlled units within the small MWC unit population, EPA has concluded that the performance of a SD/FF air pollution control system continues to represent the MACT floor for new small MWC units. The supplemental use of CI continues to represent MACT performance for mercury and dioxins/furans. This technology (SD/FF/CI) is the same technology basis of these NSPS promulgated in 1995. With respect to nitrogen oxides, EPA has concluded that a SNCR air pollution control system would represent the basis of the MACT floor for nitrogen oxides for Class I units. Since these technologies are the same as those used as the basis for the 1995 NSPS, EPA is proposing the same emission limits that were promulgated in the 1995 NSPS. The methods used to determine the new source MACT floors, to select the technology basis of the new source MACT, and to determine the emission limits are identical to the methods described in the **Federal Register** notices and background documents for the 1995 NSPS. The emission limits proposed for Class I units are the same as the emission limits for large MWC units in the 1995 NSPS. The emission limits proposed for Class II units are the same as the emission limits for small MWC units in the 1995 NSPS.

*E. Have Any Changes Been Made to the Operator Certification Requirements?*

One change is proposed for the operator certification section of the good combustion practice requirements since the 1995 NSPS. In response to questions since the 1995 NSPS were promulgated, EPA has clarified what actions an MWC owner must take to continue operating an MWC unit during times when the certified chief facility operator and certified shift supervisor must be temporarily offsite for an extended period of time when there are no other certified chief facility operators or certified shift supervisors onsite. The EPA has addressed this issue by adding specific requirements for MWC units during times when the certified chief facility operator and certified shift supervisor must be offsite. Different requirements apply depending on the length of time the certified chief facility operator and certified shift supervisor must be offsite. These changes have been added to § 60.1195 of these proposed NSPS.

*F. Have Any Changes Been Made to the Operating Practice Requirements?*

One change is proposed to the operating practice requirements since the 1995 NSPS. The EPA has clarified how the required level of carbon feed rate is established and how the required monitoring parameter and quarterly carbon usage are used to determine compliance with the operating practice requirements. As discussed below, this results in two enforceable requirements for carbon feed rate.

As in the 1995 NSPS, the MWC plant owner must select an operating parameter (e.g., screw feeder speed) that can be used to calculate the carbon feed rate. During each dioxin/furan and mercury stack test, the total amount of carbon used during each stack test must be measured. The total amount of carbon used during the test is divided by the duration (hours) of the stack test to give an average carbon feed rate in kilograms (or pounds) per hour. The MWC plant owner must also monitor the selected operating parameter during each dioxin/furan and mercury stack test and record the average operating parameter level. After the dioxin/furan and mercury stack tests are complete, the MWC plant owner must establish a relationship between the selected operating parameter and the measured carbon feed rate so that the selected parameter can be used to calculate the carbon feed rate. The selected operating parameter must then be continuously monitored during MWC unit operation and used to calculate the carbon feed

rate. The calculated carbon feed rate cannot fall below the carbon feed rate measured during the dioxin/furan or mercury stack test (depending on which test establishes the higher carbon feed rate).

The 1995 NSPS did not clearly specify an averaging time for calculating the carbon feed rate. Because the baseline carbon feed rate is established as the average feed rate during the annual dioxin/furan or mercury stack test, EPA is clarifying that the averaging time used for monitoring the carbon feed rate (using parametric data) should be of similar duration. Therefore, EPA is proposing an 8-hour block averaging period for monitoring carbon feed rates. This would allow facilities to compensate for interruptions in carbon feed rates (due to calibration, malfunction, or repair) by offsetting the interruption with an increase in carbon feed rates within the 8-hour averaging period.

The 1995 NSPS requirements have also been revised and clarified relative to quarterly carbon usage. The EPA is proposing that MWC plant owners calculate required plantwide carbon usage on a quarterly basis and compare this required level of carbon usage to the actual amount of carbon purchased and delivered to the MWC plant. After an average carbon feed rate is established for an MWC unit based on the most recent dioxin/furan or mercury stack test, the required quarterly carbon usage level for the MWC unit is calculated by multiplying the kilogram (or pound) per hour rate by the number of operating hours for each quarter. Next, the required carbon usage for the plant is calculated by summing this value for each small MWC unit located at the plant.

The MWC plant owner must then compare the required quarterly carbon usage level, based on the carbon usage during the stack test and hours of operation, with the amount of carbon purchased and delivered to the MWC plant. The MWC plant owner must demonstrate that they are using the required amount of carbon during each quarter. This comparison is done on a plant basis rather than on a unit basis because MWC units typically use a common carbon storage system; therefore, purchase, delivery, and use of carbon are best tracked on a plant basis. If a plant does not meet the quarterly carbon usage requirement, all units at the plant would be considered out of compliance.

A plant owner can choose to track quarterly carbon usage on an MWC unit basis if that is practical at the plant. The required quarterly carbon usage for each

individual MWC unit would then be compared to the carbon purchased and delivered to that unit. In this case, if an MWC unit does not meet the quarterly carbon usage requirement, only the one MWC unit, instead of the entire MWC plant, would be considered out of compliance.

*G. Have Any Changes Been Made to the Monitoring and Stack Testing Requirements?*

No changes are proposed to the monitoring and testing requirements contained in the 1995 NSPS. However, to clarify differences between stack testing and continuous emission monitoring requirements, these topics have been addressed in different sections of these NSPS.

*H. Have Any Changes Been Made to the Recordkeeping and Reporting Requirements?*

No significant changes are proposed to the recordkeeping and reporting

requirements since the 1995 NSPS. The EPA is proposing one minor change to clarify recordkeeping and reporting of: (1) 8-hour average calculated carbon feed rate, and (2) quarterly amounts of carbon purchased and delivered. These changes make the reporting and recordkeeping sections consistent with the carbon injection operating practice requirements described above in section III.F.

**IV. What Would Be the Impacts Associated With These Proposed NSPS?**

This section describes the impacts (i.e., air, water, solid waste, energy, cost, and economic impacts) of these proposed NSPS for small MWC units. These proposed NSPS are functionally equivalent to these NSPS promulgated in 1995. The impact analysis conducted to evaluate the 1995 NSPS still applies and is available at 59 FR 48198. The discussion in this preamble focuses on the air, cost, and economic impacts of these proposed NSPS.

In the preamble for the 1995 NSPS, EPA determined that the water, solid waste, and energy impacts associated with these proposed NSPS were not significant. Because these proposed NSPS are the same as the 1995 NSPS, the water, solid waste, and energy impacts are not significant.

For more detail on the air, cost, and economic impacts of these proposed NSPS, refer to the document entitled "Economic Impact Analysis: Small Municipal Waste Combustion Units—Section 111/129 Emission Guidelines and New Source Performance Standards" (Docket No. A-98-18).

*A. Air Impacts*

Table 1 presents national impacts of air emission reductions for new small MWC units that would result from implementation of these NSPS. These are fifth year impacts based on the assumption that one new plant with two small MWC units would initiate operation each year.

TABLE 1.—NATIONAL AIR EMISSION IMPACTS OF THESE NSPS FOR SMALL NWC UNITS

| Pollutant                         | Air emission reduction | Percent change <sup>a</sup> |
|-----------------------------------|------------------------|-----------------------------|
| Dioxins/furans <sup>b</sup> ..... | 0.04 kg/year .....     | 99                          |
| Cadmium .....                     | 34 kg/year .....       | 99                          |
| Lead .....                        | 3 Mg/year .....        | 99                          |
| Mercury .....                     | 77 kg/year .....       | 97                          |
| Particulate matter .....          | 48 Mg/year .....       | 98                          |
| Sulfur dioxide .....              | 38 Mg/year .....       | 83                          |
| Hydrogen chloride .....           | 28 Mg/year .....       | 90                          |
| Nitrogen oxides .....             | See footnote c .....   | (c)                         |

<sup>a</sup> Percent national emission reduction relative to national baseline emissions that would occur in the absence of these NSPS.

<sup>b</sup> Total mass of tetra-through octachlorinated dibenzo-p-dioxins through dibenzofurans.

<sup>c</sup> For Class I units, nitrogen oxides emission reductions are expected to be approximately 40 percent. Class II units do not have a nitrogen oxides emission limit and are not expected to have any reductions in nitrogen oxides emissions. Since the distribution of new Class I and II units to be constructed are unknown, no mass reductions of nitrogen oxides are presented.

*B. Cost and Economic Impacts*

Approximately 90 small MWC units located at 41 plants are currently operating in the United States. Based on trends in small MWC unit construction over the past several years, EPA projects that about one new small MWC plant will be constructed each year. It is estimated that most new plants with small MWC units will have, on average, two small MWC units onsite.

To estimate the costs of these proposed NSPS for new small MWC units, EPA has taken into account the various air pollution control equipment that would need to be installed at new small MWC plants to achieve these proposed NSPS. The cost estimates presented here, which are in 1997 dollars, are the projected costs that a new MWC plant with two small MWC units would incur to comply with these NSPS. These costs are based on new

small MWC units installing SD/FF/CI as the air pollution control device system.

The method used to estimate the cost and economic impacts of today's proposal is consistent with the method used to estimate the same impacts of the 1995 NSPS. For more details on the cost and economic analysis, refer to the document entitled "Economic Impact Analysis: Small Municipal Waste Combustion Units—Section 111/129 Emission Guidelines and New Source Performance Standards" (Docket No. A-98-18).

The EPA projects that the total annual cost (including annualized capital and operating costs) for an MWC plant with two small MWC units to comply with today's proposed NSPS would be approximately \$1.6 million. Based on the current trend of MWC plant openings, in 5 years there will be five MWC plants, with ten small MWC units

subject to these NSPS. In this case, the total annual cost of these NSPS would be \$8.1 million in the 5th year after promulgation of subpart AAAA.

**V. Companion Proposal for Existing Small MWC Units**

A companion proposal to these NSPS is being published in today's **Federal Register** to establish emission guidelines for existing small MWC units. Following promulgation, the emission guidelines for existing small MWC units will be contained in 40 CFR part 60, subpart BBBB.

**VI. Administrative Requirements**

*A. Public Hearing*

In accordance with section 307(d)(5) of the Clean Air Act, EPA will hold a public hearing if individuals request to speak. If a public hearing is held, EPA may ask clarifying questions during the

oral presentation but will not respond to the presentations or comments. To provide an opportunity for all who may wish to speak, oral presentations will be limited to 15 minutes each. Any member of the public may submit written comments (see the **DATES** and **ADDRESSES** sections). The EPA will consider written comments and supporting information with equivalent weight to any oral statement and supporting information presented at a public hearing.

#### B. Docket

The docket is an organized and complete file of the administrative record compiled by EPA in the development of this proposal. Material is added to the docket throughout the rule development process. The principal purposes of the docket are: (1) To allow members of the public to identify and locate documents so that they can effectively participate in the rulemaking process, and (2) to serve as the record in case of judicial review, except for interagency review material. The docket numbers for these NSPS are Docket No. A-98-18 and associated Docket Nos. A-90-45 and A-89-08, which have been incorporated by reference into Docket No. A-98-18.

#### C. National Technology Transfer and Advancement Act

Under section 12(d) of the 1995 NTTAA (Pub. L. No. 104-113), all Federal agencies are required to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA requires Federal agencies to provide Congress, through annual reports to the OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

Consistent with the NTTAA, the EPA conducted searches to identify voluntary consensus standards for use in process and emissions monitoring. The search for emissions monitoring procedures identified 20 voluntary consensus standards that appeared to have possible use in lieu of EPA standard reference methods. However, after reviewing available standards, EPA determined that 12 of the candidate consensus standards identified for measuring emissions of pollutants or surrogates subject to emission standards

in the rule would not be practical due to lack of equivalency, documentation, validation data, and other important technical and policy considerations. Eight of the remaining candidate consensus standards are new standards under development that EPA plans to follow, review and consider adopting at a later date.

One consensus standard, ASTM D6216-98, appears to be practical for EPA use in lieu of EPA performance specification 1 (40 CFR part 60, appendix B). On September 23, 1998, EPA proposed incorporating by reference ASTM D6216-98 under a separate rulemaking (63 FR 50824) that would allow broader use and application of this consensus standard. The EPA plans to complete this action in the near future. For these reasons, EPA does not propose in these NSPS to adopt D6216-98 in lieu of PS-1 requirements as it would be impractical for EPA to act independently from separate rulemaking activities already undergoing notice and comment.

The EPA solicits comment on proposed emission monitoring requirements proposed in these NSPS and specifically invites the public to identify potentially-applicable voluntary consensus standards. Commenters should also explain why this regulation should incorporate these voluntary consensus standards, in lieu of EPA's standards. Emission test methods and performance specifications submitted for evaluation should be accompanied with a basis for the recommendation, including method validation data and the procedure used to validate the candidate method (if method other than Method 301, 40 CFR part 63, appendix A was used).

The EPA also conducted searches to identify voluntary consensus standards for process monitoring and process operation. Candidate voluntary consensus standards for process monitoring and process operation were identified for: (1) MWC unit load level (steam output), (2) designing, constructing, installing, calibrating, and using nozzles and orifices, and (3) MWC plant operator certification requirements.

One consensus standard by the ASME was identified for use in these proposed NSPS for measurement of MWC unit load level (steam output). The EPA believes this standard is practical to use in these proposed NSPS as the method to measure MWC unit load. The EPA takes comment on the incorporation by reference of "ASME Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1-1964 (R1991)" in these proposed NSPS.

A second consensus standard by ASME was identified for use in these proposed NSPS for designing, constructing, installing, calibrating, and using nozzles and orifices. The EPA believes this standard is practical to use in these proposed NSPS for the design, construction, installation, calibration, and use of nozzles and orifices. The EPA takes comment on the incorporation by reference of "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters", 6th edition (1971).

A third consensus standard by ASME (QRO-1-1994) was identified for use in these proposed NSPS for MWC plant operator certification requirements instead of developing new operator certification procedures. The EPA believes this standard is practical to use in these proposed NSPS that require a chief facility operator and shift supervisor to successfully complete the operator certification procedures developed by ASME.

Tables 3, 4, and 5 of these proposed NSPS list the EPA testing methods and performance standards included in the proposed regulations. Most of these standards have been used by States and industry for more than 10 years. Nevertheless, under § 60.8 of 40 CFR part 60, subpart A, the proposal also allows any State or source to apply to EPA for permission to use alternative methods in place of any of the EPA testing methods or performance standards listed in Tables 3, 4, and 5.

#### D. Paperwork Reduction Act

The EPA submitted the information collection requirements in these proposed NSPS to OMB for approval under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The EPA prepared an ICR document (ICR No. 1900.01) and a copy may be obtained from Sandy Farmer by mail at the OP, Regulatory Information Division, U.S. Environmental Protection Agency (2137), 401 M Street SW, Washington, DC 20460, by e-mail at "farmer.sandy@epamail.epa.gov", or by calling (202) 260-2740. A copy may also be downloaded from the Internet at: "http://www.epa.gov/icr".

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, OP Regulatory Information Division, U.S. Environmental Protection Agency (2137), 401 M Street, SW, Washington,

DC 20460, and to the Office of Information and Regulatory Affairs, OMB, 725 17th Street, NW, Washington, DC 20503, marked "Attention: Desk Officer for EPA (ICR Tracking No. 1900.01)". Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after August 30, 1999, a comment to OMB is best assured of having its full effect if OMB receives it by September 29, 1999. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

The information would be used by the Agency to identify new, modified, or reconstructed MWC units subject to these NSPS and to ensure that these MWC units undergo a preconstruction impact analysis. The information would also be used to ensure that the small MWC unit requirements are implemented properly and are complied with on a continuous basis. Records and reports are necessary to enable EPA to identify small MWC units that may not be in compliance with these NSPS. Based on reported information, EPA would decide which small MWC units should be inspected and what records or processes should be inspected. The records that owners and operators of small MWC units maintain would indicate to EPA whether personnel are operating and maintaining control equipment properly.

These NSPS are projected to affect six MWC units at three MWC plants during the first 3 years immediately following promulgation. The estimated average annual burden for industry for the first 3 years after promulgation of these NSPS would be 8,559 person-hours annually at a cost of \$219,000 per year to meet the monitoring, recordkeeping, and reporting requirements. The estimated average annualized burden for the implementing agency would be 497 hours during the first 3 years at a cost of \$21,000 (including travel expenses).

Burden means total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose, or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources;

complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

#### *E. Regulatory Flexibility Act/Small Business Regulatory Enforcement Fairness Act*

Section 605 of the RFA (5 U.S.C. 601 *et seq.*) requires Federal agencies to give special consideration to the impact of regulations on small entities, which are small businesses, small organizations, and small governments. In 1996, the SBREFA amended the RFA to strengthen the RFA's analytical and procedural requirements. The SBREFA also made other changes to agency regulatory practice as it affects small businesses and established a new mechanism to expedite congressional review. The major purpose of these acts is to keep paperwork and regulatory requirements from getting out of proportion to the scale of the entities being regulated without compromising the objectives of the Clean Air Act. If a regulation is likely to have a significant economic impact on a substantial number of small entities, the EPA may give special consideration to those small entities when analyzing regulatory alternatives and drafting the regulation. Under these Acts, EPA must generally prepare a regulatory flexibility analysis for a rule subject to notice and comment rulemaking procedures unless the EPA certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions.

Pursuant to the provisions of 5 U.S.C. 605(b), the EPA certifies that these NSPS proposed today will not have a significant economic impact on a substantial number of small entities. The EPA projects that five small MWC plants will begin operation over the next 5 years, averaging one MWC plant per year (Docket No. A-98-18).

Impacts of this proposal are not significant for a substantial number of small entities because few small entities use MWC units for municipal solid waste disposal. The vast majority of small entities use municipal solid waste landfills for disposal. A small entity considering a new small MWC unit would have the opportunity to switch to an alternative municipal solid waste disposal method, such as municipal

solid waste landfills, if the costs to comply with these NSPS were considered prohibitive. Thus, the number of small entities that would be significantly impacted by this proposal would not be substantial.

For a summary of the actions that EPA took to involve small entities in the development of these proposed NSPS, refer to the discussion of the Unfunded Mandates Reform Act in section VI.F. of these Administrative Requirements.

#### *F. Unfunded Mandates Reform Act*

Title II of the 1995 UMRA, Pub. L. 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures by State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least-costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule.

The provisions of section 205 allow EPA to adopt an alternative other than the least-costly, most cost-effective, or least-burdensome alternative if the Administrator publishes with the final rule an explanation of why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that these proposed NSPS do not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. The economic impact analysis for these NSPS (Docket No. A-98-18) shows that the total annual costs of these regulatory

requirements would be about \$8.1 million annually (in 1997 dollars) in the fifth year after promulgation. Thus, these proposed NSPS are not subject to the requirements of sections 202 and 205 of the UMRA. Although these NSPS are not subject to UMRA, EPA did prepare a cost-benefit analysis under section 202 of the UMRA for the 1995 NSPS. For a discussion of how EPA complied with the UMRA for the 1995 NSPS, including extensive consultations with State and local governments, see the preamble to the 1995 NSPS (60 FR 65405-65412, December 19, 1995). Because today's proposed NSPS are functionally equivalent to the 1995 NSPS, no additional consultations were necessary.

#### G. Executive Order 12866—Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the regulatory action is "significant" and, therefore, subject to OMB review and the requirements of this Executive Order. The Executive Order defines "significant" regulatory action as one that is likely to lead to a rule that may:

- (1) Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, EPA considers these proposed NSPS to be "not significant" because these NSPS would not have an annual effect on the economy of \$100 million or more and do not impose any additional control requirements above the 1995 NSPS. The 1995 NSPS were considered to be "significant," and a full analysis and review was conducted. However, these NSPS proposed today are projected to have an impact of approximately \$8.1 million annually in the fifth year after promulgation of these NSPS (Docket No. A-98-18). Therefore, these proposed NSPS are considered to be "not significant" under Executive Order 12866 and will not be submitted to OMB for review.

#### H. Executive Order 12875—Enhancing the Intergovernmental Partnership

Under Executive Order 12875, EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local, or tribal government unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by those governments or EPA consults with those governments. If EPA consults with those governments, Executive Order 12875 requires EPA to provide to the OMB a description of the extent of EPA's prior consultation with representatives of affected State, local and tribal governments, the nature of their concerns, copies of any written communications from the governments, and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of State, local and tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates."

The EPA has concluded that these NSPS may create a mandate on a small number of city and county governments, and that the Federal government would not provide the funds necessary to pay the direct costs incurred by these city and county governments in complying with the mandate. However, today's proposed NSPS do not impose any additional costs or result in any additional control requirements above those considered during promulgation of the 1995 NSPS. In developing the 1995 NSPS, EPA consulted extensively with State and local governments to enable them to provide meaningful and timely input in the development of these NSPS. Because these proposed NSPS are the same as the 1995 NSPS, these previous consultations still apply. For a discussion of EPA's consultations with State and local governments, the nature of the governments' concerns, and EPA's position supporting the need to issue these NSPS, see the preamble to the 1995 NSPS (60 FR 65405-65413, December 19, 1995).

#### I. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 directs Federal agencies to "determine whether their programs, policies, and activities have disproportionately high adverse human health or environmental effects on minority populations and low-income

populations" (sections 3-301 and 3-302). In developing these NSPS for small MWC units, EPA analyzed environmental justice issues that may be relevant to this proposal.

The EPA conducted an impact analysis to determine the distribution of minority and low-income groups in the surrounding area where MWC units are located in the United States. The EPA reviewed the demographic characteristics presented in this impact analysis (Docket No. A-90-45) and other analyses. The EPA concluded that there is no significant difference in ethnic makeup or income level in counties where MWC units are located when compared to the average ethnic and income levels of the respective States in which the units are located. It is expected that these trends would also apply to future siting of small MWC units.

These proposed NSPS would require all new small MWC plants to use the most stringent air pollution control technology currently available for small MWC units. This upgrade in air pollution control technology for new small MWC units would result in lowered air emissions (compared to an absence of NSPS) from small MWC units, thereby improving human health and the environment in areas where small MWC units are located. Additionally, siting requirements for new small MWC units include two public meetings, which would allow the public to comment on the siting of any new small MWC unit before construction begins.

#### J. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), applies to any rule that: (1) Is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks so that the analysis required under section 5-501 of the

Executive Order has the potential to influence the regulation.

These NSPS are not subject to Executive Order 13045 because they are not economically significant as defined in Executive Order 12866 and because they are based on technology performance and not on health and safety risks. A children's risk analysis was not performed for these NSPS because no alternative technologies exist that would provide greater stringency at a reasonable cost. Therefore, the results of any such analysis would have no impact on the stringency decision.

*K. Executive Order 13084—Consultation and Coordination With Indian Tribal Governments*

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments or EPA consults with those governments. If EPA complies by consulting with those governments, Executive Order 13084 requires EPA to provide to the OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities."

These NSPS do not significantly or uniquely affect the communities of Indian tribal governments. The EPA is not aware of any existing or planned small MWC units located in Indian territory. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to these NSPS.

*L. Executive Memorandum on Plain Language in Government Writing*

On June 1, 1998, President Clinton issued an Executive Memorandum entitled "Plain Language in Government Writing," which instructs Federal agencies to use plain language in all proposed and final rulemakings by January 1, 1999. Therefore, these

proposed NSPS are organized and written in a plain language format and style. This plain language format and style do not alter the content or intent of this proposal compared to the 1995 NSPS. The EPA considers this plain language format and style to be more user friendly and understandable to all audiences when compared with previous proposals that were not written in plain language.

**List of Subjects in 40 CFR Part 60**

Environmental protection, Air pollution control, Municipal waste combustion.

Dated: August 6, 1999.

**Carol M. Browner,**  
*Administrator.*

For the reasons stated in the preamble, title 40, chapter I, part 60, of the Code of Federal Regulations is amended as follows:

**PART 60—[AMENDED]**

1. The authority citation for part 60 continues to read as follows:

**Authority:** 42 U.S.C. 7401, 7411, 7413, 7414, 7416, 7429, 7601, and 7602.

2. Part 60 is amended by adding a new subpart AAAA to read as follows:

**Subpart AAAA—Standards of Performance for New Stationary Sources: Small Municipal Waste Combustion Units**  
Sec.

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#### Introduction

##### § 60.1000 What does this subpart do?

This subpart establishes new source performance standards for new small municipal waste combustion units.

##### § 60.1005 When does this subpart become effective?

This subpart takes effect [the date 6 months after publication of the final rule in the **Federal Register**]. Some of the requirements in this subpart apply to municipal waste combustion unit planning and must be completed before construction is commenced on the municipal waste combustion unit. In particular, the preconstruction requirements in §§ 60.1050 through 60.1150 must be completed prior to commencing construction. Other requirements (such as the emission limits) apply when the municipal waste combustion unit begins operation.

#### Applicability

##### § 60.1010 Does this subpart apply to my municipal waste combustion unit?

Yes, if your municipal waste combustion unit meets two criteria:

(a) Your municipal waste combustion unit is a new municipal waste combustion unit.

(b) Your municipal waste combustion unit has the capacity to combust at least 35 tons per day but no more than 250 tons per day of municipal solid waste or refuse-derived fuel.

##### § 60.1015 What is a new municipal waste combustion unit?

(a) A new municipal waste combustion unit is a municipal waste combustion unit that meets either of two criteria:

(1) Commenced construction after [date the final rule is published in the **Federal Register**].

(2) Commenced reconstruction or modification at least 6 months after [date the final rule is published].

(b) This subpart does not apply to your municipal waste combustion unit if you make physical or operational changes to an existing municipal waste

combustion unit primarily to comply with the emission guidelines in subpart BBBB of this part. Such changes do not qualify as reconstruction or modification under this subpart.

**§ 60.1020 Does this subpart allow any exemptions?**

(a) *Small municipal waste combustion units that combust less than 11 tons per day.* You are exempt from this subpart if you meet four requirements:

(1) Your municipal waste combustion unit is subject to a federally enforceable operating permit limiting the amount of municipal solid waste combusted to less than 11 tons per day.

(2) You notify the Administrator that the unit qualifies for this exemption.

(3) You provide the Administrator with a copy of the federally enforceable permit.

(4) You keep daily records of the amount of municipal solid waste combusted.

(b) *Small power production facilities.* You are exempt from this subpart if you meet four requirements:

(1) Your unit qualifies as a small power-production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).

(2) Your unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity.

(3) You notify the Administrator that the unit qualifies for this exemption.

(4) You provide the Administrator with documentation that the unit qualifies for this exemption.

(c) *Cogeneration facilities.* You are exempt from this subpart if you meet four requirements:

(1) Your unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).

(2) Your unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(3) You notify the Administrator that the unit qualifies for this exemption.

(4) You provide the Administrator with documentation that the unit qualifies for this exemption.

(d) *Municipal waste combustion units that combust only tires.* You are exempt from this subpart if you meet three requirements:

(1) Your municipal waste combustion unit combusts a single-item waste stream of tires and no other municipal waste (the unit can cofire coal, fuel oil, natural gas, or other nonmunicipal solid waste).

(2) You notify the Administrator that the unit qualifies for this exemption.

(3) You provide the Administrator with documentation that the unit qualifies for this exemption.

(e) *Hazardous waste combustion units.* You are exempt from this subpart if you get a permit for your unit under section 3005 of the Solid Waste Disposal Act.

(f) *Materials recovery units.* You are exempt from this subpart if your unit combusts waste mainly to recover metals. Primary and secondary smelters qualify for this exemption.

(g) *Cofired combustors.* You are exempt from this subpart if you meet four requirements:

(1) Your unit has a federally enforceable permit limiting the combustion of municipal solid waste to 30 percent of the total fuel input by weight.

(2) You notify the Administrator that the unit qualifies for this exemption.

(3) You provide the Administrator with a copy of the federally enforceable permit.

(4) You record the weights, each quarter, of municipal solid waste and of all other fuels combusted.

(h) *Plastics/rubber recycling units.* You are exempt from this subpart if you meet four requirements:

(1) Your pyrolysis/combustion unit is an integrated part of a plastics/rubber recycling unit as defined under "Definitions" (§ 60.1465).

(2) You record the weights, each quarter, of plastics, rubber, and rubber tires processed.

(3) You record the weights, each quarter, of feed stocks produced and marketed from chemical plants and petroleum refineries.

(4) You keep the name and address of the purchaser of these feed stocks.

(i) *Units that combust fuels made from products of plastics/rubber recycling plants.* You are exempt from this subpart if you meet two requirements:

(1) Your unit combusts gasoline, diesel fuel, jet fuel, fuel oils, residual oil, refinery gas, petroleum coke, liquified petroleum gas, propane, or butane produced by chemical plants or petroleum refineries that use feedstocks produced by plastics/rubber recycling units.

(2) Your unit does not combust any other municipal solid waste.

(j) *Cement kilns.* You are exempt from this subpart if your cement kiln combusts municipal solid waste.

(k) *Air curtain incinerators.* If your air curtain incinerator (see § 60.1465 for definition) combusts 100 percent yard waste, you must only meet the requirements under "Air Curtain Incinerators That Burn 100 Percent Yard Waste" (§§ 60.1435 through 60.1455).

**§ 60.1025 Do subpart E new source performance standards also apply to my municipal waste combustion unit?**

If this subpart (subpart AAAA) applies to your municipal waste combustion unit, then subpart E does not apply to your municipal waste combustion unit.

**§ 60.1030 Can the Administrator delegate authority to enforce these Federal standards to a State agency?**

Yes. The Administrator can delegate all authorities in all sections of this subpart to the State for direct State enforcement.

**§ 60.1035 How are the standards structured?**

The standards contain five major components:

(a) Preconstruction requirements.

(1) Materials separation plan.

(2) Siting analysis.

(b) Good combustion practices.

(1) Operator training.

(2) Operator certification.

(3) Operating requirements.

(c) Emission limits.

(d) Monitoring and stack testing.

(e) Recordkeeping and reporting.

**§ 60.1040 Do all five components of the standards apply at the same time?**

No. You must meet the preconstruction requirements before you commence construction of the municipal waste combustion unit. After the municipal waste combustion unit begins operation, you must meet all of the good combustion practices, emission limits, monitoring, stack testing, and most recordkeeping and reporting requirements.

**§ 60.1045 Are there different subcategories of small municipal waste combustion units within this subpart?**

(a) Yes. This subpart subcategorizes small municipal waste combustion units into two groups based on the aggregate capacity of the municipal waste combustion plant and the type of municipal waste combustion unit as follows:

(1) *Class I Units.* These are small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate plant combustion capacity of more than 250 tons per day of municipal solid waste. (See the definition of "municipal waste combustion plant capacity" in § 60.1465 for specification of which units at a plant are included in the aggregate capacity calculation.)

(2) *Class II Units.* These are small municipal waste combustion units that are located at municipal waste combustion plants with an aggregate

plant combustion capacity no more than 250 tons per day of municipal solid waste. (See the definition of "municipal waste combustion plant capacity" in § 60.1465 for specification of which units at a plant are included in the aggregate capacity calculation.)

(b) The requirements for Class I and Class II units are identical except for two items:

(1) Class I units have a nitrogen oxide emission limit. Class II units do not have a nitrogen oxide emission limit (see table 1 of this subpart).

Additionally, Class I units have continuous emission monitoring, recordkeeping, and reporting requirements for nitrogen oxides.

(2) Class II units are eligible for the reduced testing option provided in § 60.1305.

### **Preconstruction Requirements: Materials Separation Plan**

#### **§ 60.1050 Who must submit a materials separation plan?**

(a) You must prepare a materials separation plan for your municipal waste combustion unit if you plan to commence construction of a new small municipal waste combustion unit after [the date of publication of the final rule].

(b) If you commence construction of your municipal waste combustion unit after August 30, 1999 but before [the publication date of the final rule], you are not required to prepare the materials separation plan specified in this subpart.

(c) You must prepare a materials separation plan if you are required to submit an initial application for a construction permit, under 40 CFR part 51, subpart I, or part 52, as applicable, for the reconstruction or modification of your municipal waste combustion unit.

#### **§ 60.1055 What is a materials separation plan?**

The plan identifies a goal and an approach for separating certain components of municipal solid waste for a given service area prior to waste combustion and making them available for recycling.

#### **§ 60.1060 What steps must I complete for my materials separation plan?**

(a) For your materials separation plan, you must complete nine steps:

(1) Prepare a draft materials separation plan.

(2) Make your draft plan available to the public.

(3) Hold a public meeting on your draft plan.

(4) Prepare responses to public comments received during the public comment period on your draft plan.

(5) Prepare a revised materials separation plan.

(6) Discuss the revised plan at the public meeting for review of the siting analysis.

(7) Prepare responses to public comments received on your revised plan.

(8) Prepare a final materials separation plan.

(9) Submit the final materials separation plan.

(b) You may use analyses conducted under the requirements of 40 CFR part 51, subpart I, or part 52, to comply with some of the materials separation requirements of this subpart.

#### **§ 60.1065 What must I include in my draft materials separation plan?**

(a) You must prepare and submit a draft materials separation plan for your municipal waste combustion unit and its service area.

(b) Your draft materials separation plan must identify a goal and an approach for separating certain components of municipal solid waste for a given service area prior to waste combustion and making them available for recycling. A materials separation plan may include such elements as dropoff facilities, buy-back or deposit-return incentives, programs for curbside pickup, and centralized systems for mechanical separation.

(c) Your materials separation plan may include different goals or approaches for different subareas in the service area.

(d) Your materials separation plan may exclude materials separation activities for certain subareas or, if warranted, the entire service area.

#### **§ 60.1070 How do I make my draft materials separation plan available to the public?**

(a) Distribute your draft materials separation plan to the main public libraries in the area where you will construct the municipal waste combustion unit.

(b) Publish a notice of a public meeting in the main newspapers that serve these two areas:

(1) The area where you will construct the municipal waste combustion unit.

(2) The areas where the waste that your municipal waste combustion unit combusts will be collected.

(c) Include six items in your notice of the public meeting:

(1) The date of the public meeting.

(2) The time of the public meeting.

(3) The location of the public meeting.

(4) The location of the public libraries where the public can find your materials separation plan. Include the normal business hours of each library.

(5) An agenda of the topics that will be discussed at the public meeting.

(6) The beginning and ending dates of the public comment period on your draft materials separation plan.

#### **§ 60.1075 When must I accept comments on the materials separation plan?**

(a) You must accept verbal comments at the public meeting.

(b) You must accept written comments anytime during the period that begins on the date the document is distributed to the main public libraries and ends 30 days after the date of the public meeting.

#### **§ 60.1080 Where and when must I hold a public meeting on my draft materials separation plan?**

(a) You must hold a public meeting and accept comments on your draft materials separation plan.

(b) You must hold the public meeting in the county where you will construct the municipal waste combustion unit.

(c) You must schedule the public meeting to occur at least 30 days after you make your draft materials separation plan available to the public.

(d) You may combine this public meeting with any other public meeting required as part of any other Federal, State, or local permit review. However, you may not combine it with the public meeting required for the siting analysis under "Preconstruction Requirements: Siting Analysis" (§ 60.1140).

(e) You are encouraged to address eight topics at the public meeting for your draft materials separation plan:

(1) Expected size of the service area for your municipal waste combustion unit.

(2) Amount of waste you will collect in the service area.

(3) Types and estimated amounts of materials proposed for separation.

(4) Methods proposed for materials separation.

(5) Amount of residual waste for disposal.

(6) Alternate disposal methods for handling the residual waste.

(7) Where your responses to public comments on the draft materials separation plan will be available for inspection.

(8) Where your revised materials separation plan will be available for inspection.

(f) You must prepare a transcript of the public meeting on your draft materials separation plan.

#### **§ 60.1085 What must I do with any public comments I receive during the public comment period on my draft materials separation plan?**

You must do three steps:

(a) Prepare written responses to any public comments you received during the public comment period. Summarize these responses to public comments in a document that is separate from your revised materials separation plan.

(b) Make the comment response document available to the public in the service area where you will construct your municipal waste combustion unit. You must distribute the document at least to the main public libraries used to announce the public meeting.

(c) Prepare a revised materials separation plan for the municipal waste combustion unit that includes, as appropriate, changes made in response to any public comments you received during the public comment period.

**§ 60.1090 What must I do with my revised materials separation plan?**

You must do two tasks:

(a) As specified under "Reporting" (§ 60.1375), submit five items to the Administrator by the date you submit the application for a construction permit under 40 CFR part 51, subpart I, or part 52. (If you are not required to submit an application for a construction permit under 40 CFR part 51, subpart I, or part 52, submit five items to the Administrator by the date of your notice of construction under § 60.1380):

- (1) Your draft materials separation plan.
- (2) Your revised materials separation plan.
- (3) Your notice of the public meeting for your draft materials separation plan.
- (4) A transcript of the public meeting on your draft materials separation plan.
- (5) The document that summarizes your responses to the public comments you received during the public comment period on your draft materials separation plan.

(b) Make your revised materials separation plan available to the public as part of the siting analysis procedures under "Preconstruction Requirements: Siting Analysis" (§ 60.1130).

**§ 60.1095 What must I include in the public meeting on my revised materials separation plan?**

As part of the public meeting for review of the siting analysis, as specified under "Preconstruction Requirements: Siting Analysis" (§ 60.1140), you must discuss two areas:

(a) Differences between your revised materials separation plan and your draft materials separation plan discussed at the first public meeting (§ 60.1080).

(b) Questions about your revised materials separation plan.

**§ 60.1100 What must I do with any public comments I receive on my revised materials separation plan?**

(a) Prepare written responses to any public comments and include them in the document that summarizes your responses to public comments on the siting analysis.

(b) Prepare a final materials separation plan that includes, as appropriate, changes made in response to any public comments you received on your revised materials separation plan.

**§ 60.1105 How do I submit my final materials separation plan?**

As specified under "Reporting" (§ 60.1380), submit your final materials separation plan to the Administrator as part of the notice of construction for the municipal waste combustion unit.

**Preconstruction Requirements: Siting Analysis**

**§ 60.1110 Who must submit a siting analysis?**

(a) You must prepare a siting analysis if you plan to commence construction of a small municipal waste combustion unit after [the date of publication of the final rule].

(b) If you commence construction on your municipal waste combustion unit after August 30, 1999, but before [the date of publication of the final rule], you are not required to prepare the siting analysis specified in this subpart.

(c) You must prepare a siting analysis if you are required to submit an initial application for a construction permit, under 40 CFR part 51, subpart I, or part 52, as applicable, for the reconstruction or modification of your municipal waste combustion unit.

**§ 60.1115 What is a siting analysis?**

The siting analysis addresses how your municipal waste combustion unit affects ambient air quality, visibility, soils, vegetation, and other relevant factors. This analysis can be used to determine whether the benefits of your proposed facility significantly outweigh the environmental and social costs resulting from its location and construction. This analysis must also consider other major industrial facilities near the proposed site.

**§ 60.1120 What steps must I complete for my siting analysis?**

(a) For your siting analysis, you must complete five steps:

- (1) Prepare an analysis.
- (2) Make your analysis available to the public.
- (3) Hold a public meeting on your analysis.
- (4) Prepare responses to public comments received on your analysis.

(5) Submit your analysis.

(b) You may use analyses conducted under the requirements of 40 CFR part 51, subpart I, or part 52, to comply with some of the siting analysis requirements of this subpart.

**§ 60.1125 What must I include in my siting analysis?**

(a) Include an analysis of how your municipal waste combustion unit affects these four areas:

- (1) Ambient air quality.
- (2) Visibility.
- (3) Soils.
- (4) Vegetation.

(b) Include an analysis of alternatives for controlling air pollution that minimize potential risks to the public health and the environment.

**§ 60.1130 How do I make my siting analysis available to the public?**

(a) Distribute your siting analysis and revised materials separation plan to the main public libraries in the area where you will construct your municipal waste combustion unit.

(b) Publish a notice of a public meeting in the main newspapers that serve these two areas:

- (1) The area where you will construct your municipal waste combustion unit.
- (2) The areas where the waste that your municipal waste combustion unit combusts will be collected.

(c) Include six items in your notice of the public meeting:

- (1) The date of the public meeting.
- (2) The time of the public meeting.
- (3) The location of the public meeting.
- (4) The location of the public libraries

where the public can find your siting analysis and revised materials separation plan. Include the normal business hours of each library.

(5) An agenda of the topics that will be discussed at the public meeting.

(6) The beginning and ending dates of the public comment period on your siting analysis and revised materials separation plan.

**§ 60.1135 When must I accept comments on the siting analysis and revised materials separation plan?**

(a) You must accept verbal comments at the public meeting.

(b) You must accept written comments anytime during the period that begins on the date the document is distributed to the main public libraries and ends 30 days after the date of the public meeting.

**§ 60.1140 Where and when must I hold a public meeting on the siting analysis?**

(a) You must hold a public meeting to discuss and accept comments on your siting analysis and your revised materials separation plan.

(b) You must hold the public meeting in the county where you will construct your municipal waste combustion unit.

(c) You must schedule the public meeting to occur at least 30 days after you make your siting analysis and revised materials separation available to the public.

(d) You must prepare a transcript of the public meeting on your siting analysis.

**§ 60.1145 What must I do with any public comments I receive during the public comment period on my siting analysis?**

You must do three things:

(a) Prepare written responses to any public comments on your siting analysis and the revised materials separation plan you received during the public comment period. Summarize these responses to public comments in a document that is separate from your materials separation plan and siting analysis.

(b) Make the comment response document available to the public in the service area where you will construct your municipal waste combustion unit. You must distribute the document at least to the main public libraries used to announce the public meeting for the siting analysis.

(c) Prepare a revised siting analysis for the municipal waste combustion unit that includes, as appropriate, changes made in response to any public comments you received during the public comment period.

**§ 60.1150 How do I submit my siting analysis?**

As specified under "Reporting" (§ 60.1380), submit four items as part of the notice of construction:

- (a) Your siting analysis.
- (b) Your notice of the public meeting on your siting analysis.
- (c) A transcript of the public meeting on your siting analysis.
- (d) The document that summarizes your responses to the public comments you received during the public comment period.

**Good Combustion Practices: Operator Training**

**§ 60.1155 What types of training must I do?**

There are two types of required training:

- (a) Training of operators of municipal waste combustion units using the EPA or a State-approved training course.
- (b) Training of plant personnel using a plant-specific training course.

**§ 60.1160 Who must complete the operator training course? By when?**

(a) Three types of employees must complete the EPA or State-approved operator training course:

- (1) Chief facility operators.
- (2) Shift supervisors.
- (3) Control room operators.

(b) These employees must complete the operator training course by the later of three dates:

- (1) Six months after your municipal waste combustion unit starts up.
- (2) One year after [date of publication of the final rule].
- (3) The date before an employee assumes responsibilities that affect operation of the municipal waste combustion unit.

**§ 60.1165 Who must complete the plant-specific training course?**

All employees with responsibilities that affect how a municipal waste combustion unit operates must complete the plant-specific training course. Include at least six types of employees:

- (a) Chief facility operators.
- (b) Shift supervisors.
- (c) Control room operators.
- (d) Ash handlers.
- (e) Maintenance personnel.
- (f) Crane or load handlers.

**§ 60.1170 What plant-specific training must I provide?**

For plant-specific training, you must do four things:

(a) For training at a particular plant, develop a specific operating manual for that plant by the later of two dates:

- (1) Six months after your municipal waste combustion unit starts up.
- (2) One year after [date of publication of the final rule].

(b) Establish a program to review the plant-specific operating manual with people whose responsibilities affect the operation of your municipal waste combustion unit. Complete the initial review by the later of three dates:

- (1) Six months after your municipal waste combustion unit starts up.
- (2) One year after [date of publication of the final rule].
- (3) The date before an employee assumes responsibilities that affect operation of the municipal waste combustion unit.

- (c) Update your manual annually.
- (d) Review your manual with staff annually.

**§ 60.1175 What information must I include in the plant-specific operating manual?**

You must include 11 items in the operating manual for your plant:

- (a) A summary of all applicable standards in this subpart.

(b) A description of the basic combustion principles that apply to municipal waste combustion units.

(c) Procedures for receiving, handling, and feeding municipal solid waste.

(d) Procedures to be followed during periods of startup, shutdown, and malfunction of the municipal waste combustion unit.

(e) Procedures for maintaining a proper level of combustion air supply.

(f) Procedures for operating the municipal waste combustion unit within the standards contained in this subpart.

(g) Procedures for responding to periodic upset or off-specification conditions.

(h) Procedures for minimizing carryover of particulate matter.

(i) Procedures for handling ash.

(j) Procedures for monitoring emissions from the municipal waste combustion unit.

(k) Procedures for recordkeeping and reporting.

**§ 60.1180 Where must I keep the plant-specific operating manual?**

You must keep your operating manual in an easily accessible location at your plant. It must be available for review or inspection by all employees who must review it and by the Administrator.

**Good Combustion Practices: Operator Certification**

**§ 60.1185 What types of operator certification must the chief facility operator and shift supervisor obtain and by when must they obtain it?**

(a) Each chief facility operator and shift supervisor must obtain and keep a current provisional operator certification from the American Society of Mechanical Engineers (QRO-1-1994 (incorporated by reference in § 60.17 of subpart A of this part)) or a current provisional operator certification from your State certification program.

(b) Each chief facility operator and shift supervisor must obtain a provisional certification by the later of three dates:

- (1) Six months after the municipal waste combustion unit starts up.
- (2) One year after [date of publication of the final rule].
- (3) Six months after they transfer to the municipal waste combustion unit or 6 months after they are hired to work at the municipal waste combustion unit.

(c) Each chief facility operator and shift supervisor must take one of three actions:

- (1) Obtain a full certification from the American Society of Mechanical Engineers or a State certification program in your State.

(2) Schedule a full certification exam with the American Society of Mechanical Engineers (QRO-1-1994 (incorporated by reference in § 60.17 of subpart A of this part)).

(3) Schedule a full certification exam with your State certification program.

(d) The chief facility operator and shift supervisor must obtain the full certification or be scheduled to take the certification exam by the later of three dates:

(1) Six months after the municipal waste combustion unit starts up.

(2) One year after [date of publication of the final rule].

(3) Six months after they transfer to the municipal waste combustion unit or 6 months after they are hired to work at the municipal waste combustion unit.

**§ 60.1190 After the required date for operator certification, who may operate the municipal waste combustion unit?**

After the required date for full or provisional certifications, you must not operate your municipal waste combustion unit unless one of four employees is on duty:

(a) A fully certified chief facility operator.

(b) A provisionally certified chief facility operator who is scheduled to take the full certification exam.

(c) A fully certified shift supervisor.

(d) A provisionally certified shift supervisor who is scheduled to take the full certification exam.

**§ 60.1195 What if all the certified operators must be temporarily offsite?**

If the certified chief facility operator and certified shift supervisor both must leave your municipal waste combustion unit, a provisionally certified control room operator at the municipal waste combustion unit may fulfill the certified operator requirement. Depending on the length of time that a certified chief facility operator and certified shift supervisor are away, you must meet one of three criteria:

(a) When the certified chief facility operator and certified shift supervisor are both offsite for less than 8 hours, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Administrator.

(b) When the certified chief facility operator and certified shift supervisor are offsite for more than 8 hours, but less than 2 weeks, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Administrator. However, you must record the period

when the certified chief facility operator and certified shift supervisor are offsite and include this information in the annual report as specified under § 60.1410(l).

(c) When the certified chief facility operator and certified shift supervisor are offsite for more than 2 weeks, and no other certified operator is onsite, the provisionally certified control room operator may perform those duties without notice to, or approval by, the Administrator. However, you must take two actions:

(1) Notify the Administrator in writing. In the notice, state what caused the absence and what you are doing to ensure that a certified chief facility operator or certified shift supervisor is onsite.

(2) Submit a status report and corrective action summary to the Administrator every 4 weeks following the initial notification. If the Administrator notifies you that your status report or corrective action summary is disapproved, the municipal waste combustion unit may continue operation for 90 days, but then must cease operation. If corrective actions are taken in the 90-day period such that the Administrator withdraws the disapproval, municipal waste combustion unit operation may continue.

**Good Combustion Practices: Operating Requirements**

**§ 60.1200 What are the operating practice requirements for my municipal waste combustion unit?**

(a) You must not operate your municipal waste combustion unit at loads greater than 110 percent of the maximum demonstrated unit load of the municipal waste combustion unit (4-hour block average), as specified under "Definitions" (§ 60.1465).

(b) You must not operate your municipal waste combustion unit so that the temperature at the inlet of the particulate matter control device exceeds 17°C above the maximum demonstrated temperature of the particulate matter control device (4-hour block average), as specified under "Definitions" (§ 60.1465).

(c) If your municipal waste combustion unit uses activated carbon to control dioxin/furan or mercury emissions, you must maintain an 8-hour block average carbon feed rate at or above the highest average level established during the most recent dioxin/furan or mercury test.

(d) If your municipal waste combustion unit uses activated carbon to control dioxin/furan or mercury emissions, you must evaluate total

carbon usage for each calendar quarter. The total amount of carbon purchased and delivered to your municipal waste combustion plant must be at or above the required quarterly usage of carbon. At your option, you may choose to evaluate required quarterly carbon usage on a municipal waste combustion unit basis for each individual municipal waste combustion unit at your plant. Calculate the required quarterly usage of carbon using the appropriate equation in § 60.1460(f).

(e) Your municipal waste combustion unit is exempt from limits on load level, temperature at the inlet of the particulate matter control device, and carbon feed rate during any of five situations:

(1) During your annual tests for dioxins/furans.

(2) During your annual mercury tests (for carbon feed rate requirements only).

(3) During the 2 weeks preceding your annual tests for dioxins/furans.

(4) During the 2 weeks preceding your annual mercury tests (for carbon feed rate requirements only).

(5) Whenever the Administrator or delegated State authority permits you to do any of five activities:

(i) Evaluate system performance.

(ii) Test new technology or control technologies.

(iii) Perform diagnostic testing.

(iv) Perform other activities to improve the performance of your municipal waste combustion unit.

(v) Perform other activities to advance the state of the art for emission controls for your municipal waste combustion unit.

**§ 60.1205 What happens to the operating requirements during periods of startup, shutdown, and malfunction?**

(a) The operating requirements of this subpart apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.

(b) Each startup, shutdown, or malfunction must not last for longer than 3 hours.

**Emission Limits**

**§ 60.1210 What pollutants are regulated by this subpart?**

Eleven pollutants, in four groupings, are regulated:

(a) *Organics*. Dioxins/furans.

(b) *Metals*.

(1) Cadmium.

(2) Lead.

(3) Mercury.

(4) Opacity.

(5) Particulate matter.

(c) *Acid gases*.

(1) Hydrogen chloride.

(2) Nitrogen oxides.

- (3) Sulfur dioxide.
- (d) *Other*.
- (1) Carbon monoxide.
- (2) Fugitive ash.

**§ 60.1215 What emission limits must I meet? By when?**

You must meet the emission limits specified in tables 1 and 2 of this subpart. You must meet these limits 60 days after your municipal waste combustion unit reaches the maximum load level but no later than 180 days after its initial startup.

**§ 60.1220 What happens to the emission limits during periods of startup, shutdown, and malfunction?**

(a) The emission limits of this subpart apply at all times except during periods of municipal waste combustion unit startup, shutdown, or malfunction.

(b) Each startup, shutdown, or malfunction must not last for longer than 3 hours.

**Continuous Emission Monitoring**

**§ 60.1225 What types of continuous emission monitoring must I perform?**

To continuously monitor emissions, you must perform four tasks:

(a) Install continuous emission monitoring systems for certain gaseous pollutants.

(b) Make sure your continuous emission monitoring systems are operating correctly.

(c) Make sure you obtain the minimum amount of monitoring data.

(d) Install a continuous opacity monitoring system.

**§ 60.1230 What continuous emission monitoring systems must I install for gaseous pollutants?**

(a) You must install, calibrate, maintain, and operate continuous emission monitoring systems for oxygen (or carbon dioxide), sulfur dioxide, and carbon monoxide. If you operate a Class I municipal waste combustion unit, also install, calibrate, maintain, and operate a continuous emission monitoring system for nitrogen oxides. Install the continuous emission monitoring system for sulfur dioxide and nitrogen oxides at the outlet of the air pollution control device.

(b) You must install, evaluate, and operate each continuous emission monitoring system according to the "Monitoring Requirements" in § 60.13 of subpart A of this part.

(c) You must monitor the oxygen (or carbon dioxide) concentration at each location where you monitor sulfur dioxide and carbon monoxide. Additionally, if you operate a Class I municipal waste combustion unit, you must also monitor the oxygen (or carbon

dioxide) concentration at the location where you monitor nitrogen oxides.

(d) You may choose to monitor carbon dioxide instead of oxygen as a diluent gas. If you choose to monitor carbon dioxide, then an oxygen monitor is not required, and you must follow the requirements in § 60.1255.

(e) If you choose to demonstrate compliance by monitoring the percent reduction of sulfur dioxide, you must also install a continuous emission monitoring system for sulfur dioxide and oxygen (or carbon dioxide) at the inlet of the air pollution control device.

**§ 60.1235 How are the data from the continuous emission monitoring systems used?**

You must use data from the continuous emission monitoring systems for sulfur dioxide, nitrogen oxides, and carbon monoxide to demonstrate continuous compliance with the emission limits specified in tables 1 and 2 of this subpart. To demonstrate compliance for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, see § 60.1290.

**§ 60.1240 How do I make sure my continuous emission monitoring systems are operating correctly?**

(a) Conduct initial, daily, quarterly, and annual evaluations of your continuous emission monitoring systems that measure oxygen (or carbon dioxide), sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide.

(b) Complete your initial evaluation of the continuous emission monitoring systems within 60 days after your municipal waste combustion unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup.

(c) For initial and annual evaluations, collect data concurrently (or within 30 to 60 minutes) using your oxygen (or carbon dioxide) continuous emission monitoring system, your sulfur dioxide, nitrogen oxides, or carbon monoxide continuous emission monitoring systems, as appropriate, and the appropriate test methods specified in table 3 of this subpart. Collect these data during each initial and annual evaluation of your continuous emission monitoring systems following the applicable performance specifications in appendix B of this part. Table 4 of this subpart shows the performance specifications that apply to each continuous emission monitoring system.

(d) Follow the quality assurance procedures in Procedure 1 of appendix F of this part for each continuous

emission monitoring system. These procedures include daily calibration drift and quarterly accuracy determinations.

**§ 60.1245 Am I exempt from any appendix B or appendix F requirements to evaluate continuous emission monitoring systems?**

Yes, the accuracy tests for your sulfur dioxide continuous emission monitoring system require you to also evaluate your oxygen (or carbon dioxide) continuous emission monitoring system. Therefore, your oxygen (or carbon dioxide) continuous emission monitoring system is exempt from two requirements:

(a) Section 2.3 of performance specification 3 in appendix B of this part (relative accuracy requirement).

(b) Section 5.1.1 of appendix F of this part (relative accuracy test audit).

**§ 60.1250 What is my schedule for evaluating continuous emission monitoring systems?**

(a) Conduct annual evaluations of your continuous emission monitoring systems no more than 12 months after the previous evaluation was conducted.

(b) Evaluate your continuous emission monitoring systems daily and quarterly as specified in appendix F of this part.

**§ 60.1255 What must I do if I choose to monitor carbon dioxide instead of oxygen as a diluent gas?**

You must establish the relationship between oxygen and carbon dioxide during the initial evaluation of your continuous emission monitoring system. You may reestablish the relationship during annual evaluations. To establish the relationship use three procedures:

(a) Use EPA Reference Method 3 or 3A to determine oxygen concentration at the location of your carbon dioxide monitor.

(b) Conduct at least three test runs for oxygen. Make sure each test run represents a 1-hour average and that sampling continues for at least 30 minutes in each hour.

(c) Use the fuel-factor equation in EPA Reference Method 3B to determine the relationship between oxygen and carbon dioxide.

**§ 60.1260 What is the minimum amount of monitoring data I must collect with my continuous emission monitoring systems and is this requirement enforceable?**

(a) Where continuous emission monitoring systems are required, obtain 1-hour arithmetic averages. Make sure the averages for sulfur dioxide, nitrogen oxides, and carbon monoxide are in parts per million by dry volume at 7 percent oxygen (or the equivalent carbon dioxide level). Use the 1-hour

averages of oxygen (or carbon dioxide) data from your continuous emission monitoring system to determine the actual oxygen (or carbon dioxide) level and to calculate emissions at 7 percent oxygen (or the equivalent carbon dioxide level).

(b) Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average. Section 60.13(e)(2) of subpart A of this part requires your continuous emission monitoring systems to complete at least one cycle of operation (sampling, analyzing, and data recording) for each 15-minute period.

(c) Obtain valid 1-hour averages for 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.

(d) If you do not obtain the minimum data required in paragraphs (a) through (c) of this section, you are in violation of this data collection requirement regardless of the emission level monitored, and you must notify the Administrator according to § 60.1410(e).

(e) If you do not obtain the minimum data required in paragraphs (a) and (c) of this section, you must still use all valid data from the continuous emission monitoring systems in calculating emission concentrations and percent reductions in accordance with § 60.1265.

**§ 60.1265 How do I convert my 1-hour arithmetic averages into the appropriate averaging times and units for this standard?**

(a) Use the equation in § 60.1460(a) to calculate emissions at 7 percent oxygen.

(b) Use EPA Reference Method 19, section 4.3, to calculate the daily geometric average concentrations of sulfur dioxide emissions. If you are monitoring the percent reduction of sulfur dioxide, use EPA Reference Method 19, section 5.4, to determine the daily geometric average percent reduction of potential sulfur dioxide emissions.

(c) If you operate a Class I municipal waste combustion unit, use EPA Reference Method 19, section 4.1, to calculate the daily arithmetic average for concentrations of nitrogen oxides.

(d) Use EPA Reference Method 19, section 4.1, to calculate the 4-hour or 24-hour daily block averages (as applicable) for concentrations of carbon monoxide.

**§ 60.1270 What is required for my continuous opacity monitoring system and how are the data used?**

(a) Install, calibrate, maintain, and operate a continuous opacity monitoring system.

(b) Install, evaluate, and operate each continuous opacity monitoring system according to § 60.13 of subpart A of this part.

(c) Complete an initial evaluation of your continuous opacity monitoring system according to performance specification 1 in appendix B of this part. Complete this evaluation within 60 days after your municipal waste combustion unit reaches the maximum load level at which it will operate, but no more than 180 days after its initial startup.

(d) Complete each annual evaluation of your continuous opacity monitoring system no more than 12 months after the previous evaluation.

(e) Use tests conducted according to EPA Reference Method 9, as specified in § 60.1300, to determine compliance with the emission limit for opacity in table 1 of this subpart. The data obtained from your continuous opacity monitoring system are not used to determine compliance with the limit on opacity emissions.

**§ 60.1275 What additional requirements must I meet for the operation of my continuous emission monitoring systems and continuous opacity monitoring system?**

Use the required span values and applicable performance specifications in table 4 of this subpart.

**§ 60.1280 What must I do if my continuous emission monitoring system is temporarily unavailable to meet the data collection requirements?**

Refer to table 5 of this subpart. It shows alternate methods for collecting data when these systems malfunction or when repairs, calibration checks, or zero and span checks keep you from collecting the minimum amount of data.

**Stack Testing**

**§ 60.1285 What types of stack tests must I conduct?**

Conduct initial and annual stack tests to measure the emission levels of dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash.

**§ 60.1290 How are the stack test data used?**

You must use results of stack tests for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash to demonstrate compliance with the

emission limits in table 1 of this subpart. To demonstrate compliance for carbon monoxide, nitrogen oxides, and sulfur dioxide, see § 60.1235.

**§ 60.1295 What schedule must I follow for the stack testing?**

(a) Conduct initial stack tests for the pollutants listed in § 60.1285 within 60 days after your municipal waste combustion unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup.

(b) Conduct annual stack tests for these pollutants after the initial stack test. Conduct each annual stack test within 12 months after the previous stack test.

**§ 60.1300 What test methods must I use to stack test?**

(a) Follow table 5 of this subpart to establish the sampling location and to determine pollutant concentrations, number of traverse points, individual test methods, and other specific testing requirements for the different pollutants.

(b) Make sure that stack tests for all these pollutants consist of at least three test runs, as specified in § 60.8 (Performance Tests) of subpart A of this part. Use the average of the pollutant emission concentrations from the three test runs to determine compliance with the emission limits in table 1 of this subpart.

(c) Obtain an oxygen (or carbon dioxide) measurement at the same time as your pollutant measurements to determine diluent gas levels, as specified in § 60.1230.

(d) Use the equations in § 60.1460(a) to calculate emission levels at 7 percent oxygen (or an equivalent carbon dioxide basis), the percent reduction in potential hydrogen chloride emissions, and the reduction efficiency for mercury emissions. See the individual test methods in table 5 of this subpart for other required equations.

**§ 60.1305 May I conduct stack testing less often?**

(a) You may test less often if you own or operate a Class II municipal waste combustion unit and if all stack tests for a given pollutant over 3 consecutive years show you comply with the emission limit. In this case, you are not required to conduct a stack test for that pollutant for the next 2 years. However, you must conduct another stack test within 36 months of the anniversary date of the third consecutive stack test that shows you comply with the emission limit. Thereafter, you must perform stack tests every third year but no later than 36 months following the

previous stack tests. If a stack test shows noncompliance with an emission limit, you must conduct annual stack tests for that pollutant until all stack tests over a 3-year period show compliance.

(b) You can test less often if you own or operate a municipal waste combustion plant that meets two conditions. First, you have multiple municipal waste combustion units onsite that are subject to this subpart. Second, all these municipal waste combustion units have demonstrated levels of dioxin/furan emissions no more than 7 nanograms per dry standard cubic meter (total mass) for 2 consecutive years. In this case, you may choose to conduct annual stack tests on only one municipal waste combustion unit per year at your plant.

(1) Conduct the stack test no more than 12 months following a stack test on any municipal waste combustion unit subject to this subpart at your plant. Each year, test a different municipal waste combustion unit subject to this subpart and test all municipal waste combustion units subject to this subpart in a sequence that you determine. Once you determine a testing sequence, it must not be changed without approval by the Administrator.

(2) If each annual stack test shows levels of dioxin/furan emissions less than 7 nanograms per dry standard cubic meter (total mass), you may continue stack tests on only one municipal waste combustion unit subject to this subpart per year.

(3) If any annual stack test indicates levels of dioxin/furan emissions greater than 7 nanograms per dry standard cubic meter (total mass), conduct subsequent annual stack tests on all municipal waste combustion units subject to this subpart at your plant. You may return to testing one municipal waste combustion unit subject to this subpart per year if you can demonstrate dioxin/furan emission levels less than 7 nanograms per dry standard cubic meter (total mass) for all municipal waste combustion units at your plant subject to this subpart for 2 consecutive years.

**§ 60.1310 May I deviate from the 12-month testing schedule if unforeseen circumstances arise?**

You may not deviate from the 12-month testing schedules specified in §§ 60.1295(b) and 60.1305(b)(1) unless you apply to the Administrator for an alternative schedule, and the Administrator approves your request for alternative scheduling prior to the date on which you would otherwise have been required to conduct the next stack test.

**Other Monitoring Requirements**

**§ 60.1315 Must I meet other requirements for continuous monitoring?**

You must also monitor three operating parameters:

(a) Load level of each municipal waste combustion unit.

(b) Temperature of flue gases at the inlet of your particulate matter air pollution control device.

(c) Carbon feed rate if activated carbon is used to control dioxin/furan or mercury emissions.

**§ 60.1320 How do I monitor the load of my municipal waste combustion unit?**

(a) If your municipal waste combustion unit generates steam, you must install, calibrate, maintain, and operate a steam flowmeter or a feed water flowmeter and meet five requirements:

(1) Continuously measure and record the measurements of steam (or feed water) in kilograms per hour (or pounds per hour).

(2) Calculate your steam (or feed water) flow in 4-hour block averages.

(3) Calculate the steam (or feed water) flow rate using the method in "American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1—1964 (R1991)," section 4 (incorporated by reference in § 60.17 of subpart A of this part).

(4) Design, construct, install, calibrate, and use nozzles or orifices for flow rate measurements, using the recommendations in "American Society of Mechanical Engineers Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters," 6th Edition (1971), chapter 4 (incorporated by reference in § 60.17 of subpart A of this part).

(5) Before each dioxin/furan stack test, or at least once a year, calibrate all signal conversion elements associated with steam (or feed water) flow measurements according to the manufacturer instructions.

(b) If your municipal waste combustion unit does not generate steam, you must determine, to the satisfaction of the Administrator, one or more operating parameters that can be used to continuously estimate load level (for example, the feed rate of municipal solid waste or refuse-derived fuel). You must continuously monitor the selected parameters.

**§ 60.1325 How do I monitor the temperature of flue gases at the inlet of my particulate matter control device?**

You must install, calibrate, maintain, and operate a device to continuously measure the temperature of the flue gas

stream at the inlet of each particulate matter control device.

**§ 60.1330 How do I monitor the injection rate of activated carbon?**

If your municipal waste combustion unit uses activated carbon to control dioxin/furan or mercury emissions, you must meet three requirements:

(a) Select a carbon injection system operating parameter that can be used to calculate carbon feed rate (for example, screw feeder speed).

(b) During each dioxin/furan and mercury stack test, determine the average carbon feed rate in kilograms (or pounds) per hour. Also, determine the average operating parameter level that correlates to the carbon feed rate. Establish a relationship between the operating parameter and the carbon feed rate in order to calculate the carbon feed rate based on the operating parameter level.

(c) Continuously monitor the selected operating parameter during all periods when the municipal waste combustion unit is operating and combusting waste and calculate the 8-hour block average carbon feed rate in kilograms (or pounds) per hour, based on the selected operating parameter. When calculating the 8-hour block average, do two things:

(1) Exclude hours when the municipal waste combustion unit is not operating.

(2) Include hours when the municipal waste combustion unit is operating but the carbon feed system is not working correctly.

**§ 60.1335 What is the minimum amount of monitoring data I must collect with my continuous parameter monitoring systems and is this requirement enforceable?**

(a) Where continuous parameter monitoring systems are used, obtain 1-hour arithmetic averages for three parameters:

(1) Load level of the municipal waste combustion unit.

(2) Temperature of the flue gases at the inlet of your particulate matter control device.

(3) Carbon feed rate if activated carbon is used to control dioxin/furan or mercury emissions.

(b) Obtain at least two data points per hour in order to calculate a valid 1-hour arithmetic average.

(c) Obtain valid 1-hour averages for, at a minimum, 75 percent of the operating hours per day and for 90 percent of the operating days per calendar quarter. An operating day is any day the unit combusts any municipal solid waste or refuse-derived fuel.

(d) If you do not obtain the minimum data required in paragraphs (a) through (c) of this section, you are in violation

of this data collection requirement and you must notify the Administrator according to § 60.1410(e).

### Recordkeeping

#### § 60.1340 What records must I keep?

You must keep five types of records:

- (a) Materials separation plan and siting analysis.
- (b) Operator training and certification.
- (c) Stack tests.
- (d) Continuously monitored pollutants and parameters.
- (e) Carbon feed rate.

#### § 60.1345 Where must I keep my records and for how long?

- (a) Keep all records onsite in paper copy or electronic format unless the Administrator approves another format.
- (b) Keep all records on each municipal waste combustion unit for at least 5 years.
- (c) Make all records available for submittal to the Administrator, or for onsite review by an inspector.

#### § 60.1350 What records must I keep for the materials separation plan and siting analysis?

You must keep records of five items:

- (a) The date of each record.
- (b) The final materials separation plan.
- (c) The siting analysis.
- (d) A record of the location and date of the public meetings.
- (e) Your responses to the public comments received during the public comment periods.

#### § 60.1355 What records must I keep for operator training and certification?

You must keep records of six items:

- (a) *Records of provisional certifications.* Include three items:
  - (1) For your municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who are provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.
  - (2) Dates of the initial provisional certifications.
  - (3) Documentation showing current provisional certifications.
- (b) *Records of full certifications.* Include three items:
  - (1) For your municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who are fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program.
  - (2) Dates of initial and renewal full certifications.

(3) Documentation showing current full certifications.

(c) *Records showing completion of the operator training course.* Include three items:

- (1) For your municipal waste combustion plant, names of the chief facility operator, shift supervisors, and control room operators who have completed the EPA or State municipal waste combustion operator training course.
- (2) Dates of completion of the operator training course.
- (3) Documentation showing completion of the operator training course.

(d) *Records of reviews for plant-specific operating manuals.* Include three items:

- (1) Names of persons who have reviewed the operating manual.
  - (2) Date of the initial review.
  - (3) Dates of subsequent annual reviews.
- (e) *Records of when a certified operator is temporarily offsite.* Include two main items:

(1) If the certified chief facility operator and certified shift supervisor are offsite for more than 8 hours, but less than 2 weeks, and no other certified operator is onsite, record the dates that the certified chief facility operator and certified shift supervisor were offsite.

(2) When the certified chief facility operator and certified shift supervisor are offsite for more than 2 weeks and no other certified operator is onsite, keep records of four items:

- (i) Your notice that all certified persons are offsite.
- (ii) The conditions that cause these people to be offsite.
- (iii) The corrective actions you are taking to ensure a certified chief facility operator or certified shift supervisor is onsite.

(iv) Copies of the written reports submitted every 4 weeks that summarize the actions taken to ensure that a certified chief facility operator or certified shift supervisor will be onsite.

(f) *Records of calendar dates.* Include the calendar date on each record.

#### § 60.1360 What records must I keep for stack tests?

For stack tests required under § 60.1285, you must keep records of four items:

- (a) The results of the stack tests for eight pollutants or parameters recorded in the appropriate units of measure specified in table 1 of this subpart:
  - (1) Dioxins/furans.
  - (2) Cadmium.
  - (3) Lead.
  - (4) Mercury.

- (5) Opacity.
- (6) Particulate matter.
- (7) Hydrogen chloride.
- (8) Fugitive ash.

(b) Test reports including supporting calculations that document the results of all stack tests.

(c) The maximum demonstrated load of your municipal waste combustion units and maximum temperature at the inlet of your particulate matter control device during all stack tests for dioxin/furan emissions.

(d) The calendar date of each record.

#### § 60.1365 What records must I keep for continuously monitored pollutants or parameters?

You must keep records of eight items:

(a) *Records of monitoring data.*

Document six parameters measured using continuous monitoring systems:

- (1) All 6-minute average levels of opacity.
- (2) All 1-hour average concentrations of sulfur dioxide emissions.
- (3) For Class I municipal waste combustion units only, all 1-hour average concentrations of nitrogen oxides emissions.
- (4) All 1-hour average concentrations of carbon monoxide emissions.

(5) All 1-hour average load levels of your municipal waste combustion unit.

(6) All 1-hour average flue gas temperatures at the inlet of the particulate matter control device.

(b) *Records of average concentrations and percent reductions.* Document five parameters:

(1) All 24-hour daily block geometric average concentrations of sulfur dioxide emissions or average percent reductions of sulfur dioxide emissions.

(2) For Class I municipal waste combustion units only, all 24-hour daily arithmetic average concentrations of nitrogen oxides emissions.

(3) All 4-hour block or 24-hour daily block arithmetic average concentrations of carbon monoxide emissions.

(4) All 4-hour block arithmetic average load levels of your municipal waste combustion unit.

(5) All 4-hour block arithmetic average flue gas temperatures at the inlet of the particulate matter control device.

(c) *Records of exceedances.* Document three items:

(1) Calendar dates whenever any of the five pollutant or parameter levels recorded in paragraph (b) or the opacity level recorded in paragraph (a)(1) of this section did not meet the emission limits or operating levels specified in this subpart.

(2) Reasons you exceeded the applicable emission limits or operating levels.

(3) Corrective actions you took, or are taking, to meet the emission limits or operating levels.

(d) *Records of minimum data.*

Document three items:

(1) Calendar dates for which you did not collect the minimum amount of data required under §§ 60.1260 and 60.1335.

Record these dates for five types of pollutants and parameters:

(i) Sulfur dioxide emissions.

(ii) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(iii) Carbon monoxide emissions.

(iv) Load levels of your municipal waste combustion unit.

(v) Temperatures of the flue gases at the inlet of the particulate matter control device.

(2) Reasons you did not collect the minimum data.

(3) Corrective actions you took, or are taking, to obtain the required amount of data.

(e) *Records of exclusions.* Document each time you have excluded data from your calculation of averages for any of the following five pollutants or parameters and the reasons the data were excluded:

(1) Sulfur dioxide emissions.

(2) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(3) Carbon monoxide emissions.

(4) Load levels of your municipal waste combustion unit.

(5) Temperatures of the flue gases at the inlet of the particulate matter control device.

(f) *Records of drift and accuracy.*

Document the results of your daily drift tests and quarterly accuracy determinations according to procedure 1 of appendix F of this part. Keep these records for the sulfur dioxide, nitrogen oxides (Class I municipal waste combustion units only), and carbon monoxide continuous emissions monitoring systems.

(g) *Records of the relationship between oxygen and carbon dioxide.* If you chose to monitor carbon dioxide instead of oxygen as a diluent gas, document the relationship between oxygen and carbon dioxide, as specified in § 60.1255.

(h) *Records of calendar dates.* Include the calendar date on each record.

**§ 60.1370 What records must I keep for municipal waste combustion units that use activated carbon?**

For municipal waste combustion units that use activated carbon to control dioxin/furan or mercury emissions, you must keep records of five items:

(a) *Records of average carbon feed rate.* Document five items:

(1) Average carbon feed rate (in kilograms or pounds per hour) during all stack tests for dioxin/furan and mercury emissions. Include supporting calculations in the records.

(2) For the operating parameter chosen to monitor carbon feed rate, average operating level during all stack tests for dioxin/furans and mercury emissions. Include supporting data that document the relationship between the operating parameter and the carbon feed rate.

(3) All 8-hour block average carbon feed rates in kilograms (pounds) per hour calculated from the monitored operating parameter.

(4) Total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If you choose to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at your plant. Include supporting documentation.

(5) Required quarterly usage of carbon for the municipal waste combustion plant, calculated using the appropriate equation in § 60.1460(f). If you choose to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at your plant. Include supporting calculations.

(b) *Records of low carbon feed rates.* Document three items:

(1) The calendar dates when the average carbon feed rate over an 8-hour block was less than the average carbon feed rates determined during the most recent stack test for dioxin/furan or mercury emissions (whichever has a higher feed rate).

(2) Reasons for the low carbon feed rates.

(3) Corrective actions you took or are taking to meet the 8-hour average carbon feed rate requirement.

(c) *Records of minimum carbon feed rate data.* Document three items:

(1) Calendar dates for which you did not collect the minimum amount of carbon feed rate data required under § 60.1335.

(2) Reasons you did not collect the minimum data.

(3) Corrective actions you took or are taking to get the required amount of data.

(d) *Records of exclusions.* Document each time you have excluded data from your calculation of average carbon feed

rates and the reasons the data were excluded.

(e) *Records of calendar dates.* Include the calendar date on each record.

**Reporting**

**§ 60.1375 What reports must I submit before I submit my notice of construction?**

(a) If you are required to submit an application for a construction permit under 40 CFR, part 51, subpart I, or part 52, you must submit five items by the date you submit your application.

(1) Your draft materials separation plan, as specified in § 60.1065.

(2) Your revised materials separation plan, as specified in § 60.1085(c).

(3) Your notice of the initial public meeting for your draft materials separation plan, as specified in § 60.1070(b).

(4) A transcript of the initial public meeting, as specified in § 60.1080(f).

(5) The document that summarizes your responses to the public comments you received during the initial public comment period, as specified in § 60.1085(a).

(b) If you are not required to submit an application for a construction permit under 40 CFR part 51, subpart I, or part 52, you must submit the items in paragraph (a) of this section with your notice of construction.

**§ 60.1380 What must I include in my notice of construction?**

(a) Include ten items:

(1) A statement of your intent to construct the municipal waste combustion unit.

(2) The planned initial startup date of your municipal waste combustion unit.

(3) The types of fuels you plan to combust in your municipal waste combustion unit.

(4) The capacity of your municipal waste combustion unit including supporting capacity calculations, as specified in § 60.1460(d) and (e).

(5) Your siting analysis, as specified in § 60.1125.

(6) Your final materials separation plan, as specified in § 60.1100(b).

(7) Your notice of the second public meeting (siting analysis meeting), as specified in § 60.1130(b).

(8) A transcript of the second public meeting, as specified in § 60.1140(d).

(9) A copy of the document that summarizes your responses to the public comments you received during the second public comment period, as specified in § 60.1145(a).

(10) Your final siting analysis, as specified in § 60.1145(c).

(b) Submit your notice of construction no later than 30 days after you commence construction, reconstruction,

or modification of your municipal waste combustion unit.

**§ 60.1385 What reports must I submit after I submit my notice of construction and in what form?**

(a) Submit an initial report and annual reports, plus semiannual reports for any emission or parameter level that does not meet the limits specified in this subpart.

(b) Submit all reports on paper, postmarked on or before the submittal dates in §§ 60.1395, 60.1405, and 60.1420. If the Administrator agrees, you may submit electronic reports.

(c) Keep a copy of all reports required by §§ 60.1400, 60.1410, and 60.1425 onsite for 5 years.

**§ 60.1390 What are the appropriate units of measurement for reporting my data?**

See tables 1 and 2 of this subpart for appropriate units of measurement.

**§ 60.1395 When must I submit the initial report?**

As specified in subpart A of this part, submit your initial report within 60 days after your municipal waste combustion unit reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup.

**§ 60.1400 What must I include in my initial report?**

You must include seven items:

(a) The emission levels measured on the date of the initial evaluation of your continuous emission monitoring systems for all of the following five pollutants or parameters as recorded in accordance with § 60.1365(b).

(1) The 24-hour daily geometric average concentration of sulfur dioxide emissions or the 24-hour daily geometric percent reduction of sulfur dioxide emissions.

(2) For Class I municipal waste combustion units only, the 24-hour daily arithmetic average concentration of nitrogen oxides emissions.

(3) The 4-hour block or 24-hour daily arithmetic average concentration of carbon monoxide emissions.

(4) The 4-hour block arithmetic average load level of your municipal waste combustion unit.

(5) The 4-hour block arithmetic average flue gas temperature at the inlet of the particulate matter control device.

(b) The results of the initial stack tests for eight pollutants or parameters (use appropriate units as specified in table 2 of this subpart):

- (1) Dioxins/furans.
- (2) Cadmium.
- (3) Lead.
- (4) Mercury.

(5) Opacity.

(6) Particulate matter.

(7) Hydrogen chloride.

(8) Fugitive ash emissions.

(c) The test report that documents the initial stack tests including supporting calculations.

(d) The initial performance evaluation of your continuous emissions monitoring systems. Use the applicable performance specifications in appendix B of this part in conducting the evaluation.

(e) The maximum demonstrated load of your municipal waste combustion unit and the maximum demonstrated temperature of the flue gases at the inlet of the particulate matter control device. Use values established during your initial stack test for dioxin/furan emissions and include supporting calculations.

(f) If your municipal waste combustion unit uses activated carbon to control dioxin/furan or mercury emissions, the average carbon feed rates that you recorded during the initial stack tests for dioxin/furan and mercury emissions. Include supporting calculations as specified in § 60.1370(a)(1) and (2).

(g) If you choose to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in § 60.1255.

**§ 60.1405 When must I submit the annual report?**

Submit the annual report no later than February 1 of each year that follows the calendar year in which you collected the data. If you have an operating permit for any unit under title V of the Clean Air Act, the permit may require you to submit semiannual reports. Parts 70 and 71 of this chapter contain program requirements for permits.

**§ 60.1410 What must I include in my annual report?**

Summarize data collected for all pollutants and parameters regulated under this subpart. Your summary must include twelve items:

(a) The results of the annual stack test, using appropriate units, for eight pollutants, as recorded under § 60.1360(a):

(1) Dioxins/furans.

(2) Cadmium.

(3) Lead.

(4) Mercury.

(5) Particulate matter.

(6) Opacity.

(7) Hydrogen chloride.

(8) Fugitive ash.

(b) A list of the highest average levels recorded, in the appropriate units. List

these values for five pollutants or parameters:

(1) Sulfur dioxide emissions.

(2) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(3) Carbon monoxide emissions.

(4) Load level of the municipal waste combustion unit.

(5) Temperature of the flue gases at the inlet of the particulate matter air pollution control device (4-hour block average).

(c) The highest 6-minute opacity level measured. Base this value on all 6-minute average opacity levels recorded by your continuous opacity monitoring system (§ 60.1365(a)(1)).

(d) For municipal waste combustion units that use activated carbon for controlling dioxin/furan or mercury emissions, include four records:

(1) The average carbon feed rates recorded during the most recent dioxin/furan and mercury stack tests.

(2) The lowest 8-hour block average carbon feed rate recorded during the year.

(3) The total carbon purchased and delivered to the municipal waste combustion plant for each calendar quarter. If you choose to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at your plant.

(4) The required quarterly carbon usage of your municipal waste combustion plant, calculated using the appropriate equation in § 60.1460(f). If you choose to evaluate required quarterly usage for carbon on a municipal waste combustion unit basis, record the required quarterly usage for each municipal waste combustion unit at your plant.

(e) The total number of days that you did not obtain the minimum number of hours of data for six pollutants or parameters. Include the reasons you did not obtain the data and corrective actions that you have taken to obtain the data in the future. Include data on:

(1) Sulfur dioxide emissions.

(2) For Class I municipal waste combustion units only, nitrogen oxides emissions.

(3) Carbon monoxide emissions.

(4) Load level of the municipal waste combustion unit.

(5) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.

(6) Carbon feed rate.

(f) The number of hours you have excluded data from the calculation of average levels (include the reasons for excluding it). Include data for six pollutants or parameters:

- (1) Sulfur dioxide emissions.
- (2) For Class I municipal waste combustion units only, nitrogen oxides emissions.
- (3) Carbon monoxide emissions.
- (4) Load level of the municipal waste combustion unit.
- (5) Temperature of the flue gases at the inlet of the particulate matter air pollution control device.
- (6) Carbon feed rate.
- (g) A notice of your intent to begin a reduced stack testing schedule for dioxin/furan emissions during the following calendar year, if you are eligible for alternative scheduling (§ 60.1305 (a) or (b)).

(h) A notice of your intent to begin a reduced stack testing schedule for other pollutants during the following calendar year, if you are eligible for alternative scheduling (§ 60.1305(a)).

(i) A summary of any emission or parameter level that did not meet the limits specified in this subpart.

(j) A summary of the data in paragraphs (a) through (d) of this section from the year preceding the reporting year. This summary gives the Administrator a summary of the performance of the municipal waste combustion unit over a 2-year period.

(k) If you choose to monitor carbon dioxide instead of oxygen as a diluent gas, documentation of the relationship between oxygen and carbon dioxide, as specified in § 60.1255.

(l) Documentation of periods when all certified chief facility operators and certified shift supervisors are offsite for more than 8 hours.

**§ 60.1415 What must I do if I am out of compliance with these standards?**

You must submit a semiannual report on any recorded emission or parameter level that does not meet the requirements specified in this subpart.

**§ 60.1420 If a semiannual report is required, when must I submit it?**

(a) For data collected during the first half of a calendar year, submit your semiannual report by August 1 of that year.

(b) For data you collected during the second half of the calendar year, submit your semiannual report by February 1 of the following year.

**§ 60.1425 What must I include in the semiannual out-of-compliance reports?**

You must include three items in the semiannual report:

(a) For any of the following six pollutants or parameters that exceeded the limits specified in this subpart, include the calendar date they exceeded the limits, the averaged and recorded data for that date, the reasons for

exceeding the limits, and your corrective actions:

(1) Concentration or percent reduction of sulfur dioxide emissions.

(2) For Class I municipal waste combustion units only, concentration of nitrogen oxides emissions.

(3) Concentration of carbon monoxide emissions.

(4) Load level of your municipal waste combustion unit.

(5) Temperature of the flue gases at the inlet of your particulate matter air pollution control device.

(6) Average 6-minute opacity level.

(b) If the results of your annual stack tests (as recorded in § 60.1360(a)) show emissions above the limits specified in table 1 of this subpart for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash, include a copy of the test report that documents the emission levels and your corrective actions.

(c) For municipal waste combustion units that apply activated carbon to control dioxin/furan or mercury emissions, include two items:

(1) Documentation of all dates when the 8-hour block average carbon feed rate (calculated from the carbon injection system operating parameter) is less than the highest carbon feed rate established during the most recent mercury and dioxin/furan stack test (as specified in § 60.1370(a)(1)). Include four items:

(i) Eight-hour average carbon feed rate.

(ii) Reasons for these occurrences of low carbon feed rates.

(iii) The corrective actions you have taken to meet the carbon feed rate requirement.

(iv) The calendar date.

(2) Documentation of each quarter when total carbon purchased and delivered to the municipal waste combustion plant is less than the total required quarterly usage of carbon. If you choose to evaluate total carbon purchased and delivered on a municipal waste combustion unit basis, record the total carbon purchased and delivered for each individual municipal waste combustion unit at your plant. Include five items:

(i) Amount of carbon purchased and delivered to the plant.

(ii) Required quarterly usage of carbon.

(iii) Reasons for not meeting the required quarterly usage of carbon.

(iv) The corrective actions you have taken to meet the required quarterly usage of carbon.

(v) The calendar date.

**§ 60.1430 Can reporting dates be changed?**

(a) If the Administrator agrees, you may change the semiannual or annual reporting dates.

(b) See § 60.19(c) in subpart A of this part for procedures to seek approval to change your reporting date.

**Air Curtain Incinerators That Burn 100 Percent Yard Waste**

**§ 60.1435 What is an air curtain incinerator?**

An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor.

**§ 60.1440 What is yard waste?**

Yard waste is grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs. They come from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands. Yard waste does not include two items:

(a) Construction, renovation, and demolition wastes that are exempt from the definition of "municipal solid waste" in § 60.1465 of this subpart.

(b) Clean wood that is exempt from the definition of "municipal solid waste" in § 60.1465 of this subpart.

**§ 60.1445 What are the emission limits for air curtain incinerators that burn 100 percent yard waste?**

(a) Within 60 days after your air curtain incinerator reaches the maximum load level at which it will operate, but no later than 180 days after its initial startup, you must meet two limits:

(1) The opacity limit is 10 percent (6-minute average) for air curtain incinerators that can combust at least 35 tons per day of municipal solid waste and no more than 250 tons per day of municipal solid waste.

(2) The opacity limit is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.

(b) Except during malfunctions, the requirements of this subpart apply at all times. Each malfunction must not exceed 3 hours.

**§ 60.1450 How must I monitor opacity for air curtain incinerators that burn 100 percent yard waste?**

(a) Use EPA Reference Method 9 to determine compliance with the opacity limit.

(b) Conduct an initial test for opacity as specified in § 60.8 of subpart A of this part.

(c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.

**§ 60.1455 What are the recordkeeping and reporting requirements for air curtain incinerators that burn 100 percent yard waste?**

(a) Provide a notice of construction that includes four items:

- (1) Your intent to construct the air curtain incinerator.
- (2) Your planned initial startup date.
- (3) Types of fuels you plan to combust in your air curtain incinerator.
- (4) The capacity of your incinerator, including supporting capacity calculations, as specified in § 60.1460 (d) and (e).

(b) Keep records of results of all opacity tests onsite in either paper copy or electronic format unless the Administrator approves another format.

(c) Keep all records for each incinerator for at least 5 years.

(d) Make all records available for submittal to the Administrator or for onsite review by an inspector.

(e) Submit the results (each 6-minute average) of the opacity tests by February 1 of the year following the year of the opacity emission test.

(f) Submit reports as a paper copy on or before the applicable submittal date. If the Administrator agrees, you may submit reports on electronic media.

(g) If the Administrator agrees, you may change the annual reporting dates (see § 60.19(c) in subpart A of this part).

(h) Keep a copy of all reports onsite for a period of 5 years.

**Equations**

**§ 60.1460 What equations must I use?**

(a) *Concentration correction to 7 percent oxygen.* Correct any pollutant concentration to 7 percent oxygen using the following equation:

$$C_{7\%} = C_{unc} * (13.9) * (1 / (20.9 - CO_2))$$

Where:

$C_{7\%}$  = concentration corrected to 7 percent oxygen.

$C_{unc}$  = uncorrected pollutant concentration.

$CO_2$  = concentration of oxygen (%).

(b) *Percent reduction in potential mercury emissions.* Calculate the percent reduction in potential mercury emissions (% $P_{Hg}$ ) using the following equation:

$$\%P_{Hg} = (E_i - E_o) * (100/E_i)$$

Where:

$\%P_{Hg}$  = percent reduction of potential mercury emissions

$E_i$  = mercury emission concentration as measured at the air pollution control device inlet, corrected to 7 percent oxygen, dry basis

$E_o$  = mercury emission concentration as measured at the air pollution control device outlet, corrected to 7 percent oxygen, dry basis

(c) *Percent reduction in potential hydrogen chloride emissions.* Calculate the percent reduction in potential hydrogen chloride emissions (% $P_{HCl}$ ) using the following equation:

$$\%P_{HCl} = (E_i - E_o) * (100/E_i)$$

Where:

$\%P_{HCl}$  = percent reduction of the potential hydrogen chloride emissions

$E_i$  = hydrogen chloride emission concentration as measured at the air pollution control device inlet, corrected to 7 percent oxygen, dry basis

$E_o$  = hydrogen chloride emission concentration as measured at the air pollution control device outlet, corrected to 7 percent oxygen, dry basis

(d) *Capacity of a municipal waste combustion unit.* For municipal waste combustion units that can operate continuously for 24-hour periods, calculate the municipal waste combustion units capacity based on 24 hours of operation at the maximum charge rate. To determine the maximum charge rate, use one of two methods:

(1) For municipal waste combustion units with a design based on heat input capacity, calculate the maximum charging rate based on this maximum heat input capacity and one of two heating values:

(i) If your municipal waste combustion unit combusts refuse-derived fuel, use a heating value of 12,800 kilojoules per kilogram (5,500 British thermal units per pound).

(ii) If your municipal waste combustion unit combusts municipal solid waste, use a heating value of 10,500 kilojoules per kilogram (4,500 British thermal units per pound).

(2) For municipal waste combustion units with a design not based on heat input capacity, use the maximum designed charging rate.

(e) *Capacity of a batch municipal waste combustion unit.* Calculate the capacity of a batch municipal waste combustion unit as the maximum design amount of municipal solid waste they can charge per batch multiplied by the maximum number of batches they can process in 24 hours. Calculate this maximum number of batches by dividing 24 by the number of hours needed to process one batch. Retain

fractional batches in the calculation. For example, if one batch requires 16 hours, the municipal waste combustion unit can combust 24/16, or 1.5 batches, in 24 hours.

(f) *Quarterly carbon usage.* If you use activated carbon to comply with the dioxin/furan or mercury limits, calculate the required quarterly usage of carbon using the appropriate equation for plant basis or unit basis:

(1) Plant basis.

$$C = \sum_{i=1}^n f_i * h_i$$

Where:

$C$  = required quarterly carbon usage for the plant in kilograms (or pounds).

$f_i$  = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour.

This is the average carbon feed rate during the most recent mercury or dioxin/furan stack tests (whichever has a higher feed rate).

$h_i$  = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours).

$n$  = number of municipal waste combustion units,  $i$ , located at your plant.

(2) Unit basis.

$$C = f * h$$

Where:

$C$  = required quarterly carbon usage for the unit in kilograms (or pounds).

$f$  = required carbon feed rate for the municipal waste combustion unit in kilograms (or pounds) per hour. This is the average carbon feed rate during the most recent mercury or dioxin/furan stack tests (whichever has a higher feed rate).

$h$  = number of hours the municipal waste combustion unit was in operation during the calendar quarter (hours).

**Definitions**

**§ 60.1465 What definitions must I know?**

Terms used but not defined in this section are defined in the Clean Air Act and in subparts A and B of this part.

*Administrator* means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or the Administrator of a State Air Pollution Control Agency.

*Air curtain incinerator* means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor.

**Batch municipal waste combustion unit** means a municipal waste combustion unit designed so it cannot combust municipal solid waste continuously 24 hours per day because the design does not allow waste to be fed to the unit or ash to be removed during combustion.

**Calendar quarter** means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

**Calendar year** means 365 (366 in leap years) consecutive days starting on January 1 and ending on December 31.

**Chief facility operator** means the person in direct charge and control of the operation of a municipal waste combustion unit. This person is responsible for daily onsite supervision, technical direction, management, and overall performance of the municipal waste combustion unit.

**Class I units** mean small municipal waste combustion units subject to this subpart that are located at municipal waste combustion plants with an aggregate plant capacity more than 250 tons per day of municipal solid waste. See the definition of "municipal waste combustion plant capacity" for specification of which units at a plant site are included in the aggregate capacity calculation.

**Class II units** mean small municipal waste combustion units subject to this subpart at municipal waste combustion plants with an aggregate plant capacity no more than 250 tons per day of municipal solid waste. See the definition of "municipal waste combustion plant capacity" for specification of which units at a plant site are included in the aggregate capacity calculation.

**Clean wood** means untreated wood or untreated wood products including clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood does not include two items:

- (1) Yard waste, which is defined elsewhere in this section.
- (2) Construction, renovation, or demolition wastes (for example, railroad ties and telephone poles) that are exempt from the definition of municipal solid waste in this section.

**Cofired combustion unit** means a unit that combusts municipal solid waste with nonmunicipal solid waste fuel (for example, coal, industrial process waste). To be considered a cofired combustion unit, the unit must be subject to a federally enforceable permit that limits it to combusting a fuel feed stream which is 30 percent or less (by weight) municipal solid waste as measured each calendar quarter.

**Continuous burning** means the continuous, semicontinuous, or batch feeding of municipal solid waste to dispose of the waste, produce energy, or provide heat to the combustion system in preparation for waste disposal or energy production. Continuous burning does not mean the use of municipal solid waste solely to thermally protect the grate or hearth during the startup period when municipal solid waste is not fed to the grate or hearth.

**Continuous emission monitoring system** means a monitoring system that continuously measures the emissions of a pollutant from a municipal waste combustion unit.

**Dioxins/furans** mean tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

**Eight-hour block average** means the average of all hourly emission concentrations or parameter levels when the municipal waste combustion unit operates and combusts municipal solid waste measured over any of three 8-hour periods of time:

- (1) 12:00 midnight to 8:00 a.m.
- (2) 8:00 a.m. to 4:00 p.m.
- (3) 4:00 p.m. to 12:00 midnight.

**Federally enforceable** means all limits and conditions the Administrator can enforce (including the requirements of 40 CFR parts 60, 61, and 63), requirements in a State's implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

**First calendar half** means the period that starts on January 1 and ends on June 30 in any year.

**Fluidized bed combustion unit** means a unit where municipal waste is combusted in a fluidized bed of material. The fluidized bed material may remain in the primary combustion zone or may be carried out of the primary combustion zone and returned through a recirculation loop.

**Four-hour block average or 4-hour block average** means the average of all hourly emission concentrations or parameter levels when the municipal waste combustion unit operates and combusts municipal solid waste measured over any of six 4-hour periods:

- (1) 12:00 midnight to 4 a.m.
- (2) 4 a.m. to 8 a.m.
- (3) 8 a.m. to 12:00 noon.
- (4) 12:00 noon to 4 p.m.
- (5) 4 p.m. to 8 p.m.
- (6) 8 p.m. to 12:00 midnight.

**Mass burn refractory municipal waste combustion unit** means a field-erected municipal waste combustion unit that combusts municipal solid waste in a refractory wall furnace. Unless

otherwise specified, this includes municipal waste combustion units with a cylindrical rotary refractory wall furnace.

**Mass burn rotary waterwall municipal waste combustion unit** means a field-erected municipal waste combustion unit that combusts municipal solid waste in a cylindrical rotary waterwall furnace.

**Mass burn waterwall municipal waste combustion unit** means a field-erected municipal waste combustion unit that combusts municipal solid waste in a waterwall furnace.

**Materials separation plan** means a plan that identifies a goal and an approach for separating certain components of municipal solid waste for a given service area in order to make the separated materials available for recycling. A materials separation plan may include three items:

- (1) Elements such as dropoff facilities, buy-back or deposit-return incentives, curbside pickup programs, or centralized mechanical separation systems.

- (2) Different goals or approaches for different subareas in the service area.

- (3) No materials separation activities for certain subareas or, if warranted, the entire service area.

**Maximum demonstrated load of a municipal waste combustion unit** means the highest 4-hour block arithmetic average municipal waste combustion unit load achieved during 4 consecutive hours in the course of the most recent dioxin/furan stack test that demonstrates compliance with the applicable emission limit for dioxins/furans specified in this subpart.

**Maximum demonstrated temperature of the particulate matter control device** means the highest 4-hour block arithmetic average flue gas temperature measured at the inlet of the particulate matter control device during 4 consecutive hours in the course of the most recent stack test for dioxin/furan emissions that demonstrates compliance with the limits specified in this subpart.

**Mixed fuel-fired (pulverized coal/refuse-derived fuel) combustion unit** means a combustion unit that combusts coal and refuse-derived fuel simultaneously, in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the unit where it is combusted in suspension. This includes both conventional pulverized coal and micropulverized coal.

**Modification or modified municipal waste combustion unit** means a municipal waste combustion unit you have changed later than 6 months after

promulgation of this subpart and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the unit (not including the cost of land) updated to current costs.

(2) Any physical change in the municipal waste combustion unit or change in the method of operating it that increases the emission level of any air pollutant for which standards have been established under section 129 or section 111 of the Clean Air Act. Increases in the emission level of any air pollutant are determined when the municipal waste combustion unit operates at 100 percent of its physical load capability and are measured downstream of all air pollution control devices. Load restrictions based on permits or other nonphysical operational restrictions cannot be considered in this determination.

*Modular excess-air municipal waste combustion unit* means a municipal waste combustion unit that combusts municipal solid waste, is not field-erected, and has multiple combustion chambers, all of which are designed to operate at conditions with combustion air amounts in excess of theoretical air requirements.

*Modular starved-air municipal waste combustion unit* means a municipal waste combustion unit that combusts municipal solid waste, is not field-erected, and has multiple combustion chambers in which the primary combustion chamber is designed to operate at substoichiometric conditions.

*Municipal solid waste or municipal-type solid waste* means household, commercial/retail, or institutional waste. Household waste includes material discarded by residential dwellings, hotels, motels, and other similar permanent or temporary housing. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes materials discarded by schools, by hospitals (nonmedical), by nonmanufacturing activities at prisons and government facilities, and other similar establishments or facilities. Household, commercial/retail, and institutional waste does include yard waste and refuse-derived fuel. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which include railroad ties and telephone poles); clean

wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff).

*Municipal waste combustion plant* means one or more municipal waste combustion units at the same location as specified under "Applicability" (§ 60.1015(a) and (b)).

*Municipal waste combustion plant capacity* means the aggregate municipal waste combustion unit capacity at a plant for all municipal waste combustion units at the plant that are subject to subparts Ea or Eb of this part, or this subpart.

*Municipal waste combustion unit* means any setting or equipment that combusts solid, liquid, or gasified municipal solid waste including, but not limited to, field-erected combustion units (with or without heat recovery), modular combustion units (starved-air or excess-air), boilers (for example, steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, air curtain incinerators, or fluidized bed-fired), and pyrolysis/combustion units. Two criteria further define these municipal waste combustion units:

(1) Municipal waste combustion units do not include pyrolysis or combustion units located at a plastics or rubber recycling unit as specified under "Applicability" (§ 60.1020(h) and (i)). Municipal waste combustion units also do not include cement kilns that combust municipal solid waste as specified under "Applicability" (§ 60.1020(j)). They also do not include internal combustion engines, gas turbines, or other combustion devices that combust landfill gases collected by landfill gas collection systems.

(2) The boundaries of a municipal waste combustion unit are defined as follows. The municipal waste combustion unit includes, but is not limited to, the municipal solid waste fuel feed system, grate system, flue gas system, bottom ash system, and the combustion unit water system. The municipal waste combustion unit does not include air pollution control equipment, the stack, water treatment equipment, or the turbine-generator set. The municipal waste combustion unit boundary starts at the municipal solid waste pit or hopper and extends through three areas:

(i) The combustion unit flue gas system, which ends immediately after the heat recovery equipment or, if there is no heat recovery equipment, immediately after the combustion chamber.

(ii) The combustion unit bottom ash system, which ends at the truck loading

station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.

(iii) The combustion unit water system, which starts at the feed water pump and ends at the piping that exits the steam drum or superheater.

*Particulate matter* means total particulate matter emitted from municipal waste combustion units as measured by EPA Reference Method 5 (§ 60.1300).

*Plastics or rubber recycling unit* means an integrated processing unit for which plastics, rubber, or rubber tires are the only feed materials (incidental contaminants may be in the feed materials). These materials are processed and marketed to become input feed stock for chemical plants or petroleum refineries. The following three criteria further define a plastics or rubber recycling unit:

(1) Each calendar quarter, the combined weight of the feed stock that a plastics or rubber recycling unit produces must be more than 70 percent of the combined weight of the plastics, rubber, and rubber tires that recycling unit processes.

(2) The plastics, rubber, or rubber tires fed to the recycling unit may originate from separating or diverting plastics, rubber, or rubber tires from municipal or industrial solid waste. These feed materials may include manufacturing scraps, trimmings, and off-specification plastics, rubber, and rubber tire discards.

(3) The plastics, rubber, and rubber tires fed to the recycling unit may contain incidental contaminants (for example, paper labels on plastic bottles or metal rings on plastic bottle caps).

*Potential hydrogen chloride emissions* means the level of emissions from a municipal waste combustion unit that would occur from combusting municipal solid waste without emission controls for acid gases.

*Potential mercury emissions* means the level of emissions from a municipal waste combustion unit that would occur from combusting municipal solid waste without controls for mercury emissions.

*Potential sulfur dioxide emissions* means the level of emissions from a municipal waste combustion unit that would occur from combusting municipal solid waste without emission controls for acid gases.

*Pyrolysis/combustion unit* means a unit that produces gases, liquids, or solids by heating municipal solid waste. The gases, liquids, or solids produced are combusted and the emissions vented to the atmosphere.

*Reconstruction* means rebuilding a municipal waste combustion unit and meeting two criteria:

(1) The reconstruction begins 6 months or more after [publication date of final rule].

(2) The cumulative cost of the construction over the life of the unit exceeds 50 percent of the original cost of building and installing the municipal waste combustion unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the municipal waste combustion unit used to calculate these costs, see the definition of municipal waste combustion unit.

*Refractory unit or refractory wall furnace* means a municipal waste combustion unit that has no energy recovery (such as through a waterwall) in the furnace of the municipal waste combustion unit.

*Refuse-derived fuel* means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

(2) Pelletized refuse-derived fuel.

*Same location* means the same or contiguous properties under common ownership or control, including those separated only by a street, road, highway, or other public right-of-way. Common ownership or control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, subdivision, or any combination thereof. Entities may include a municipality, other governmental unit, or any quasi-governmental authority (for example, a public utility district or regional authority for waste disposal).

*Second calendar half* means the period that starts on July 1 and ends on December 31 in any year.

*Shift supervisor* means the person who is in direct charge and control of operating a municipal waste combustion unit and who is responsible for onsite supervision, technical direction, management, and overall performance of the municipal waste combustion unit during an assigned shift.

*Spreader stoker, mixed fuel-fired (coal/refuse-derived fuel) combustion unit* means a municipal waste combustion unit that combusts coal and refuse-derived fuel simultaneously, in which coal is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above.

Combustion takes place both in suspension and on the grate.

*Standard conditions* when referring to units of measure mean a temperature of 20°C and a pressure of 101.3 kilopascals.

*Startup period* means the period when a municipal waste combustion unit begins the continuous combustion of municipal solid waste. It does not include any warmup period during which the municipal waste combustion unit combusts fossil fuel or other solid waste fuel but receives no municipal solid waste.

*Stoker (refuse-derived fuel) combustion unit* means a steam generating unit that combusts refuse-derived fuel in a semisuspension combusting mode, using air-fed distributors.

*Total mass dioxins/furans or total mass* means the total mass of tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans as determined using EPA Reference Method 23 and the procedures specified in § 60.1300.

*Twenty-four hour daily average or 24-hour daily average* means either the arithmetic mean or geometric mean (as specified) of all hourly emission concentrations when the municipal waste combustion unit operates and combusts municipal solid waste measured during the 24 hours between 12:00 midnight and the following midnight.

*Untreated lumber* means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Untreated lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

*Waterwall furnace* means a municipal waste combustion unit that has energy (heat) recovery in the furnace (for example, radiant heat transfer section) of the combustion unit.

*Yard waste* means grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs. They come from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands. Yard waste does not include two items:

(1) Construction, renovation, and demolition wastes that are exempt from the definition of "municipal solid waste" in this section.

(2) Clean wood that is exempt from the definition of "municipal solid waste" in this section.

**Table 1 of Subpart AAAA — Emission Limits For New Municipal  
Waste Combustion Units**

| <b>For these pollutants</b>                  | <b>You must meet these emission limits<sup>a</sup></b>   | <b>Using these averaging times</b>                    | <b>And determine compliance by these methods</b> |
|--|--|---|--|
| <b>Organics</b>                              |  |   |  |
| <b>Dioxins/furans<br/>(total mass basis)</b> | 13 nanograms per dry standard cubic meter  | 3-run average (minimum run duration is 4 hours)       | Stack test                                       |
| <b>Metals</b>                                |  |   |  |
| <b>Cadmium</b>                               | 0.020 milligrams per dry standard cubic meter  | 3-run average (run duration specified in test method) | Stack test                                       |
| <b>Lead</b>                                  | 0.20 milligrams per dry standard cubic meter   | 3-run average (run duration specified in test method) | Stack test                                       |
| <b>Mercury</b>                               | 0.080 milligrams per dry standard cubic meter<br>-or-<br>85 percent reduction of potential mercury emissions | 3-run average (run duration specified in test method) | Stack test                                       |
| <b>Opacity</b>                               | 10 percent   | Thirty 6-minute averages.                             | Stack test                                       |
| <b>Particulate matter</b>                    | 24 milligrams per dry standard cubic meter   | 3-run average (run duration specified in test method) | Stack test                                       |
| <b>Acid Gases</b>                            |  |   |  |
| <b>Hydrogen chloride</b>                     | 25 parts per million by dry volume<br>-or-<br>95 percent reduction of potential hydrogen chloride emissions  | 3-run average (minimum run duration is 1 hour)        | Stack test                                       |

<sup>a</sup>All emission limits measured at 7 percent oxygen.

**Table 1 of Subpart AAAA — Emission Limits For New Municipal Waste Combustion Units (Continued)**

| <b>For these pollutants</b>             | <b>You must meet these emission limits<sup>a</sup></b>  | <b>Using these averaging times</b>   | <b>And determine compliance by these methods</b> |
|---|---|--|--|
| <b>Acid Gases (Continued)</b>           |   |  |  |
| <b>Nitrogen oxides (Class I units)</b>  | 150 (180 for first year of operation) parts per million by dry volume                                     | 24-hour daily block arithmetic average concentration                               | Continuous emission monitoring system            |
| <b>Nitrogen oxides (Class II units)</b> | Not applicable  | Not applicable   | Not applicable                                   |
| <b>Sulfur dioxide</b>                   | 30 parts per million by dry volume<br>-or -<br>80 percent reduction of potential sulfur dioxide emissions | 24-hour daily block geometric average concentration<br>- or -<br>percent reduction | Continuous emission monitoring system            |
| <b>Other</b>                            |   |  |  |
| <b>Fugitive ash</b>                     | Visible emissions for no more than 5 percent of hourly observation period                                 | Three 1-hour observation periods   | Visible emission test                            |

<sup>a</sup>All emission limits are measured at 7 percent oxygen.

**Table 2 of Subpart AAAA — Carbon Monoxide Emission Limits  
For New Municipal Waste Combustion Units**

| <b>For these municipal waste combustion units</b>                   | <b>You must meet these carbon monoxide limits<sup>a</sup></b> | <b>Using these averaging times<sup>b</sup></b> |
|---|---|--|
| <b>Fluidized-bed</b>  | 100 parts per million by dry volume                           | 4-hour   |
| <b>Mass burn rotary refractory</b>                                  | 100 parts per million by dry volume                           | 4-hour   |
| <b>Mass burn rotary waterwall</b>                                   | 100 parts per million by dry volume                           | 24-hour  |
| <b>Mass burn waterwall and refractory</b>                           | 100 parts per million by dry volume                           | 4-hour   |
| <b>Mixed fuel-fired (pulverized coal/refuse-derived fuel)</b>       | 150 parts per million by dry volume                           | 4-hour   |
| <b>Modular starved-air and excess air</b>                           | 50 parts per million by dry volume                            | 4-hour   |
| <b>Spreader stoker, mixed fuel-fired (coal/refuse-derived fuel)</b> | 150 parts per million by dry volume                           | 24-hour daily                                  |
| <b>Stoker, refuse-derived fuel</b>                                  | 150 parts per million by dry volume                           | 24-hour daily                                  |

<sup>a</sup>All limits are measured at 7 percent oxygen. Compliance is determined by continuous emission monitoring systems.

<sup>b</sup>All averages are block averages. See §60.1465 for definitions.

**Table 3 of Subpart AAAA — Requirements For Validating  
Continuous Emission Monitoring Systems (CEMS)**

| <b>For these continuous monitoring systems</b> | <b>Use these methods to validate pollutant concentration levels</b> | <b>Use these methods to measure oxygen (or carbon dioxide)</b> |
|--|---|--|
| <b>Nitrogen oxides (Class 1 units only)</b>    | Method 7, 7A, 7B, 7C, 7D, or 7E                                     | Method 3 or 3A   |
| <b>Sulfur dioxide</b>                          | Method 6 or 6C  | Method 3 or 3A   |
| <b>Carbon monoxide</b>                         | Method 10, 10A, or 10B  | Method 3 or 3A   |

**Table 4 of Subpart AAAA — Requirements For Continuous Emission  
Monitoring Systems (CEMS)**

| <b>For these pollutants</b>                     | <b>Use these span values<br/>for your CEMS</b>   | <b>Use these<br/>performance<br/>specifications for<br/>your CEMS (from<br/>appendix B)</b> | <b>If needed to meet<br/>minimum data<br/>requirements, use<br/>these alternate<br/>methods to collect<br/>data</b> |
|---|--|---|---|
| <b>Opacity</b>                                  | 100 percent opacity  | P.S. 1  | Method 9  |
| <b>Nitrogen oxides<br/>(Class I units only)</b> | <b>Control device outlet:</b> 125<br>percent of the maximum<br>expected hourly potential<br>nitrogen oxides emissions of the<br>municipal waste combustion unit  | P.S. 2  | Method 19   |
| <b>Sulfur dioxide</b>                           | <b>Inlet to control device:</b> 125<br>percent of the maximum<br>expected sulfur dioxide<br>emissions of the municipal waste<br>combustion unit<br><b>Control device outlet:</b> 50<br>percent of the maximum<br>expected hourly potential sulfur<br>dioxide emissions of the<br>municipal waste combustion unit | P.S. 2  | Method 19   |
| <b>Carbon monoxide</b>                          | 125 percent of the maximum<br>expected hourly potential carbon<br>monoxide emissions of the<br>municipal waste combustion unit   | P.S. 4A   | Method 10 with<br>alternative<br>interference trap  |
| <b>Oxygen or<br/>carbon dioxide</b>             | 25 percent oxygen or 25 percent<br>carbon dioxide  | P.S. 3  | Method 3A or 3B   |

Table 5 of Subpart AAAA — Requirements For Stack Tests

| To measure these pollutants   | Use these methods to determine the sampling location | Use these methods to measure pollutant concentration | Also note the following additional information   |
|-------------------------------|--|--|--|
| <b>Organics</b>               |  |  |  |
| Dioxins/furans                | Method 1   | Method 23 <sup>a</sup>                               | The minimum sampling time must be 4 hours per test run while the municipal waste combustion unit is operating at full load.  |
| <b>Metals</b>                 |  |  |  |
| Cadmium                       | Method 1   | Method 29 <sup>a</sup>                               | Compliance testing must be performed while the municipal waste combustion unit is operating at full load.  |
| Lead                          | Method 1   | Method 29 <sup>a</sup>                               | Compliance testing must be performed while the municipal waste combustion unit is operating at full load.  |
| Mercury                       | Method 1   | Method 29 <sup>a</sup>                               | Compliance testing must be performed while the municipal waste combustion unit is operating at full load.  |
| Opacity                       | Not applicable                                       | Method 9   | Use Method 9 to determine compliance with opacity limit. 3-hour observation period (thirty 6-minute averages).   |
| Particulate matter            | Method 1   | Method 5 <sup>a</sup>                                | The minimum sample volume must be 1.7 cubic meters. The probe and filter holder heating systems in the sample train must be set to provide a gas temperature no greater than 160 ± 14°C. |
| <b>Acid Gases<sup>b</sup></b> |  |  |  |
| Hydrogen chloride             | Not applicable                                       | Method 26 <sup>a</sup>                               | Test runs must be at least 1 hour long.  |

<sup>a</sup>Must simultaneously measure oxygen (or carbon dioxide) using Method 3 or 3A.

<sup>b</sup>Use CEMS to test sulfur dioxide, nitrogen oxide, and carbon monoxide. Stack tests are not required except for Appendix F quality assurance requirements.

Table 5 of Subpart AAAA — Requirements For Stack Tests (Continued)

| To measure these pollutants | Use these methods to determine the sampling location | Use these methods to measure pollutant concentration | Also note the following additional information   |
|-----------------------------|--|--|--|
| <b>Other<sup>b</sup></b>    |  |  |  |
| Fugitive ash                | Not applicable                                       | Method 22 (visible emissions)                        | The three 1-hour observation period must include periods when the facility transfers fugitive ash from the municipal waste combustion unit to the area where the fugitive ash is stored or loaded into containers or trucks. |

<sup>a</sup>Must simultaneously measure oxygen (or carbon dioxide) using method 3 or 3A.

<sup>b</sup>Use CEMS to test sulfur dioxide, nitrogen oxide, and carbon monoxide. Stack tests are not required except for Appendix F quality assurance requirements.