supervisor of an affected faciltiy located within a large MWC plant shall obtain and keep current either a provisional or operator certification in accordance with ASME QRO–1–1994 (incorporated by reference, see § 60.17) or an equivalent State-approved certification program.

* * * * *

(f) * * *

(9) [Reserved]

* * * * *

7. Section 60.58a is amended by revising paragraphs (h)(1), (h)(2), (h)(6)(i), (h)(6)(ii), and (h)(10), redesignating paragraph (h)(6)(iii) as paragraph (h)(6)(v), adding new paragraphs (h)(6)(iii) and (h)(6)(iv), removing and reserving paragraph (j)(3), and revising paragraph (j)(4), to read as follows:

§ 60.58a Compliance and performance testing.

* * * * *

(h) * * *

(1) Compliance with the carbon monoxide emission limits in § 60.56a(a) shall be determined using a 4-hour block arithmetic average for all types of affected facilities except mass burn rotary waterwall MWC's, RDF stokers, and spreader stoker/RDF mixed fuel-fired combustors.

(2) For affected mass burn rotary waterwall MWC's, RDF stokers, and spreader stoker/RDF mixed fuel-fired combustors, compliance with the carbon monoxide emission limits in § 60.56a(a) shall be determined using a 24-hour daily arithmetic average.

* * * * *

(6) * * *

(i) The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam or feedwater flow in kilograms per hour (pounds per hour) on a continuous basis; and record the output of the monitor. Steam or feedwater flow shall be calculated in 4-hour block arithmetic averages.

(ii) The method included in ''American Society of Mechanical Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code 4.1—1964'', Section 4 (incorporated by reference, see § 60.17) shall be used for calculating the steam (or feedwater flow) required under paragraph (h)(6)(i) of this section. The recommendations of ''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, see § 60.17) shall be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified in (h)(6)(iii) of this section.

(iii) Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed.

(iv) All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan compliance and performance test, and at least once per year.

* * * * *

(10) At a minimum, valid CEMS data for carbon monoxide, steam or feedwater flow, and particulate matter control device inlet temperature shall be obtained 75 percent of the hours per day for 75 percent of the days per month the affected facility is operated and combusting MSW.

* * * * *

(j) * * *

(3) [Reserved]

(4) The MWC unit capacity shall be calculated using a design heating value of 10,500 kilojoules per kilogram (4,500 British thermal units per pound) for all MSW.

* * * * *

§ 60.59a [Amended]

8. Section 60.59a is amended by removing paragraphs (a)(1), (b)(14), (b)(15), and (m), and removing the third sentence of paragraph (e).

[FR Doc. 95–30254 Filed 12–18–95; 8:45 am]

BILLING CODE 6560–50–P

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40 CFR Part 60

[AD-FRL–5327–5]

RIN 2060–AD00

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources

Municipal Waste Combustors

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action adds standards of performance for new municipal waste combustor (MWC) units and emission guidelines for existing MWC's. The standards and guidelines implement sections 111 and 129 of the Clean Air Act and are based on the Administrator's determination that MWC's cause, or contribute significantly to, air pollution that may reasonably be anticipated to endanger public health or welfare. The standards and guidelines apply to MWC units at plants with aggregate capacities to combust greater than 35 megagrams per day (Mg/day) (approximately 40 tons per day) of municipal solid waste (MSW) and require sources to achieve emission levels reflecting the maximum degree of reduction in emissions of air pollutants that the Administrator determined is achievable, taking into consideration the cost of achieving such emission reduction, and any non-air-quality health and environmental impacts and energy requirements. The promulgated standards and guidelines establish emission levels for MWC organics (dioxins/furans), MWC metals (cadmium (Cd), lead (Pb), mercury (Hg), particulate matter (PM), and opacity), MWC acid gases (hydrogen chloride (HCl) and sulfur dioxide (SO_2)), nitrogen oxides (NO_X), and MWC fugitive ash emissions. Some of the pollutants being regulated are considered to be carcinogens and at sufficient concentrations can cause toxic effects following exposure. The standards and guidelines also establish requirements for MWC operating practices (carbon monoxide (CO), load, flue gas temperature at the PM control device inlet, and operator training/certification). Additionally, the standards for new MWC plants also require a siting analysis and materials separation plan.

DATES: *Effective Dates.* June 19, 1996 for the standards for new sources (§§ 60.50b through 60.59b) and December 19, 1995 for the emission guidelines for existing sources (§§ 60.30b through 60.39b). The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 19, 1996 for the standards for new sources. See table 3 of this preamble for a summary of the retrofit schedules for existing MWC sources. See **SUPPLEMENTARY INFORMATION** for a discussion of the schedule for judicial review.

Comments. Comments on the Information Collection Request (ICR) document associated with the final standards for new sources are requested, as discussed in section VI.B of this preamble. Comments on the ICR document must be received on or before February 20, 1996. Refer to Section VI.B for further information on this request for comment.

ADDRESSES: *Comments.* As noted above, comments on the ICR document

associated with the final standards for new source are requested. See section VI.B and the **SUPPLEMENTARY INFORMATION** section of this preamble for further information on obtaining a copy of the ICR document and addresses for submitting comments on the ICR document.

Background Information. The principal background information for the final standards and guidelines includes: (1) A background information document (BID) entitled, ''Municipal Waste Combustion: Background Information for Promulgated Standards and Guidelines—Summary of Public Comments and Responses'' (EPA–453/R–95–0136), which contains a summary of all the significant public comments submitted regarding the proposed standards and guidelines, the EPA's response to these comments, and a summary of the changes made to the standards and guidelines as a result of the comments; and (2) several technical documents listed under **SUPPLEMENTARY INFORMATION,** including all of the background information documents that supported the proposal and promulgation of the subpart Ea standards and subpart Ca guidelines. A document entitled ''FACT SHEET: New Municipal Waste Combustors—Subpart Eb Standards,'' which succinctly summarizes the final standards, and a document entitled ''FACT SHEET: Existing Municipal Waste Combustors—Subpart Cb Emission Guidelines,'' which succinctly summarizes the guidelines, are also available. See **SUPPLEMENTARY INFORMATION** for instructions and addresses for obtaining these documents.

Docket. Docket Nos. A–90–45 and A–89–08, containing supporting information used in developing the standards and guidelines, are available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday except for Federal holidays at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (Mail Code 6102), 401 M Street SW, Washington DC 20460 [phone: (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. Walter Stevenson at (919) 541–5264 or Mr. Fred Porter at (919) 541–5251, Combustion Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION:

Background Information.

On December 20, 1989, the EPA proposed standards and guidelines for MWC's in subparts Ea and Ca of 40 CFR 60, respectively. The subparts Ea and Ca were promulgated on February 11, 1991 and were developed under authority of paragraph (b) of section 111 of the Clean Air Act of 1977. The 1990 Amendments to the Clean Air Act required the EPA to review these emission standards and guidelines and determine if they were fully consistent with the requirements of section 129. The EPA reviewed the subpart Ea standards and subpart Ca guidelines and concluded that they were not fully consistent with the requirements of section 129. Therefore, the EPA proposed to revise the standards and guidelines in a September 20, 1994 proposal to make the standards and guidelines fully consistent with the requirements of section 129. Municipal waste combustors that begin construction after September 20, 1994 or that begin modification or reconstruction after June 19, 1996 and that meet all other applicability criteria are subject to the revised standards (subpart Eb). Municipal waste combustors that were constructed on or before September 20, 1994 and that meet all other applicability criteria are subject to the revised guidelines (subpart Cb). Municipal waste combustors that were constructed after December 20, 1989 and on or before September 20, 1994 and that meet all other applicability criteria are subject to both the subpart Ea standards (1991 standards for new sources) and the subpart Cb guidelines (1995 retrofit guidelines for existing sources). In this final rule, the EPA is withdrawing the subpart Ca guidelines (1991 guidelines for existing sources). In a separate action in today's Federal Register the EPA is publishing a direct final rule amending the text of subpart Ea.

This Federal Register final rule discusses: (1) The standards for new MWC's, (2) the guidelines for existing MWC's, (3) the withdrawal of the 1991 subpart Ca guidelines for existing MWC's, and (4) a request for public comment on the ICR document. This preamble and regulatory text are available on the EPA's Technology Transfer Network (TTN) electronic bulletin board. Also available on the EPA's TTN are FACT SHEETS, which summarize the final standards and guidelines. They are suggested reading for persons requiring an overview of the standards and guidelines. The FACT SHEETS can also be obtained by calling Donna Collins at (919) 541–5578. The TTN contains 18 electronic bulletin boards, and the following 5 items are included in the Clean Air Act Amendments (CAAA) bulletin board under menu item ''Recently Signed Rules'' in file ''MWC2.ZIP'':

(1) ''FACT SHEET: New Municipal Waste Combustors—Subpart Eb Standards (1995).''

(2) ''FACT SHEET: Existing Municipal Waste Combustors—Subpart Cb Emission Guidelines (1995).''

(3) Federal Register notice for this promulgation: ''Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Municipal Waste Combustors'' (this document).

(4) ''Municipal Waste Combustion: Background Information for Promulgated Standards and Guidelines—Summary of Public Comments and Responses,'' EPA–453/R–95–0136.

(5) Information Collection Request document for these standards for new sources: ''Standard Form 83 Supporting Statement for ICR No. 1506.5—1995 Standards for New Municipal Waste Combustors (Subpart Eb),'' September 29, 1995.

The TTN is accessible 24 hours per day, 7 days per week except Monday morning from 8:00 a.m. to 12:00 p.m. when the system is updated. The service is free except for the cost of the phone call. Dial (919) 541–5742 to access the TTN. The TTN is compatible with up to a 14,400 bits-per-second (bps) modem. An alternative way to access the TTN is by ''telenet,'' using access code ''ttnbbs.rtpnc.epa.gov''. Further instructions for accessing the TTN can be obtained by calling the help desk at (919) 541–5384.

Documents in the Docket. The background information for today's promulgation includes all of the documents that supported the proposal and promulgation of the subpart Ea standards and subpart Ca guidelines (docket No. A–90–45 and docket No. A–89–08). Key background information documents used in developing the subpart Ea standards, the subpart Ca guidelines, and today's promulgated standards and guidelines are as follows:

(1) ''Municipal Waste Combustors—Background Information for Proposed Standards: 111(b) Model Plant Description and Cost Report,'' EPA–450/3–89–27b, August 1989;

(2) ''Municipal Waste Combustors—Background Information for Proposed Standards: Post-Combustion Technology Performance,'' EPA–450/3–89–27c, August 1989;

(3) ''Municipal Waste Combustion Assessment: Combustion Control at

Existing Facilities,'' EPA–600/8–89–057, August 1989;

(4) ''Municipal Waste Combustion Assessment, Technical Basis for Good Combustion Practices,'' EPA–600/8–89–063, August 1989;

(5) ''Municipal Waste Combustors—Background Information for Proposed Standards: Control of NO_X Emissions,'' EPA–450/3–89–27d, August 1989;

(6) ''Municipal Waste Combustors—Background Information for Proposed Standards: Cost Procedures,'' EPA–450/3–89–27a, August 1989;

(7) ''Economic Impact Analysis for Proposed Emission Standards and Guidelines for Municipal Waste Combustors,'' EPA–450/3–91–029, March 1994;

(8) ''Municipal Waste Combustors—Background Information for Proposed Guidelines for Existing Facilities,'' EPA–450/3–89–27e, August 1989;

(9) ''Municipal Waste Combustion: Background Information for Promulgated Standards and Guidelines—Summary of Public Comments and Responses,'' EPA–453/R–95–0136, 1995.

These documents and additional technical information are contained in dockets A–90–45 and A–89–08. Docket materials are available for inspection and copying as described in the ADDRESSES section of this preamble.

Judicial Review. Under section 307(b)(1) of the Clean Air Act, judicial review of the actions taken by this notice is available by filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this rule. Under section 307(b)(2) of the Clean Air Act, the requirements that are in today's notice may not be challenged later in the civil or criminal proceedings brought by the EPA to enforce these requirements (42 U.S.C. 7607(b)).

Preamble Outline. The following outline is provided to aid in locating information in the introductory text (preamble) to the final standards and guidelines.

I. Acronyms, Abbreviations, and Measurement Units

The following definitions, acronyms, and measurement units are provided to clarify the preamble to the final standards and guidelines.

A. Acronyms

ASME American Society of Mechanical Engineers
BID Background Information Document
CEMS continuous emissions monitoring system(s)
COMS continuous opacity monitoring system(s) dioxins/furans polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans
DSI dry sorbent injection
EPA U.S. Environmental Protection Agency
ESP electrostatic precipitator
FF fabric filter
GCP good combustion practices
ICR information collection request
MACT maximum achievable control technology
MSW municipal solid waste
MWC municipal waste combustor
MWI medical waste incinerator
NSR New Source Review
NO_X nitrogen oxides
OAQPS Office of Air Quality Planning Standards
OMB Office of Management and Budget
PM particulate matter
RDF refuse-derived fuel
RFA Regulatory Flexibility Act
SD spray dryer
SNCR selective noncatalytic reduction
TEQ basis 2,3,7,8-tetrachlorinated dibenzo-p-dioxin toxic equivalent based on the 1989 international toxic equivalency factors

B. Abbreviations and Measurement Units

°C=degrees Celsius (degrees Fahrenheit=°C*9/5+32)
Cd=cadmium
CO=carbon monoxide
CO_2=carbon dioxide
dscf=dry standard cubic feet (at 14.7 pounds per square inch, 68 °F)
dscm=dry standard cubic meters (at 14 pounds per square inch, 68 °F)
g=gram (454 grams per pound)
g/yr=grams per year
gr=grains (7,000 grains per pound)
HCl=hydrogen chloride
Hg=mercury
kg=kilogram (0.454 kilograms per pound)
kg/yr=kilograms per year
m3=cubic meter (35.3 cubic feet per cubic meter)
mg=milligrams (10^{-3} grams)
Mg=megagram (1.1 tons)
Mg/d=megagrams per day
Mg/yr=megagrams per year
ng=nanogram (10^{-9} grams)
Pb=lead
ppmv=parts per million by volume
SO_2=sulfur dioxide
tons/d=tons per day
tons/yr=tons per year
total mass basis (dioxins/furans=total mass of tetra- through octa-chlorinated dibenzo-p-dioxins and dibzofurans

II. Background and Withdrawal of the 1991 Subpart Ca Emission Guidelines

By the mid-1980's, several studies had been performed to determine whether MWC emissions should be regulated and, if so, under what section of the Clean Air Act. As set forth in the Advanced Notice of Proposed Rulemaking (52 FR 25399, July 7, 1987), the EPA decided to regulate air emissions from MWC's under section 111 of the Clean Air Act, and to base the

regulation on best demonstrated technology, as required by section 111. On December 20, 1989, the EPA proposed standards for new MWC's and guidelines for existing MWC's (54 FR 52251 and 54 FR 52209, respectively). On November 15, 1990, 1990 Amendments to the Clean Air Act were enacted and added section 129 to the Clean Air Act. Section 129 of the Clean Air Act specifies that revised standards and guidelines must be developed for MWC's in accordance with the requirements of both section 111 and new section 129. Section 129 further specifies that revised standards and guidelines be developed for both large and small MWC plants and that the revised standards and guidelines must reflect more restrictive performance levels. Section 129 includes a schedule for revising the 1991 standards and guidelines.

When the EPA did not comply with the section 129 schedule, the Sierra Club, the Natural Resources Defense Council, and the Integrated Waste Services Association filed complaints with the U.S. District Court for the Eastern District of New York. The resulting consent decree required the EPA Administrator to sign a notice of proposed rulemaking not later than September 1, 1994 and a notice of promulgation not later than October 31, 1995 (Nos. CV–92–2093, CV–93–0284, and CV–93–5144). The proposal notice for the standards and guidelines was signed as scheduled and published on September 20, 1994 (59 FR 48198 and 59 FR 48228, respectively). This notice responds to the requirement for the Administrator to sign the final standards and guidelines by October 31, 1995.

The standards and guidelines promulgated on February 11, 1991 (56 FR 5488 and 56 FR 5514, respectively) apply to only large MWC's (capacities above 225 Mg/day) and reflect best demonstrated technology. Today's notice promulgates revised standards and guidelines that are fully consistent with sections 111 and 129 of the Clean Air Act and extend coverage of the revised standards and guidelines to MWC units located at MWC plants with aggregate plant capacity above 35 Mg/day.

Today's promulgated standards for new sources are more stringent than the standards promulgated on February 11, 1991. Today's promulgated standards will apply to plants for which construction commenced after September 20, 1994 or for which reconstruction or modification commenced after June 19, 1996. The guidelines will apply to all MWC's constructed prior to September 20, 1994. The February 11, 1991 subpart Ea standards will remain in effect for plants constructed, modified, or reconstructed between December 20, 1989 and September 20, 1994. Sources subject to the February 11, 1991 subpart Ea standards are also subject to the guidelines being promulgated today under subpart Cb. In some cases, the promulgated subpart Cb guidelines are more stringent than the existing subpart Ea standards. The control technologies being used to meet the emission limits included in the 1991 subpart Ea standards will be able to comply with the promulgated subpart Cb guidelines, except supplemental controls would be required to reduce Hg emissions and fugitive ash emissions. The direct final rule also being published in today's Federal Register will provide consistency between the subpart Ea and Cb rules.

Today's promulgated guidelines under subpart Cb for existing sources are more stringent than the guidelines promulgated under subpart Ca on February 11, 1991. Today's promulgated guidelines will apply to MWC's for which construction commenced on or before September 20, 1994. Today's promulgated guidelines are based on maximum achievable control technology, or MACT, and will require MWC plants to purchase and install different types of air pollution control equipment than the best demonstrated technology-based guidelines promulgated in 1991 under subpart Ca. In consideration of public comments, which supported the withdrawal of subpart Ca, and to satisfy the MACT requirements of section 129 of the Clean Air Act, the EPA is withdrawing the 1991 subpart Ca guidelines as a part of today's action.

III. Summary of Considerations in Developing the 1995 Standards for New Sources and Guidelines for Existing Sources

A. Purpose of the Standards and Guidelines

Under sections 111 and 129 of the Clean Air Act, the EPA is required to develop and adopt performance standards and guidelines for MWC's. Congress specifically added section 129 to the Clean Air Act to address public concerns about MWC's and other solid waste combustion units. Under section 111, performance standards and guidelines must be developed for new and existing stationary sources that may contribute to air pollution and that may reasonably be anticipated to endanger public health or welfare. Under section 129 of the Clean Air Act, the standards and guidelines adopted for MWC's must be based on MACT.

Independent of Clean Air Act requirements, the general public is concerned about emissions from all sources including MWC's. This is understandable considering (1) about two-thirds of the MWC population is located in air quality nonattainment areas with high population densities, and (2) the EPA's 1994 MWC Dioxin Survey identified a limited number of older poorly controlled MWC's with atypically high dioxin/furan emissions (interim corrective actions have been taken at these MWC's).

The MWC industry has aggressively controlled new MWC plants built since 1990, and almost half of the existing population currently is equipped with high efficiency air pollution control equipment. The other older half of the population has control equipment with lower efficiency. As mentioned earlier, health effects are associated with many of the pollutants emitted from MWC's, and the standards and guidelines being promulgated today will bring all MWC units up to the same high performance level.

The EPA estimates that in the United States, there are about 307 operating MWC units at 128 plants, providing a total U.S. MSW combustion capacity of about 94,000 Mg/day. Approximately 16 percent of MSW generated in the United States is combusted.

Emissions from MWC's contain organics (dioxins/furans), metals (Cd, Pb, Hg, PM, and opacity), acid gases (Hcl and SO_2), and NO_X. These pollutants can have adverse effects on both public health and welfare. The EPA recently released a draft report reassessing the health effects of human exposure to dioxins/furans. In the draft report, which is currently undergoing review, MWC's are identified as one source of dioxin/furan emissions. Other MWC emissions of principal concern include Pb, Cd, and Hg. Acid gas and NO_X emissions contribute to acid rain when emissions of SO_2 and NO_X are chemically transformed in the atmosphere into sulfuric and nitric acids and return to earth as wet deposition such as rain, fog, or snow, or as dry deposition such as fine particles or gases. Acid deposition damages lakes and harms forests and buildings. Nitrogen oxides also contribute to low-level ozone and urban area smog formation.

Today's standards and guidelines are set forth as emission limits and will significantly reduce MWC emissions.

B. Technical Basis of Standards and Guidelines

Section 129(a)(2) of the Clean Air Act requires the revised standards for new MWC's and revised guidelines for existing MWC's to reflect the maximum degree of reduction in emissions of designated air pollutants, taking into consideration the cost of achieving such emission reduction, and any non-air-quality health and environmental impacts and energy requirements that the Administrator determines are achievable for a particular category of sources. (This control level is commonly referred to as the ''maximum achievable control technology, or ''MACT''.) Section 129 also provides that standards for new sources may not be less stringent than the emissions control achieved in practice by the best controlled similar unit. This is commonly referred to as the ''MACT floor'' for new MWC units. Additionally, section 129 provides that the emission limitations in the guidelines for existing MWC's may not be less stringent than the average emission limitations achieved by the best performing 12 percent of units in the category. This is commonly referred to as the ''MACT floor'' for existing MWC units. Emission control options less stringent than the MACT floor can not be considered in developing section 129 standards and guidelines.

Technical data on the number and size of MWC's, control technologies in use, permit emission limits, and emission test data were used to determine the MACT floor for new and existing MWC's and to define control alternatives. The types of data EPA considered in selecting final standards and guidelines included the following: (1) Over 100 MWC plant-specific questionnaires; (2) emissions information from literature, and State and local agencies; and (3) EPA and industry test reports. Overall, the EPA used performance test data from over 60 MWC plants to develop the standards and guidelines. After proposal, the EPA reviewed additional data submitted with public comments on the proposal and data that EPA gathered from States and industry. Based on the new information, the EPA reviewed both the proposed MACT determinations for new and existing MWC's and the regulatory alternatives. The reassessment of the standards and guidelines in light of the new data resulted in the EPA revising the MACT emission rates for some pollutants.

The most significant changes to the standards and guidelines since proposal are summarized in sections IV.B and V.B., respectively, of this preamble. The rationales for these changes as well as other changes are summarized in the preamble and discussed in more detail in the BID. In keeping with the Administrator's ''reinventing government'' initiative, several of the changes to the guidelines and standards were made to streamline the regulations and provide increased flexibility while optimizing environmental control by using common sense initiatives. Examples of these changes include the following: (1) Reduced dioxin/furan testing for MWC plants with low dioxin/furan emission levels; (2) NO_X guidelines for large MWC plants that allow plants to use an emissions averaging plan to demonstrate compliance for two or more existing MWC units located at the same facility; (3) clarification of siting requirements for new MWC's; (4) providing additional time for MWC operators to obtain operator training and certification; (5) replacing quarterly reporting with annual reporting (semiannual reporting if noncompliance); (6) revised text to clarify that the regulations do not apply to MWC plants with combustion capacity less than 35 Mg/day; (7) exemption for plants firing small amounts of MSW (10 Mg/day or less); (8) exemption for combustion of clean wood; and (9) allowing certain records to be maintained in either electronic or paper format without duplication. All of these changes are discussed further in sections IV and V of this preamble, and represent changes that improve the effectiveness and efficiency of the standards and guidelines without any reduction in environmental protection.

C. Stakeholders and Public Involvement

Prior to proposal, in accordance with section 117 of the Clean Air Act, the EPA consulated with advisory committees, independent experts, Federal departments and agencies, and owners, operators, and manufacturers of MWC's. Numerous discussions were held with governmental entities, industry representatives, and environmental groups including, but not limited to, the following groups: the U.S. Conference of Majors, the National League of Cities, the National Association of Counties, the Municipal Waste Management Association, the Solid Waste Association of North America, the Integrated Waste Services Association, the Sierra Club, and the Natural Resources Defense Council.

The standards and guidelines being adopted today were proposed in the Federal Register on September 20, 1994 (59 FR 48198 and 59 FR 48228, respectively). The preambles for the proposed standards and guidelines describe the rationale for the proposed standards and guidelines. After proposal, the EPA provided interested persons the opportunity to comment through a written comment period. The public comment period was from September 20, 1994 to November 21, 1994. Comments were received from private citizens, industry representatives, environmental groups, and governmental entities. The comments have been carefully considered, and changes have been made in the standards and guidelines where appropriate. Sections IV and V of this preamble discuss the major revisions to the standards and guidelines to address the commenters' concerns.

IV. Standards of Performance for New Sources (1995)—Summary of the Standards, Impacts of the Standards, and Significant Issues and Changes to the Proposed Standards

This section presents a summary of the final standards, including identification of the source category and pollutants being regulated, and presentation of the final emission limits and their associated performance testing, monitoring, recordkeeping and reporting requirements. This section also discusses the most significant changes to the proposed standards. Also discussed are the impacts of the final standards.

A. Summary of the Standards

The final standards (subpart Eb) apply to each new MWC unit located at an MWC facility that has an aggregate plant capacity to combust over 35 Mg/day of MSW, for which construction commenced after September 20, 1994 or modification or reconstruction commenced after June 19, 1996. Municipal waste combustors that commenced construction on or before September 20, 1994 are not covered under the subpart Eb standards. Municipal waste combustors constructed on or before September 20, 1994 are considered existing sources and are subject to the guidelines that are addressed in section V of this notice.

An MWC is defined as any setting or equipment that combusts MSW including air curtain incinerators. Municipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification. The MWC unit includes any type of setting or equipment including combustion equipment with or without heat recovery.

Municipal solid waste is defined as a mixture or a single-item waste stream of household, commercial, and/or institutional discards. This would include materials such as paper, yard waste, plastics, leather, rubber, glass, metals, and other combustible and noncombustible materials. The final MSW definition is revised slightly from proposal to make it clear that MSW does not include used motor oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (including but not limited to railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles. Although these wastes are not MSW, they can be intermixed with MSW and can be combusted in MWC plants. The regulations do not prohibit their combustion. The definition of MSW includes RDF, which is municipal solid waste that is shredded (or pelletized) before combustion. Any medical, industrial, or other type of waste combustor plant with capability to combust greater than 35 Mg/day of MSW and is in compliance with a federally enforceable permit to combust less than 10 Mg/day of MSW is not covered by this standard. Furthermore, cofired MWC plants that combust less than 30 percent MSW (on a calendar quarter basis) are exempt. A summary of the final standards is presented in table 1. In table 1, significant revisions made since proposal are marked with an asterisk (*) and are discussed in section IV.B.

TABLE 1.—SUMMARY OF STANDARDS FOR NEW MWC'S (SUBPART EB)[a]

[* indicates a significant change since proposal and the change is discussed in this preamble]

Applicability	
The final standards apply to new MWC units located at plants with capacities to combust greater than 35 Mg/day of residential, commercial, and/or institutional discards. Industrial manufacturing discards are not covered by the standards. Any medical, industrial manufacturing, municipal, or other type of waste combustor plant with capacity to combust greater than 35 Mg/day of MSW and with a federally enforceable permit to combust less than 10 Mg/day of MSW is not covered.*	
Plant Size (MSW combustion capacity)	Requirement.
≤35 Mg/day*	Not covered by standards.
>Mg/day but ≤225 Mg/day (referred to as small MWC plants)	Subject to provisions listed below.
>225 Mg/day (referred to as large MWC plants)	Subject to provisions listed below.

Good Combustion Practices

- Applies to large and small MWC plants.
- A site-specific operator training manual is required to be developed and made available for MWC personnel.
- The EPA or State MWC operator training course must be completed by the MWC chief facility operator, shift supervisors, and control room operators.
- The ASME (or State-equivalent) operator certification must be obtained by the MWC chief facility operator (mandatory), shift supervisors (mandatory), and control room operators (optional).*
- The MWC load level is required to be measured and not to exceed 110 percent of the maximum load level measured during the most recent dioxin/furan performance test.
- The PM control device inlet flue gas temperature is required to be measured and not to exceed the temperature 17 °C above the maximum temperature measured during the most recent dioxin/furan performance test.
- The CO level is required to be measured using CEMS, and the concentration in the flue gas is required not to exceed the following:

MWC type	CO level	Averaging time (hours)
Modular starved-air and excess-air	50 ppmv	4
Mass burn waterwall and refractory	100 ppmv	4
Mass burn rotary refractory	100 ppmv	4
Fluidized-bed combustion	100 ppmv	4
Pulverized coal/RDF mixed fuel-fired	150 ppmv*	4
Spreader stoker coal/RDF mixed fuel-fired	150 ppmv*	24
RDF stoker	150 ppmv	24
Mass burn rotary waterwall	100 ppmv	24
MWC Organic Emissions (measured as total mass dioxins/furans):		
• Dioxins/furans (performance test by EPA Reference Method 23)		
Large and small MWC plants	13 ng/dscm total mass (mandatory) or 7 ng/dscm total mass (optional to qualify for less frequent testing).*[b]	

MWC type	CO level	Averaging time (hours)
• Basis for dioxin/furan limit	GCP and SD/FF/carbon injection.	
MWC Metal Emissions:		
• PM (performance test by EPA Reference Method 5)		
Large and small MWC plants	24 mg/dscm (0.010 gr/dscf).*	
• Opacity (performance test by EPA Reference Method 9)		
Large and small MWC plants	10 percent (6-minute average)	
• Cd (performance test by EPA Reference Method 29)		
Large and small MWC plants	0.020 mg/dscm (8.7 gr/million dscf).*	
• Pb (performance test by EPA Reference Method 29)		
Large and small MWC plants	0.20 mg/dscm (87 gr/million dscf).*	
• Hg (performance test by EPA Reference Method 29)		
Large and small MWC plants	0.080 mg/dscm (35 gr/million dscf) or 85-percent reduction in Hg emissions	
• Basis for PM, opacity, Cd, Pb, and Hg limits		
Large and small MWC plants	See basis for dioxin/furan limit	
MWC Acid Gas Emissions:		
• SO_2 (performance test by CEMS)		
Large and small MWC plants	30 ppmv or 80-percent reduction in SO_2 emissions	
• HCl (performance test by EPA Reference Method 26)		
Large and small MWC plants	25 ppmv or 95-percent reduction in HCl emissions	
• Basis for SO_2 and HCl limits	See basis for dioxin/furan limit..	
Nitrogen Oxides Emissions:		
• NOx (performance test by CEMS)		
Large MWC plants	150 ppmv, except 180 ppmv is allowed for the first year of operation.*	
Small MWC plants	No NO_X control requirement	
• Basis for NO_X limit		
Large MWC plants	SNCR	
Small MWC plants	No NO_X control requirement.	

MWC type	CO level	Averaging time (hours)
Fugitive Ash Emissions:		
• Fugitive emissions (performance test by EPA Reference Method 22) Large and small MWC plants	Visible emissions less than 5 percent of the time from the ash transfer system except during maintenance and repair activities.*.	
• Basis for fugitive emissions limit	Wet ash handling or enclosed ash handling.	
Siting Requirements:		
• Large and small MWC plants	(1) Siting analysis*, (2) materials separation plan, and (3) public meetings (including response to comments)	
Performance Testing and Monitoring Requirements:		
• Reporting frequency	Annual (semi-annual if violation).*	
• Load, flue gas temperature	Continuous monitoring, 4-hour block arithmetic average.	
• CO	CEMS, 4-hour block or 24-hour daily arithmetic average, as applicable.	
• Dioxins/furans, PM, Cd, Pb, HC1, and Hg Large MWC plants	Annual stack test (see reduced testing option for low emitters of dioxins/furans).*	
Small MWC plants	Annual or third year stack test.*	
• Opacity	COMS (6-minute average) and annual stack test.	
• SO_2	CEMS, 24-hour daily geometric mean.	

MWC type	CO level	Averaging time (hours)
• NO_X (large MWC plants only)	CEMS, 24-hour daily arithmetic average.	
• Fugitive ash emissions	Annual test.	

*=a significant change since proposal, and the change is discussed in this preamble.
[a] All concentration levels in the table are corrected to 7 percent O_2, dry basis.
[b] Although not part of the dioxin/furan limit, the limit of 13 ng/dscm total mass is equal to about 0.1 to 0.3 ng/dscm TEQ. The optional reduced testing limit of 7 ng/dscm total mass is equal to about 0.1 to 0.2 ng/dscm TEQ.

B. *Significant Issues and Changes to the Proposed Standards* (Issues were marked with the ''*'' symbol in table 1)

The most significant changes to the standards since proposal are discussed below. Additional rationales for these changes, as well as other changes being made are provided in the promulgation BID (EPA–453/R–95–0136). Some of the changes made that are not discussed below include GCP requirements, monitoring requirements, and reporting and recordkeeping requirements.

1. Applicability

At proposal, an MWC plant of 35 Mg/day capacity that cofired 30 percent (10 Mg/day) or less MSW would have been exempt from the standards. This 30 percent cofiring provision was retained in the final rule. Additionally, a 10 Mg/day exemption has been added to the final rule to exempt all combustion units independent of size that fire only a small amount of MSW. In the final standards, any medical, industrial manufacturing, or other type of waste combustor capable of combusting more than 35 Mg/day MSW but actually combusting less than 10 Mg/day of MSW is not subject to this rule, provided it submits an initial report containing a copy of the plant's federally enforceable permit limiting the amount of MSW that may be combusted by the plant to less than 10 Mg/day and keeps records on the daily weight of MSW fired.

At proposal, a cofired combustor was defined as a unit combusting a fuel feed stream where 30 percent or less was comprised of MSW, as measured on a 24-hour daily basis. Several commenters expressed concern about a cofired status determination being made on a daily basis. For example, some facilities that burn biomass material including yard waste would have difficulty making a determination of cofired status on a daily basis. Biomass material including yard waste (which is MSW) and clean wood (which is not MSW) are often collected together and stored on- or off-site for a period of time and intermixed before being combusted. In such cases, it is difficult or impossible to determine what percentage of the waste combusted daily was yard waste. After considering the public comments, the EPA determined that the definition of cofired combustor should be revised to allow for measuring the percent MSW burned on a calendar quarterly basis. This change is consistent with current waste refuse storage and recordkeeping procedures.

Also under the proposal, MWC plants of 25 to 35 Mg/day capacity were required to submit an initial notification of construction, but they were not subject to the proposed standards or guidelines. Only MWC plants greater than 35 Mg/day capacity were covered by the proposal. As part of the Administrator's ''reinventing government'' initiative, the initial notification requirement for MWC plants between 25 and 35 Mg/day capacity was removed from the final rule to minimize the reporting requirement for smaller plants. This change reduced reporting and recordkeeping requirements for both the MWC and the EPA, but did not reduce the level of environmental protection provided by the standards and guidelines being adopted today.

Under the proposed standards, clean wood was included in the definition of MSW. Several commenters disagreed with this decision to cover clean wood under the MWC standards. Under the final rule, clean wood is not considered to be MSW. Clean wood includes untreated wood or untreated wood products including clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood is exempt from the definition of MSW because available data indicate that combustion of clean wood results in low emission of dioxins/furans, Hg, and other pollutants. Clean wood is predominantly an agricultural, industrial, or other nonmunicipal solid waste; regulation of the combustion of these types of wastes is currently being addressed under a separate rulemaking. Clean wood does not include yard waste, which is covered by the final MWC standards; yard waste includes grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs that are generated by residential, commercial/retail, institutional, or nonmanufacturing industrial sources as part of maintenance activities associated with yards or other private or public lands.

2. Emission Limits for MWC Metals, Acid Gases, Organics, Nitrogen Oxides, and Ash Fugitive Emissions

Many commenters expressed concern as to whether the proposed emission limits for all regulated pollutants are actually achievable by an MWC. These commenters noted that no single MWC existed with all the controls proposed as MACT (SD/FF/SNCR and carbon injection) and the standards may not be achievable. Since proposal, the EPA has obtained data from 12 new MWC units at 5 MWC plants that have recently begun operation and all are equipped with the full set of controls proposed as MACT (SD/FF/SNCR and carbon injection). Data from these plants show that all proposed emission limits for all pollutants are simultaneously being achieved. Therefore, the EPA remains convinced that properly designed, constructed, maintained, and operated MWC plants can comply with all pollutant emission limits included in the final standards.

For new sources, the MACT floor for each regulated pollutant was established as the emission level achievable by the best controlled source. To determine new source MACT for proposal, the EPA evaluated the performance of SD/FF/SNCR/carbon injection. Since proposal, the EPA obtained additional information regarding the performance of the control technologies determined to be MACT (SD/FF/SNCR/carbon injection). Based on the new information and a reevaluation of the data used for proposal, the EPA revised the achievable performance levels for PM, Cd, Pb, Hg, dioxins/furans, and NO_X. Changes to the MACT floor levels and the selected MACT standards resulting from these reevaluations are discussed below.

a. *MWC Acid Gases.* The MACT floor levels and selected MACT emission limits for MWC acid gases are the same as proposed.

b. *MWC Metals.* Based on comments and data received since proposal, the EPA reassessed the achievable performance levels for PM, Cd, and Pb by SD/FF systems. Based on this reassessment of available data, the selected PM, Cd, and Pb MACT emission limits were revised. For both large and small plants, the PM MACT floor and selected MACT limit were revised to 24 mg/dscm (proposal was 15 mg/dscm). The Cd MACT floor and selected MACT limit were revised to 0.020 mg/dscm (proposal was 0.010 mg/dscm). The Pb MACT floor and selected MACT limit were revised to 0.20 mg/dscm (proposal was 0.10 mg/dscm). The selected MACT limits for all three pollutants were revised because, based on available data, emission levels more stringent than these levels are not considered to be continuously achievable.

The final MACT limits for Hg emissions for large and small plants remain at the same levels as proposed (0.080 mg/dscm or an 85 percent reduction in Hg emissions); however, the MACT floor level was revised. At proposal, the MACT floor for Hg was based on use of an SD/FF system combined with GCP. Carbon injection was not commercially operational at any MWC. At proposal, MACT for Hg was based on use of an SD/FF system in combination with carbon injection. This MACT selection was based on evaluation of emission reductions, costs, and other factors, as described in the proposal preamble (59 FR 48198, September 20, 1994). Several commenters questioned the selection of an Hg MACT limit based on carbon injection when carbon injection was not commercially operated. Since proposal, data have become available for 12 new MWC units initiating operation using carbon injection commercially, and all were meeting the proposed Hg limits. Since carbon injection is now in commercial operation, the EPA revised the final MACT floor for Hg to be based on SD/FF in combination with carbon injection and GCP.

c. *MWC Organics.* The final emission limits for dioxins/furans for new MWC's remain at the same level as proposed; however, the technology basis for the floor level of control has been changed. As discussed in section IV.B.2.b regarding MWC metals (Hg), the EPA reviewed new data received since proposal and concluded that SD/FF combined with GCP and carbon injection is the best emission control technology being used by MWC's for Hg and dioxin/furan control, and is, therefore, the basis of the final MACT floor. The data gathered prior to proposal as well as data for new units operating with these controls show that a dioxin/furan level of 13 ng/dscm is achievable. The final MACT emission limit for dioxins/furans for new units at both large and small plants is equal to the MACT floor and remains at 13 ng/dscm (total mass basis).

The format of the final dioxin/furan emission limit changed from the proposed format. The EPA proposed a dual format for the dioxin/furan emission limit (total or TEQ) and requested comments on the use of this dual format. No commenters agreed with the dual format as proposed. The EPA has selected total mass dioxin/furan emissions in the final standards. The TEQ format is not used. There is no indication that TEQ's would be a better measure of emissions control performance than total dioxins/furans. Furthermore, most test data on which the standards are based were expressed as total dioxins/furans. Additionally, because there have been different methods for calculating TEQ over time and the ratio of total dioxins/furans to TEQ dioxins/furans varies among MWC's, there would be additional uncertainty in using a TEQ data base. Refer to the promulgation preamble (56 FR 5504) for the 1991 subpart Ea standards for additional discussion.

Although not part of the dioxin/furan limit, the limit of 13 ng/dscm total mass is equal to about 0.1 to 0.3 ng/dscm TEQ.

In addition to the final dioxin/furan limit of 13 ng/dscm, a provision has been added to the final standards allowing less frequent dioxin/furan testing for new plants achieving dioxin/furan emission levels lower than 7 ng/dscm. Data for new MWC's using SD/FF/SNCR/carbon injection technology suggest this is a realistic goal for many new MWC's and will encourage MWC's to optimize performance of pollution control systems. Refer to section IV.B.7 for a description of the alternative dioxin/furan testing schedule.

d. *Nitrogen Oxides.* As explained at proposal (59 FR 48198, September 20, 1994), the combination of SD/FF, GCP, and SNCR was the basis of the new source MACT floor for NO_X. These technologies remain the basis for the final NO_X MACT floor. Since proposal, the EPA has obtained additional NO_X data showing that large MWC plants equipped with SNCR can continuously achieve an emission level of 150 ppmv over a 24-hour averaging period. The new data were obtained from the same plant that was the basis of the proposed NO_X emission level of 180 ppmv. The new data are representative of what NO_X emission level can be achieved after a plant has had a period of time to adjust to operation with the SNCR system. Applications of SNCR typically require some site-specific fine-tuning to achieve optimum performance levels. Based on the revised data, a two-phase standard is being adopted. The final NO_X standard for MWC's at large plants allows time to ''fine-tune'' the SNCR system. The final standard for MWC's at large plants is 180 ppmv (24-hour averaging period) for the first year of operation, and 150 ppmv (24-hour averaging period) thereafter.

The final standards do not require NO_X control for MWC's at small plants.

e. *MWC Fugitive Ash Emissions.* The proposed fugitive ash emission limit allowed no visible emissions from ash handling and transfer points. Several commenters objected to the proposed level of no visible emissions. The commenters were concerned that even where the best ash management practices such as wetting the ash or enclosing transfer systems, there may be short periods of time when visible emissions are observed, such as during maintenance. The proposal was based on about 16 hours of method 22 visible emissions data for ash handling practices at two MWC plants and observations (not using method 22) at two additional MWC plants. Since proposal, the EPA has reviewed visible emission data from other industries that use similar transfer systems. Based on comments received and the review of additional data, the final fugitive ash emission limit was revised to limit visible emissions to no more than 5 percent of the time.

As part of the final fugitive ash emission requirements, an exemption has been provided during maintenance and repair activities, because these necessary activities may require opening of an enclosure that could generate short-term visible emissions.

3. Good Combustion Practices

The proposed standards included CO limits for nine categories of combustor technologies, including, among others, RDF stoker combustors and coal/RDF mixed fuel-fired combustors. Commenters requested clarification on which CO limit applies to a stoker unit that is designed to combust coal and RDF but only combusts RDF. Under the final standards, a spreader stoker unit burning RDF only or cofiring RDF with coal would be subject to the proposed RDF stoker CO limit. To clarify this

requirement, the final CO requirements include an additional category of combustor technology referred to as ''spreader stoker coal/RDF mixed fuel-fired combustors,'' which are assigned the same CO limit and averaging time as RDF stoker combustors (150 ppmv, 24-hour averaging time). The final standards further clarify that the category of combustors referred to in the proposed standards as coal/RDF mixed fuel-fired combustors only includes pulverized coal/RDF mixed fuel streams, and the CO limit and averaging time remains the same as proposed (150 ppmv, 4-hour averaging time).

4. Operator Training and Certification

The proposed standards required full ASME certification of chief facility operators and shift supervisors within 6 months of startup of an affected MWC. Various commenters including ASME pointed out that the proposed standards did not include sufficient time for ASME to conduct full certification exams for all MWC operators. After considering these comments, the EPA revised the operator training requirements to allow additional time for ASME (or State) certification exams. In the final standards, chief facility operators and shift supervisors at new MWC plants must obtain ASME or State-approved provisional certification within 1 year after promulgation or 6 months after startup, whichever is later. In addition, by this same date (1 year after promulgation or 6 months after startup, whichever is later), the same personnel must be either fully certified or scheduled with ASME or the State to take a full certification exam (instead of actually obtaining full certification within 1 year, as proposed).

5. Air Curtain Incinerators

No changes were made to the proposed standards for air curtain incinerators. As discussed above in section IV.B.1, the final standards do not cover combustion of clean wood; therefore, air curtain incinerators combusting only clean wood are not covered by the standards.

6. Siting Analysis/Materials Separation Plan

Various commenters said the proposed siting analysis was not consistent with section 129 of the Clean Air Act. Commenters also argued that the proposed siting requirements were either too stringent or not stringent enough. The siting analysis in the final rule has been reworded to allow for a consideration of alternatives, on a site-specific basis, to minimize to the maximum extent practicable potential risks to the public health or the environment. These changes ensure consistency with section 129(a)(3) of the Clean Air Act.

7. Compliance and Performance Testing

Both the proposed and final standards require all plants to perform annual performance tests for dioxin/furan emissions. However, a provision for less frequent dioxin/furan testing has been added to the final rule to encourage MWC plants to achieve emission levels significantly lower than 13 ng/dscm. By achieving low dioxin/furan emissions, they would qualify for less frequent testing and thereby reduce their testing costs. If all MWC units at an MWC plant achieve 7 ng/dscm dioxins/furans or less during performance testing for 2 consecutive years of operation, the plant can elect to conduct dioxin/furan testing on one unit per year. The plant must test units in sequence (e.g., a 3-unit plant would test unit 1 (year 1), unit 2 (year 2), unit 3 (year 3), unit 1 (year 4), etc.). If an annual performance test conducted on any unit indicates total dioxin/furan emissions are greater than 7 ng/dscm, the plant must revert to testing all units annually beginning the following year until the 2-year compliance record is reestablished.

For small plants, two options are provided. The one-unit incentive schedule discussed above is provided for dioxin/furan testing. An alternative 3-year testing option is also provided for small plants. The alternative 3-year testing option allows small plants to conduct performance tests for dioxins/furans, as well as PM, HCl, Cd, Pb, and Hg only once every 3 years if the plant demonstrates compliance with all pollutant emission limits for 3 consecutive years and continues to demonstrate compliance every third year. The owner or operator of a small plant may choose either option for performance testing.

8. Reporting and Recordkeeping Requirements

Reporting requirements have been changed from quarterly as proposed to annual (semiannual if any emission limits or operating parameters are violated) to reduce the burden on affected plants. In recognition of the cost associated with reporting requirements, the EPA reconsidered the effectiveness of quarterly versus annual reporting for the purpose of determining compliance. After careful reconsideration, the EPA has concluded that annual reporting will provide adequate information for most plants. [The EPA notes, however, that once an MWC is required to obtain a Title V Operating Permit, the Title V reporting requirements given in Section 504(a) of the Act will supersede the annual reporting requirements presented above. Section 504(a) requires permittees to submit monitoring reports to the permitting authority no less often than every six months. See 42 U.S.C. 7661c(a).]

C. Impacts of the Standards

The final standards can be achieved by utilizing any technology. The basis for the MACT-based limits at both proposal and promulgation remain the combination of GCP/SD/FF and carbon injection for new large and small plants, and the additional use of SNCR at large plants. Because the technology basis for the final standards is the same as at proposal, the impacts analysis presented at proposal has not been revised. Table 2 provides a brief summary of the air and cost impacts of the standards. The summary in table 2 provides impacts estimates relative to two baseline scenarios: a pre-1989 baseline (typical control prior to the 1991 subpart Ea standards) and a 1991 baseline (typical control under the 1991 subpart Ea standards). Refer to the preamble to the proposed standards (59 FR 48198) for a detailed summary of these air and control cost impacts, as well as a discussion of the water, solid waste, energy, and economic impacts of the rule. The national impacts estimates provided in table 2 and discussed in the proposal preamble represent the EPA's estimate of the worst case of impacts that would result from implementation of the standards. Recent data suggest a reduction in the construction of new MWC's. This would reduce the cost of the standards.

TABLE 2.—IMPACTS OF THE CURRENT SUBPART EA AND PROMULGATED SUBPART EB STANDARDS

Parameter	Increment of promulgated standards over the 1991 standards	1991 Standards [a]	Total [b]
New MWC's subject to Standards in the Fifth Year After Promulgation:			
Combustion capacity (10^6 Mg/yr)	0.8	16.8	17.6
Number of MWC plants	24	48	72
Cost (1990 Dollars):			
Capital cost ($10^6)	156	613	769
Annualized cost ($10^6/yr)	43	157	200
Average cost increase ($/Mg MSW combusted)	1.95	11.55	13.50
Annual Emissions Reduction (Mg/yr):			
SO_2	3,000	35,000	38,000
Hcl	4,000	46,000	50,000
PM	800	5,700	6,500
Cd	1	9	10
Pb	17	140	157
Hg	18	9	27
No_x	200	10,300	10,500
Total dioxins/furans (kg/yr)	1	28	29

[a] The impacts are based on a pre-1989 baseline (i.e., a baseline prior to the effective date of the subpart Ea standards.
[b] The total impacts are calculated by adding the incremental impacts of the promulgated standards (subpart Eb) to the impacts of the 1991 standards (subpart Ea). These impacts would be equivalent to the total impacts of the promulgated standards over a pre-1989 baseline.

A number of comments were received on the possible effects on EPA's costing analysis following the recent Supreme Court decision that ''flow control'' is unconstitutional. The EPA considered the effect of flow control on the financing of new MWC's. In summary, the EPA finds that if tipping fees are raised to cover the increased costs of these regulations, then the lack of ''flow control'' requirements will likely result in fewer MWC's being constructed and a shift of wastes to other disposal options. The impacts of the flow control decision is likely to be very place-specific depending on the relative tipping fees of MWC's and other disposal options, transportation costs, and institutional factors.

V. Guidelines for Existing Sources (1995)—Summary of the Guidelines, Impacts of the Guidelines, and Significant Issues and Changes to the Proposed Guidelines

This section presents a summary of the final guidelines, including identification of the source category and pollutants being regulated, and presentation of the final emission limits and their associated performance testing, monitoring, recordkeeping, and reporting requirements and compliance schedules. This section also provides a discussion of the most significant issues and changes to the proposed guidelines. Also mentioned are the impacts of the final guidelines.

The EPA strongly believes (based on emissions data from MWC's which incorporate the necessary control technology) that the air pollution control technology to be retrofitted to existing MWC's to meet the emission guidelines will reduce actual emissions to levels significantly below the limits established by the emission guidelines. There remains, however, some uncertainty as to the actual performance level that will be achieved on a continuous basis by the control technology when installed at large MWC plants where ESP-based scrubber systems are used. Therefore, the dioxin/furan emission limits included in the emission guidelines for some types of MWC's, while still significantly below the MACT floor, are slightly less stringent than those included in the proposal.

The EPA will track the implementation of the guidelines and annual performance test results in order to monitor the level of emissions including dioxin/furan control actually achieved by the guidelines. Additionally, the EPA may conduct supplemental dioxin/furan tests. The EPA will also meet with MWC owners and operators as needed to review the performance of the air pollution control technology and the effectiveness of maintenance and operational practices in order to provide information that will lead to optimal performance of emission control technology, and will work with MWC owners and operators to assure a continued high level of public safety.

A. Summary of the Guidelines

The final guidelines require States to develop emission regulations limiting air emissions from each existing MWC unit located at a MWC plant that has an aggregate plant capacity to combust more than 35 Mg/day of MSW, for which construction commenced on or before September 20, 1994.

The aggregate design capacity of all existing MWC's at an MWC plant shall be considered in determining: (1) Whether a plant is subject to the guidelines; and (2) what control levels are applicable. The capacity of new MWC's (i.e., those that commenced construction after September 20, 1994 or that commenced modification or reconstruction after June 19, 1996 that are located at the MWC plant are not considered in determining applicability of the guidelines but would be considered in determining the applicability of subpart Eb (standards for new sources). Only MWC units constructed before September 20, 1994 are considered for determining the applicability of the guidelines. Modification of an existing MWC (or funds spent) to comply with the emission guidelines would not be considered in determining if an existing MWC unit was subject to the standards for new MWC's (subpart Ea or Eb).

Municipal waste combustion plants with a federally enforceable permit to combust less than 10 Mg/day of MSW are exempt from the requirements of the guidelines as long as they submit a notification of exemption and keep daily records of the weight of MSW combusted.

Cofired combustors (i.e., that combust less than 30 percent MSW) located at a plant with an aggregate plant capacity greater than 35 Mg/day are exempt from the requirements of the guidelines as

long as they submit a notification of exemption and keep records of the weight of MSW combusted on a calendar quarter basis.

The definitions of MWC and MSW have been revised but are the same for the guidelines as for the standards, and are discussed in the summary of the standards in section IV.A of this notice.

A summary of the final guidelines is presented in table 3.

TABLE 3. SUMMARY OF GUIDELINES FOR EXISTING MWC'S (SUBPART CB) [a]

[* indicates a significant change since proposal and the change is discussed in this preamble]

Applicability	
The final guidelines apply to existing MWC's located at plants with capacities to combust greater than 35 Mg/day of residential, commercial, and/or institutional discards. Industrial manufacturing discards are not covered by the guidelines. Any medical, industrial manufacturing, municipal, or other type of waste combustor plant with capacity to combust greater than 35 Mg/day of MSW and with a federally enforceable permit to combust less than 10 Mg/day of MSW is not covered.*	
Plant Size (MSW combustion capacity)	Requirement
<35 Mg/day*	Not covered by guidelines.
> 35 Mg/day but ≥225 Mg/day (referred to as small MWC plants)	Subject to provisions listed below.
> 225 Mg/day (referred to as large MWC plants)	Subject to provisions listed below.
Good Combustion Practices	
• Applies to large and small MWC plants.	
• A site-specific operator training manual is required to be developed and made available for MWC personnel.	
• The EPA or a State MWC operator training course would be required to be completed by the MWC chief facility operator, shift supervisors, and control room operators.	
• The ASME (or State-equivalent) provisional and full operator certification must be obtained by the MWC chief facility operator (mandatory), shift supervisors (mandatory), and control room operators (optional).*	
• The MWC load level is required to be measured and not to exceed 110 percent of the maximum load level measured during the most recent dioxin/furan performance test.	
• The maximum PM control device inlet flue gas temperature is required to be measured and not to exceed the temperature 17°C above the maximum temperature measured during the most recent dioxin/furan performance test.	
• The CO level is required to be measured using a CEMS, and the concentration in the flue gas is required not to exceed the following:	

MWC type	CO level	Averaging time (hours)
Modular starved-air and excess-air	50 ppmv	4
Mass burn waterwall and refractory	100 ppmv	4
Mass burn rotary refractory	100 ppmv	24
Fluidized-bed combustion	100 ppmv	4
Pulverized coal/RDF mixed fuel-fired	150 ppmv*	4
Spreader stoker coal/RDF mixed fuel-fired	200 ppmv*	24
RDF stoker	200 ppmv	24
Mass burn rotary waterwall	250 ppmv	24

MWC Organic Emissions (measured as total mass dioxins/furans):	
• Dioxins/furans (performance test by EPA Reference Method 23)	
Large MWC plants	
MWC units utilizing an ESP-based air pollution control system	60 ng/dscm total mass (mandatory) or 15 ng/dscm total mass (optional to qualify for less frequent testing).* [c]
MWC units utilizing a nonESP-based air pollution control system	30 ng/dscm total mass (mandatory) or 15 ng/dscm total mass (optional to qualify for less frequent testing).* [c]
Small MWC plants	125 ng/dscm total mass (mandatory) or 30 ng/dscm total mass (optional to qualify for less frequent testing).* [c]
• Basis for dioxin/furan limits	
Large MWC plants	GCP and SD/ESP or GCP and SD/FF, as specified above.
Small MWC plants	GCP and DSI/ESP.
MWC Metal Emissions:	
• PM (performance test by EPA Reference Method 5)	
Large MWC plants	27 mg/dscm (0.012 gr/dscf).
Small MWC plants	70 mg/dscm (0.030 gr/dscf).*
• Opacity (performance test by EPA Reference Method 9)	
Large and small MWC plants	10 percent (6-minute average)
• Cd (performance test by EPA Reference Method 29)	
Large MWC plants	0.040 mg/dscm (18 gr/million dscf).
Small MWC plants	0.10 mg/dscm (44 gr/million dscf).
• Pb (performance test by EPA Reference Method 29)	
Large MWC plants	0.49 mg/dscm (200 gr/million dscf).*
Small MWC plants	1.6 mg/dscm (700 gr/million dscf).
• Hg (performance test by EPA Reference Method 29)	
Large and small MWC plants	0.080 mg/dscm (35 gr/million dscf) or 85-percent reduction in Hg emissions.
• Basis for PM, opacity, Cd, Pb, and Hg limits	
Large MWC plants	GCP and SD/ESP/CI or GCP and SD/FF/CI

Small MWC plants	GCP and DSI/ESP/CI.
MWC Acid Gas Emissions:	
• SO_2 (performance test by CEMS)	
Large MWC plants	31 ppmv or 75-percent reduction in SO_2 emissions.*
Small MWC plants	80 ppmv or 50-percent reduction in SO_2 emissions.
• HCl (performance test by EPA Reference Method 26)	
Large MWC plants	31 ppmv or 95-percent reduction in HCl emissions.*
Small MWC plants	250 ppmv or 50-percent reduction in HCl emissions.
• Basis for SO_2 and HCl limits	
Large and small MWC plants	See basis for MWC metals.
Nitrogen Oxides Emissions	
• NO_X (performance test by CEMS)	
Large MWC plants:	
Mass burn waterwall	200 ppmv[b].
Mass burn rotary waterwall	250 ppmv[b].
Refuse-derived fuel combustor	250 ppmv[b].
Fluidized bed combustor	240 ppmv[b].
Mass burn refractory	No NO_X control[b] requirement
Other	200 ppmv[b].
Small MWC plants	No NO_x control requirement.
• Basis for NO_x limits	
Large MWC plants	SNCR.
Refractory MWC plants	No NO_X control requirement
Small MWC plants	No NO_X control requirement.
Fugitive Ash Emissions:	
• Fugitive Emissions (performance test by EPA Reference Method 22)	
Large and small plants	Visible emissions 5 percent of the time from ash transfer systems except for maintenance and repair activities.*
• Basis for fugitive emission limit	Wet ash handling or enclosed ash handling.
Performance Testing and Monitoring Requirements:	
• Reporting frequency	Annual (semiannual if violation)*.
• Load, flue gas temperature	Continuous monitoring, 4-hour block arithmetic average
• CO	CEMS, 4-hour block or 24-hour daily arithmetic average, as applicable
• Dioxins/furans, PM, Cd, Pb, HCl, and Hg	
Large MWC plants	Annual stack test.*
Small MWC plants	Annual or third year stack test.
• Opacity	COMS (6-minute average) and annual stack test.
• SO_2	CEMS, 24-hour daily geometric mean.
• NO_X (large MWC plants only)	CEMS, 24-hour daily arithmetic average.
• Fugitive ash emissions	Annual test.*
Compliance Schedule:	
• Large MWC plants State plans are required to include one of the following three retrofit schedules for compliance with regulatory requirements: (1) Full compliance or closure within 1 year following EPA approval of the State plan; (2) full compliance in 1 to 3 years following issuance of a revised construction or operation permit if a permit modification is required or 1 to 3 years following EPA approval of the State plan if a permit modification is not required, provided the State plan includes measurable and enforceable incremental steps of progress toward compliance; or (3) closure in 1 to 3 years following approval of the State plan, provided the State plan includes a closure agreement. If a State plan allows the second or third scheduling options (i.e., more than 1 year), the State plan submitted to EPA must contain post-1990 test data for dioxins/furans for all MWC units at large plants under the extended schedule. (See §60.21(h) of subpart B of 40 CFR 60 for additional information relating to measurable and enforceable incremental steps of progress toward compliance).	
• Small MWC plants State plans must require full compliance or closure with regulatory requirements in 3 years or less following issuance of a revised construction or operation permit if a permit modification is required, or within 3 years following EPA approval of the State plan if a permit modification is not required.	
• State plans are required to specify that all MWC's at large MWC plants for which construction was commenced after June 26, 1987 comply with the guidelines for Hg and dioxins/furans within 1 year following issuance of a revised construction or operation permit if a permit modification is required, or within 1 year following EPA approval of the State plan, whichever is later.	
• State plans are required to specify that owners or operators of MWC's comply with the operator training and certification requirements by 6 months after startup or 1 year after State plan approval by the EPA, whichever is later, for large plants and by 6 months after startup or 18 months after State plan approval by the EPA, whichever is later, for small plants.	

*=significant change since proposal, and the change is discussed in this preamble.

[a] All concentration levels in the table are converted to 7 percent O_2, dry basis.

[b] State plans may allow NO_X emissions averaging between existing MWC units at a large MWC plant. The daily weighted average NO_X emissions concentration from the MWC units included in the emissions averaging plan must comply with the following 24-hour limits: 180 ppmv for mass burn waterwall combustors; 220 ppmv for mass burn rotary waterwall combustors; 230 ppmv for refuse-derived fuel combustors; 220 ppmv for fluidized bed combustors; and 180 ppmv for other combustor types (excluding mass burn refractory combustors). Refer to the regulatory text of the emission guidelines for additional requirements. State plans may also establish a program to allow emissions trading between non-contiguous MWC plants. Such a program shall meet the requirements of the Open Market Trading Rule of Ozone Smog Precursors, proposed August 3, 1995 (60 FR 39668) as finally promulgated.

[c] Although not part of the dioxin/furan limit, the dioxin/furan total mass limits of 30 ng/dscm, 60 ng/dscm, and 125 ng/dscm are equal to about 0.3 to 0.8 ng/dscm TEQ, 0.7 to 1.4 ng/dscm TEQ, and 1.7 to 2.9 ng/dscm TEQ, respectively. The optional reduced testing limits of 15 ng/dscm and 30 ng/dscm total mass are equal to about 0.1 to 0.3 ng/dscm TEQ and 0.3 to 0.8 ng/dscm TEQ, respectively.

B. Significant Issues and Changes to the Proposed Guidelines

The most significant changes to the proposed guidelines are discussed below. Rationales for these changes as well as other changes not discussed below are provided in the promulgation BID (EPA–453/R–95–0136). Issues not discussed below include additional changes to GCP requirements, monitoring requirements, recordkeeping and reporting requirements, and compliance schedules.

1. Designated Facilities

Under the final guidelines, any medical, municipal, industrial manufacturing, or other type of waste combustion plant capable of combusting greater than 35 Mg/day MSW but actually combusting less than 10 Mg/day of MSW is not a designated facility, as long as the plant submits an initial report and keeps certain records. This exemption was not included in the proposed guidelines. This exemption is identical to the exemption in the standards for new sources. Section IV.B.1 provides further discussion of the exemption.

Under the final guidelines, a cofired combustor is defined as a unit combusting a fuel feed stream 30 percent or less MSW, as measured on a calendar quarterly basis. At proposal, determination of status as a cofired combustor was measured on a daily basis. This change is identical to the change made in the standards. Refer to section IV.B.1 for further discussion on the change.

The initial reporting requirement in the proposed guidelines for MWC plants with combustion capacity greater than 25 Mg/day but less than or equal to 35 Mg/day is not included in the final guidelines. Both the proposed and final guidelines exempt plants with capacity less than 35 Mg/day. Also, an exemption for combustion of clean wood or clean wood products is included in the final guidelines. This exemption is identical to the exemption in the standards. Refer to section IV.B.1 for discussion of EPA's rationale for this exemption.

2. Emission Limits for MWC Metals, Acid Gases, Organics, and Nitrogen Oxides, and Ash Fugitive Emissions

For existing MWC's, the MACT floor levels and the emission limits for several pollutants have been revised since proposal. See the proposal preamble (59 FR 48228, September 20, 1994), the promulgation BID (EPA–453/R–95–0136), and docket A–90–45 for additional details on the MACT floor analysis methodology and the selection of MACT.

Since proposal, the EPA revised the MACT floors for existing plants based on new permit information received and an updated inventory of operating MWC plants. This revision resulted in revised MACT floor levels for various pollutants for small and large MWC plants. The revised MACT floor pollutant levels for large plants have resulted in more stringent MACT emission limits for SO_2, HCl, and Pb. In addition, the revised MACT floors and emission limits for NO_X for large plants include emission levels based on combustor type. Revisions to the MACT floor that resulted in revisions to the selected MACT level of control for specific pollutants are discussed below.

While the final emission limits are somewhat different from proposal, the limits can be achieved using the same control technologies that were the basis of the proposed emission limits. The technology bases for large and small plants are summarized in table 3.

a. *MWC Acid Gases.* Based on the new information and test data received after proposal and the revised MACT floor analysis, the EPA revised the MACT limits for SO_2 and HCl for the final guidelines for large plants.

The revised SO_2 MACT floor for large plants is 31 ppmv. The final SO_2 emission limit for large plants, which was set at the MACT floor level of 35 ppmv at proposal, is 31 ppmv because of the change in the MACT floor at promulgation.

The MACT-based SO_2 limit of 80 ppmv for small plants has not changed from proposal; however, the SO_2 MACT floor for small plants is revised to 98 ppmv. Because the revised floor is more stringent than the proposal floor (the floor at proposal was 118 ppmv), the EPA's conclusion that acid gas controls will be needed to achieve the floor remains the same. In addition, the EPA's conclusion that a lower emission rate of 80 ppmv is achievable at minimal cost also remains the same. Therefore, the final SO_2 emission limit for small plants remains at 80 ppmv.

The revised HCl MACT floor for large plants is 31 ppmv. The final HCl emission limit for large plants, which was set at the MACT floor level of 35 ppmv at proposal, is 31 ppmv because of the change in the MACT floor at promulgation.

b. *MWC Metals.* Based on the new information and test data received after proposal and the revised MACT floor analysis, the Pb limit for large plants was revised for the final guidelines. The proposed Pb MACT emission level for large plants was 0.50 mg/dscm; however, the revised Pb MACT floor emission level for large plants is 0.49 mg/dscm. Therefore, the final Pb emission limit for large plants has been revised to 0.49 mg/dscm.

c. *MWC Organics.* The dioxin/furan emission limits for large and small plants were revised since proposal. The MACT floor for dioxins/furans for MWC's at large plants is 126 ng/dscm total mass. As documented in the preambles to these proposed guidelines (59 FR 48228, September 20, 1994) and the promulgated subpart Ca guidelines (56 FR 5514, February 11, 1991), in combination with GCP, SD/ESP systems can achieve dioxin/furan total mass emissions of 60 ng/dscm and SD/FF systems can achieve dioxin/furan total mass emissions of 30 ng/dscm. Therefore, the MACT floor of 126 ng/dscm can be achieved with either SD/ESP or SD/FF systems.

When determining the final MACT standard (which may be more stringent than the MACT floor), section 129(a)(2) requires the Administrator to consider certain factors, including the cost of achieving the emission reduction. In the Administrator's judgment, it would be prohibitively expensive and unreasonable to require existing MWC's with ESP's that can meet a dioxin/furan emission limit of 60 ng/dscm to retrofit an SD/FF in order to achieve an additional 30 ng/dscm reduction in emissions. For example, at a typical 1,400 Mg/day MWC plant already equipped with an SD/ESP, the capital cost to remove the ESP and retrofit a new FF would be about $14 million. This cost would be in addition to paying the remaining debt for a relatively new ESP (about $5 million including interest payments) and would result in a relatively small increase in control device efficiency.

For the final rule, the Administrator considered several regulatory options more stringent than the MACT floor; however, because of this high pollution control device retrofit cost, the Administrator decided to set separate MACT limits for MWC's with ESP-based control systems and MWC's with nonESP-based control systems. For MWC's with ESP-based control systems, the EPA selected a MACT level of 60 ng/dscm total mass, based on the performance of SD/ESP systems. For MWC's using or retrofitting nonESP-based control systems, the EPA selected a MACT level of 30 ng/dscm total mass, based on the performance of SD/FF systems. The number of MWC plants that will comply by using an SD/ESP will be limited (only about 10 percent of the MWC plants). The vast majority of MWC's are expected to use SD/FF systems to comply.

The MACT floor for dioxins/furans at small MWC plants is 1,500 ng/dscm total mass. As with large MWC plants, the final emission guidelines limit for dioxins/furans is more stringent than the MACT floor. The final guideline limit for dioxins/furans at small MWC plants is 125 ng/dscm total mass and is based on DSI/ESP technology.

The final MACT limit for Hg is based on use of activated carbon injection. Activated carbon injection technology used in combination with DSI/ESP, SD/ESP, or SD/FF technology is expected to result in supplemental dioxin/furan control, reducing dioxin/furan emissions from these control systems by more than 50 percent. The final MACT guideline levels for dioxins/furans for existing units at small and large plants do not consider supplemental dioxin/furan control from activated carbon injection because an insufficient amount of emissions data exist to adequately determine the performance level of activated carbon injection retrofitted to existing MWC air pollution control systems. Nonetheless, it is expected that the use of activated carbon injection will result in additional reduction of dioxins/furans to levels below the emission limits in the final guidelines.

As with the standards for new MWC's, the final guidelines include a provision that allows less frequent dioxin/furan testing if a plant is achieving a significantly lower level of dioxin/furan emissions (15 ng/dscm for MWC's at large plants and 30 ng/dscm for MWC's at small plants). This option will encourage optimal performance and minimal emissions. Refer to section IV.B.7 for a description of the alternative testing schedule.

Relative to the proposal, the optional TEQ format of the proposed dioxin/furan emission limits was removed in the final standards, as explained in section IV.B.2.c. Although not part of the dioxin/furan limit, the dioxin/furan total mass limits of 30 ng/dscm, 60 ng/dscm, and 125 ng/dscm are equal to about 0.3 to 0.8 ng/dscm TEQ, 0.7 to 1.4 ng/dscm TEQ, and 1.7 to 2.9 ng/dscm TEQ, respectively.

d. *Nitrogen Oxides.* After considering data submitted by commenters regarding requiring SNCR for MWC units at large plants where some could already achieve the MACT floor level without SNCR, the EPA changed the proposed NO_X emission limit of 180 ppmv for all large plants. The NO_X MACT floor was revised by calculating the MACT floor separately for each subcategory of combustor type, and the MACT limits are being promulgated at levels equivalent to the MACT floors for each combustor type. The final guideline MACT limits are: 200 ppmv for mass burn waterwall combustors; 250 ppmv for refuse-derived fuel combustors; 250 ppmv for mass burn rotary waterwall combustors; 240 ppmv for fluidized bed combustors; no limit for mass burn refractory combustors; and 200 ppmv for other combustors not listed above.

In addition, the EPA has revised the emission guidelines to allow States to include in their State plans options for averaging of emissions from units within a large MWC plant, and for trading emissions between MWC plants. The plant average emission limits for units being included in an emissions averaging plan within a plant are approximately 10 percent less than the MACT limits for each combustor type, as follows: 180 ppmv for mass burn waterwall combustors; 220 ppmv for mass burn rotary waterwall combustors; 230 ppmv for refuse-derived fuel combustors; 220 ppmv for fluidized bed combustors; and 180 ppmv for other combustor types (excluding mass burn rotary refractory combustors). Emissions trading between units at noncontiguous plants must be consistent with the requirements of the Open Market Trading Rule for Ozone Smog Precursors, proposed August 3, 1995 (60 FR 39668), as finally promulgated. Until the Open Market trading rule is finalized, it is not possible to reference the rule in the guidelines text. In the interim, the guideline text indicates NO_X emissions trading must be approved by the Administrator prior to implementation. After the Open Market Trading Rule is finalized, it is preapproved for use under the guidelines.

e. *Fugitive Ash Emissions.* The emission limit for fugitive ash emissions under the final guidelines is visible emissions no more than 5 percent of the time from ash conveying and transfer systems at MWC's. An exemption for maintenance and repair activities has been added. These same changes were made to the standards for new sources. See the discussion of the standards in section IV.B.2.e for an explanation of the reasons for these changes.

3. Good Combustion Practices

The final CO guidelines include an additional category of combustor technology referred to as ''spreader stoker coal/RDF mixed fuel-fired combustors,'' which is assigned the same CO limit and averaging time as the RDF stoker combustor category (200 ppmv, 24-hour averaging time). In the final guidelines, the category of combustors referred to in the proposal as ''coal/RDF mixed fuel-fired combustors'' was revised to ''pulverized coal/RDF mixed fuel-fired combustors,'' and the CO limit and averaging time remains the same as proposed (150 ppmv, 4-hour averaging time). These same changes were made to the standards for new sources. See the discussion of the standards in section IV.B.3 for an explanation of the reasons for these changes.

4. Operator Training and Certification

As discussed in section IV.B.4 for the standards for new sources, the EPA has clarified the provisional certification requirements and revised the schedule for full certification of chief facility operators and shift supervisors to allow sufficient time to schedule exams. As stated in the proposal preamble, a State-approved ASME-equivalent certification program may be substituted for ASME certification.

For large plants, the final guidelines specify that a State plan must require chief facility operators and shift supervisors to obtain ASME provisional certification by 1 year after State plan approval or 6 months after startup, whichever is later. In addition, a State plan must require that, by the same date, these personnel obtain full certification or be scheduled with ASME to take the ASME full certification exam (instead of actually obtaining full certification within 1 year as proposed).

For small plants, the final guidelines specify that a State plan must require chief facility operators and shift supervisors to obtain ASME provisional certification by 18 months after State plan approval or 6 months after startup, whichever is later. In addition, a State plan must require that, by the same date, these personnel obtain full certification or be scheduled with ASME to take the ASME full certification exam (instead of actually obtaining full certification within 1 year as proposed).

5. Air Curtain Incinerators

No changes were made to the proposed guidelines for air curtain incinerators. As discussed in section V.B.1, the final guidelines do not cover combustion of clean wood; therefore, air curtain incinerators combusting only clean wood are not covered by the guidelines.

6. Compliance and Performance Testing

Under the final guidelines, State plans must specify that all plants are required to perform annual performance testing for dioxin/furan emissions. However, a provision for less frequent testing has been added to encourage plants to

optimize performance and achieve emission levels significantly lower than the dioxin/furan emission limits in the final guidelines. State plans may require that, to take advantage of this provision, existing MWC's must meet a dioxin/furan level of 15 ng/dscm (large plants) or 30 ng/dscm (small plants), for 2 consecutive years. Refer to the discussion on the standards for new MWC's under section IV.B.7 for a description of this reduced testing schedule.

7. Reporting and Recordkeeping Requirements and Compliance Schedules

Reporting requirements have been changed from quarterly to annual (semiannual if exceeding the emission limit for any pollutant) to reduce the economic burden on MWC's. Refer to section IV.B.8 for an explanation of the reasons for this change.

The EPA revised the proposed compliance schedule for large and small plants to allow more time for small plants to comply with the guidelines and to clarify the schedule for plants that select to close down operation rather than retrofit to comply with the guidelines. The final compliance schedule is as follows. For large MWC plants, State plans may allow three alternative compliance schedules: (1) Full compliance or closure within 1 year following approval of the State plan; (2) full compliance in 1 to 3 years following issuance of a revised construction or operation permit if a permit modification is required or 1 to 3 years following approval of the State plan if a permit modification is not required, provided the State plan includes measurable and enforceable incremental steps of progress toward compliance; or (3) closure in 1 to 3 years following approval of the State plan, provided the State plan includes a closure agreement. If a State plan allows the second or third scheduling options (i.e., more than 1 year), the State plan submitted to EPA must include post-1990 test data for dioxins/furans for all MWC units at large plants under the schedule. For small MWC plants, State plans must require full compliance or closure in up to 3 years following issuance of a revised construction or operation permit if a permit modification is required, or 3 years following approval of the State plan if a permit modification is not required.

C. Impacts of the Guidelines

The final guidelines can be achieved by designated facilities that utilize the same control technologies that were the basis for the proposed guidelines. The basis for the MACT guidelines selected at both proposal and promulgation is GCP/SD/ESP(or FF)/SNCR and carbon injection for large plants and GCP/DSI/ESP and carbon injection for small plants. Because the technology basis for the final guidelines is the same as at proposal, the impacts analysis presented at proposal has not been revised for the promulgated rule. Table 4 provides a brief summary of the air and cost impacts of the guidelines. The summary in table 4 provides impacts estimates based on two baseline scenarios: A pre-1989 baseline (control level prior to the 1991 subpart Ca guidelines) and a 1991 baseline (control level after the 1991 subpart Ca guidelines.) Refer to the preamble to the proposed guidelines (59 FR 48228) for a detailed summary of these air and control cost impacts, as well as a discussion of the water, solid waste, energy, and economic impacts of the guidelines.

TABLE 4.—IMPACTS OF THE 1991 SUBPART CA AND PROMULGATED SUBPART CB GUIDELINES

Parameter	1991 subpart Ca guidelines [a]	Promulgated 1995 subpart Cb guidelines [a]	Increment of promulgated 1995 subpart Cb guidelines over the 1991 subpart Ca guidelines [b]
Characteristics of Existing MWC's:			
Combustion capacity (10^6 Mg/yr)	35.9	39.0	3.1
Number of MWC plants	158	179	21
Cost (1990 Dollars):			
Capital cost ($10^6)	888	2,100	1,212
Annualized cost ($10^6/yr)	168	445	277
Average cost increase ($/Mg MSW combusted)	6.40	13.60	7.20
Annual Emissions Reduction (Mg/yr):			
SO_2	25,000	43,000	18,000
HCl	36,000	56,000	20,000
PM	1,100	3,100	2,000
Cd	2	5	3
Pb	30	83	53
Hg	11	47	36
NO_X	0	19,000	19,000
Total dioxins/furans (kg/yr)	117	157	40

[a] The impacts are based on a pre-1989 baseline (i.e., a baseline prior to the effective date of the subpart Ca guidelines).
[b] The impacts are calculated by subtracting the impacts of the 1991 subpart Ca guidelines from the impacts of the promulgated 1995 subpart Cb guidelines (based on a pre-1989 baseline).

The national impacts estimates provided in table 4 and discussed in the proposal preamble represent EPA's estimate of the upper limit of impacts that would result from implementation of the guidelines. To the extent that any existing MWC's close rather than comply with the guidelines or switch to other disposal options that may cost less, the national costs will be lower and air emissions will be less.

A number of comments were received on the possible effects on EPA's costing analysis following the recent Supreme Court decision that ''flow control'' is unconstitutional. The EPA considered the effect of flow control on the financing of existing MWC's. In summary, the EPA finds that if MWC's raise tipping fees to cover the increased costs of these regulations, then the lack of ''flow control'' will likely result in a shift of some wastes to other disposal options. The combined impacts of no flow control and increased tipping fees on individual MWC's and municipalities are likely to be very

place-specific depending on the relative tipping fees of MWC's and other disposal options, transportation costs, and institutional factors. If tipping fees are not raised to offset emission control costs, then operators of MWC's will have to finance the costs of the regulations out of current revenues.

The EPA has identified several ways that State and local governments can guarantee a continued source of MSW for the MWC's and provide funds from the general revenue to support the operation of MWC facilities, accomplishing some of the outcomes that flow control can produce, including: (1) Government provision of collection services; (2) contractor provision of collection services under government contract; (3) franchising collection and hauling to designated facilities; (4) subsidizing facilities from the general revenues; and (5) supporting integrated solid waste management programs from the general revenue.

VI. Administrative Requirements

This section addresses the following administrative requirements: Docket, Paperwork Reduction Act, Executive Orders 12866 and 12875, Unfunded Mandates Act, Regulatory Flexibility Act, and Clean Air Act Procedural Requirements.

A. Docket

The docket is an organized and complete file of all the information considered in the development of this rulemaking. The principal purposes of the docket are: (1) To allow interested parties 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. 42 U.S.C. § 7607(d)(7)(A). The docket number for this rulemaking is A–90–45. Docket No. A–89–08 also includes background information for this rulemaking that supported the proposal and promulgation of the subpart Ea standards and subpart Ca guidelines.

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1506.5) and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2136); 401 M St., S.W.; Washington, DC 20460 or by calling (202) 260–2740. This ICR document is also available on the EPA's TTN Clean Air Act Amendments electronic bulletin board. See the **SUPPLEMENTARY INFORMATION** section of this preamble for information on accessing EPA's TTN electronic bulletin board.

The information required to be collected by this rule is necessary to identify the regulated entities who are subject to the rule and to ensure their compliance with the rule. The recordkeeping and reporting requirements are mandatory and are being established under authority of Section 114 of the Act. All information submitted as part of a report to the Agency for which a claim of confidentiality is made will be safeguarded according to the Agency policies set forth in Title 40, Chapter 1, part 2, subpart B—Confidentiality of Business Information (see 40 CFR 2; 41 FR 36902, September 1, 1976, amended by 43 FR 39999, September 28, 1978; 43 FR 42251, September 28, 1978; 44 FR 17674, March 23, 1979).

The annual reporting and recordkeeping burden presented in this ICR document reflects only part of the burden imposed by this rule. The rest of the burden was presented to and approved by the OMB in an ICR document in 1991 for the subpart Ea NSPS promulgated in February 1991. The ICR document that accompanied the subpart Ea rulemaking summarized the reporting and recordkeeping requirements that MWC owners and operators of large MWC units are required to follow to demonstrate compliance with the 1991 NSPS. As explained elsewhere in this document, the Clean Air Act Amendments were passed by Congress in 1990, and they included section 129 that directs the Administrator to extend the NSPS to small MWC plants, as well as to include emission limits for additional pollutants and siting requirements. This ICR document for subpart Eb presents this additional burden imposed by section 129 of the Act, by summarizing the total annual burden on small plants (i.e., for the reporting and recordkeeping requirements associated with all pollutant emission limits and siting) and the additional annual burden on large MWC plants (i.e., only for requirements associated with Cd, Pb, Hg, and fugitive ash emission limits and siting).

The total annual reporting and recordkeeping burden summarized in this ICR document for this collection averaged over the first 3 years of NSPS application to new MWC's is estimated to be about 69,700 person hours per year. This would be the estimated annual burden for 64 respondents (i.e., MWC units). This is a worst-case burden estimate, as discussed under section IV.C. If fewer MWC units are constructed than have been projected, then the burden will be less than reported here. The average burden per respondent is about 1,100 person hours per year. The rule requires an initial one-time notification from each new MWC regarding all pollutant emission levels and siting and subsequent annual compliance reports regarding all pollutant emission levels. Additionally, if any of the pollutant emission limits are exceeded, respondents would be required to submit semi-annual reports. The rule includes continuous monitoring requirements for SO_2, opacity, CO, CO_2, O_2 and annual stack testing requirements for PM, dioxins/furans, opacity, HCl, Cd, Pb, Hg, and fugitive ash. Efforts were made to reduce the burden on small plants by allowing them to test emissions once every 3 years instead of annually if they demonstrate that they consistently meet the emissions requirements. This burden estimate 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.

Comments on the ICR document are requested, including the Agency's need for the information presented in this ICR document, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden. Send comments on the ICR to the Director, OPPE Regulatory Information Division; U.S. Environmental Protection Agency (2136); 401 M St. S.W.; Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St. N.W.; Washington, DC 20503; marked ''Attention: Desk Officer for EPA''. Include the ICR number in any correspondence. Since the OMB is required to make a decision concerning the ICR between 30 and 60 days after December 19, 1995, a comment to OMB is best assured of having its full effect if OMB receives it by January 18, 1996. The EPA will publish a response to

OMB and public comments on the information collection requirements contained in this proposal in a subsequent Federal Register notice.

C. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the EPA must determine whether the regulatory action is ''significant,'' and therefore, subject to OMB review and the requirements of the Executive Order. The 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, the promulgated standards for new sources will not be a ''significant'' rule because the annual effect on the economy is expected not to exceed $43 million over the cost of the existing subpart Ea standards. However, the EPA considers these promulgated standards to be ''significant'' because of their relationship to the guidelines for MWC's that are also being promulgated today. The final guidelines will cost $450 million per year or less based on a baseline prior to the effective date of the subpart Ea standards. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the public docket for this rulemaking.

D. Unfunded Mandates Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), signed into law on March 22, 1995, the EPA must prepare a statement to accompany any rule where the estimated costs to State, local, or tribal governments, or to the private sector, will be $100 million or more in any 1 year. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule. Under section 205(a), the EPA generally must select the ''least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule'' and is consistent with statutory requirements. The EPA has complied with section 205 of the Unfunded Mandates Act, by promulgating a rule that is the most cost-effective alternative for regulation of these sources that meets the statutory requirements under the Clean Air Act. For Hg and dioxins/furans, the EPA adopted standards that are more stringent than the MACT floor level of control. In the case of dioxins/furans, the EPA concluded that a standard more stringent than the MACT floor can be achieved at little or no cost, and thus represents the most cost-effective control. In the case of Hg, the MACT floor emissions level is equal to current uncontrolled levels. However, the EPA concluded, after considering the requisite factors in section 129(a)(2), that an uncontrolled floor level could not be justified under the Clean Air Act and that a more stringent emissions standard based on the use of carbon injection as an add-on control would be cost-effective. The EPA was unable in this rulemaking to identify any alternatives other than carbon injection for control of Hg emissions. To the extent that section 205(a) of the Unfunded Mandates Reform Act (UMRA) may be read to have the EPA consider a less stringent level of Hg control, the EPA concluded that such an alternative would be ''inconsistent with law'' within the meaning of section 205(b)(2) of the UMRA. Accordingly, the alternative selected for Hg is the most cost-effective one available under these circumstances.

The unfunded mandates statement under section 202 must include: (1) A citation of the statutory authority under which the rule is proposed, (2) an assessment of the costs and benefits of the rule including the effect of the mandate on health, safety and the environment, and the Federal resources available to defray the costs, (3) where feasible, estimates of future compliance costs and disproportionate impacts upon particular geographic or social segments of the nation or industry, (4) where relevant, an estimate of the effect on the national economy, and (5) a description of the EPA's consultation with State, local, and tribal officials.

Since this rule is estimated to impose costs to the private sector and government entities in excess of $100 million, the EPA has prepared the following statement with respect to these impacts.

1. Statutory Authority

The statutory authority for this rulemaking, sections 111 and 129 of the Clean Air Act, is fully discussed in section II of this preamble. The rule establishes emission guidelines for existing MWC's and standards of performance for new MWC's.

Section 129(a)(2) requires the Administrator to promulgate standards for new solid waste incinerator units and emission guidelines for existing units that ''reflect the maximum degree of reduction in emissions of air pollutants listed under section (a)(4) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air-quality health and environmental impacts and energy requirements, determines is achievable for new or existing units in each category. The Administrator may distinguish among classes, types (including mass-burn, refuse-derived fuel, modular and other types of units), and sizes of units within a category in establishing such standards * * *'' 42 U.S.C § 7429(a)(2) (emphasis added). This is commonly referred to as maximum achievable control technology, or MACT. Section 129(a)(2) further defines a minimum level of stringency that can be considered for MACT standards—commonly referred to as the MACT floor—which for new units, is the level of control achieved by the best controlled similar unit, and for existing units, is the level of control achieved by the average of the best performing 12 percent of units in the category. *Id*.

In the final rule, the Administrator determined for new MWC's that MACT for all pollutants was equivalent to the pollutants' MACT floor levels—i.e., the MACT floor levels reflect the maximum achievable, cost-effective reduction in emissions of the air pollutants specified in section 129(a)(4) of the Clean Air Act. The promulgated MACT levels reflect the performance of emission control technology that is in commercial use at the best controlled similar source (i.e., an MWC equipped with an SD/FF system, carbon injection, and SNCR, in combination with GCP's). The September 20, 1994 proposed standards were more stringent than the MACT floor levels because the proposed levels were based on carbon injection technology, which was not in commercial use at the time of proposal. Since proposal, a dozen MWC units equipped with carbon injection technology have initiated operation; thus, the best controlled similar unit in the final rule includes carbon injection (i.e., basis for the MACT floor).

For existing MWC's, some of the emission limits included in the emission guidelines promulgated today are the same as the final MACT floor levels. For several pollutants, however, the Administrator decided, consistent with section 129(a)(2) after considering costs and non-air-quality health and environmental impacts and energy requirements, to set MACT standards more stringent than the MACT floor, since more stringent levels could be achieved at either no additional cost, or minimal costs. The MACT floor levels for acid gases and PM are stringent enough for existing units at both small and large plants that they require an acid gas/PM control system. Since an acid gas/PM control system also controls emissions of all regulated pollutants except Hg and NO_x, establishing emission limits for acid gases and PM effectively establishes emission limits for the other pollutants (except Hg and NO_x). The cost to comply with the selected emission limits relative to the cost of the acid gas/PM control system are minimal.

For example, the same acid gas/PM control system that owners and operators of MWC's need to meet the MACT emissions guideline levels for SO_2 and PM also controls dioxins/furans to levels more stringent than the dioxin/furan MACT floor level. Thus, the Administrator determined that the final dioxin/furan emission guidelines may be achieved at no additional control costs. In the final rule, for MWC's at large plants, the Administrator distinguished between the dioxin/furan emission guidelines for MWC's equipped with ESP-based control systems and MWC's equipped with nonESP-based control systems. In the Administrator's judgment, it would be prohibitively expensive and unreasonable to require existing ESP's that can meet a limit of 60 ng/dscm to retrofit an SD/FF in order to achieve additional reduction in emissions beyond the MACT floor (see the proposal preamble, 50 FR 48228, September 20, 1994, for a more detailed discussion). For the final rule, the Administrator considered several regulatory options more stringent than the MACT floor; however, because of the high cost of pollution control device retrofit, the Administrator determined that MACT for dioxins/furans emitted from MWC's with ESP-based control systems is 60 ng/dscm, and MACT for dioxins/furans emitted from MWC's with SD/FF systems is 30 ng/dscm.

The MACT floor for Hg is 0.36 mg/dscm, and MACT for Hg is more stringent than the MACT floor at a level of 0.080 mg/dscm. To achieve the Hg emission limit in the emission guidelines, carbon injection will be required (this exceeds MACT floor requirements). Because of the toxicity and bioaccumulation potential of Hg, the Administrator considered the small cost of adding Hg control to be cost-effective. The cost of Hg control is about $0.25 to $0.35 per gram Hg removed ($250,000 to $350,000 per Mg), which translates to approximately $0.05 to $0.07 per month for a household served by an MWC.

2. Social Costs and Benefits

This assessment of the cost and benefits to State, local, and tribal governments of the guidelines is based on EPA's ''Economic Impact Analysis for Proposed Emission Standards and Guidelines for Municipal Solid Waste Combustors.'' Measuring the social costs of the guidelines requires identification of the affected entities by ownership (public or private), consideration of regulatory alternatives, calculation of the regulatory compliance costs for each affected entity, and assessment of the market implications of the additional pollution control costs. Calculating the social benefits of the guidelines requires estimating the anticipated reductions in emissions at MWC's due to regulation, identification of the harmful effects of exposure to MWC emissions, and valuing the expected reductions in these damages to society.

a. *Affected Entities.* For 1996, the base year of the analysis, there are 179 MWC's in the population of operational facilities affected by the guidelines. Of this total, 100 are publicly owned and operated (i.e., facilities owned by State or local governments). There are no MWC's currently owned, or expected to be owned in the near future, by tribal governments, so there is no impact on tribal governments. The remaining 79 MWC's are privately owned and operated. The EPA developed 16 model plants to characterize the existing facilities based on the technologies used for combustion and air pollution control at baseline. Table 5 shows the distribution of publicly and privately owned MWC's and the estimated MSW volumes managed by the existing MWC model plants. Of the 100 publicly owned and operated MWC plants, 38 plants are located in communities with a population less than 50,000, 11 plants are located in communities with a population between 50,000 and 100,000, 21 plants are located in communities with a population between 100,000 and 250,000, and 30 plants are located in communities with a population greater than 250,000. A detailed description of the model plants used to characterize operational MWC's is presented in table 3–4 of the ''Economic Impact Analysis of Proposed Emissions Standards and Guidelines for Municipal Waste Combustors'' (EPA–450/3–91–029, 1994).

TABLE 5.—SUMMARY OF TOTAL MSW THROUGHPUT AT PUBLIC AND PRIVATE MWC'S BY MODEL PLANT

Model plant[a]	Ownership				
	Public throughput (Mg/yr)	Public share (%)	Private throughput (Mg/yr)	Private share (%)	Total throughput (Mg/yr)
1	813,244	100.0	0	0.0	813,244
2	1,158,112	81.9	256,034	18.1	1,414,146
3	1,397,867	100.0	0	0.0	1,397,867
4	1,914,896	19.3	7,995,967	80.7	9,910,863
5	3,956,410	61.1	2,523,329	38.9	6,479,739
6	374,566	56.7	286,119	43.3	660,685
7	1,008,603	57.5	746,477	42.5	1,755,080
8	1,547,612	66.5	777,981	33.5	2,325,593
9	400,346	73.3	145,661	26.7	546,007
10	425,552	82.5	90,472	17.5	516,024
11	166,082	42.0	228,966	58.0	395,048
12	284,596	72.6	107,219	27.4	391,815
14	343,596	48.4	366,785	51.6	710,381
15	937,280	29.2	2,277,088	70.8	3,214,368

TABLE 5.—SUMMARY OF TOTAL MSW THROUGHPUT AT PUBLIC AND PRIVATE MWC'S BY MODEL PLANT—Continued

Model plant[a]	Ownership				
	Public throughput (Mg/yr)	Public share (%)	Private throughput (Mg/yr)	Private share (%)	Total throughput (Mg/yr)
16	58,462	6.7	819,320	93.3	877,782
17	745,501	52.9	662,673	47.1	1,408,174
Total:	15,078,823	45.9	17,737,993	54.1	32,816,816

[a] There is no model plant that matches model plant #13 in the Economic Impact Analysis (EPA–450/3–91–029, March 1994).

b. *Regulatory Alternatives Considered.* The two broad categories of regulatory standards available include design standards and emission standards. Design standards specify the type of control equipment polluters must install, whereas emission standards specify the maximum quantity of a given pollutant that any one polluter may release.

Design standards offer the least flexible approach considered in this analysis. Municipal waste combustors would have to install the specified control equipment regardless of the additional emission reductions achieved or the relative cost of alternative means of emission reductions.

Emission standards allow greater flexibility in the methods used to reduce emissions. Municipal waste combustors are free to meet the emission limit in the manner that is least costly to them. Consequently, for a given level of emission reductions, emission standards are generally less costly than design standards. Furthermore, emission standards give MWC's an incentive to develop more effective means of controlling emissions. In addition, the Act requires the Administrator to promulgate emission standards unless such standards are not feasible. See 42 U.S.C. §§ 7411(h) and 7429(a)(1). Since emission standards for MWC's are feasible, the EPA is barred from promulgating design standards for MWC's.

Even though emission standards generally result in a more efficient allocation of costs than design standards, uniform emission standards can be more costly than necessary. Uniform emission standards require the same level of emission control of every discharger. Because marginal control costs differ for plants of different sizes, different technologies, different levels of product recovery (i.e., in the chemical industry), and different levels of baseline control, an effective solution can be reached if standards are carefully tailored to the special characteristics of each discharger. This type of standard is referred to as a differentiated standard.

In formulating its MWC regulatory alternatives, EPA selected candidate regulatory alternatives that contain control limits for MWC's differentiated by MWC size classification. Large facilities are defined as MWC plants with aggregate plant capacities over 225 Mg/day. Small facilities are defined as MWC plants with aggregate plant capacities between 35 and 225 Mg/day. Plants with aggregate plant capacities less than 35 Mg/day are not covered by today's rulemaking. The lower size threshold of 35 Mg/day aggregate plant capacity for controlling MWC emissions under today's rulemaking was selected after reviewing the population distributions of MWI's and MWC's. Most incinerators at medical waste facilities are smaller incinerators that fire segregated medical waste with general hospital discards (MSW), and these incinerators would have the potential to be covered by today's rulemaking. To avoid overlap with the upcoming MWI rulemaking, this rulemaking includes the lower size cutoff of 35 Mg/day plant capacity and MWC plants with aggregate capacities less than or equal to 35 Mg/day will be addressed under a separate rulemaking. With a lower size cutoff of 35 Mg/day, today's promulgated MWC rulemaking will cover over 99 percent of the total U.S. MWC combustion capacity but will exclude 97 percent of the total MWI combustion capacity.

The regulatory alternatives for the two selected size classifications did not specify a particular control technology; rather, they specified emission limits that facilities would be required to meet. Current practice indicates that the emission guideline limits for acid gases, PM, and metals will likely be met with one of six different types of control technologies, depending on the applicable emission limits. Table 6 presents acid gas, PM, and metals control technologies listed in order of increasing efficiency.

TABLE 6.—CONTROL TECHNOLOGIES ASSOCIATED WITH ACID GAS, PARTICULATE MATTER, AND METALS CONTROL

GCP + ESP
GCP + DSI/ESP
GCP + DSI/FF
GCP + SD/ESP
GCP + SD/FF

In designing MWC regulatory alternatives, the EPA considered emission limits consistent with the combinations of the acid gas control technologies listed in table 6. Small plants may be required to meet one control limit and large plants another under a given regulatory alternative. Under the final guidelines, more stringent control requirements are in fact applicable to large plants than to small plants. This was done in an attempt to equalize the cost impact on small and large plants. Under the final guidelines the unit cost for air pollution control retrofit for large plants would be about $16 per Mg of waste combusted. For similar small plants the retrofit costs would be about $17 per Mg of waste combusted. Table 7 shows the control technologies evaluated for the guidelines regulatory alternatives under two compliance scenarios for acid gas, PM, and metals control. The control technology bases identified in this table are not intended to imply a design standard. Rather, the technology bases are identified only for the purpose of estimating costs and emission reductions.

TABLE 7.—EMISSION GUIDELINES FOR EXISTING MWC'S: CONTROL TECHNOLOGY BASES USED TO ESTIMATE THE IMPACTS OF THE REGULATORY ALTERNATIVES [a] [b]

Regulatory alternative, and baseline APCD	Size Classification (Mg MSW/day)	
	Small (35 to 225)	Large (over 225)
Reg. Alt. I:		
No control	GCP+ESP	GCP+SD/FF+CI+SNCR
ESP (low)	GCP+ESP	GCP+SD/ESP(m)+CI+SNCR
SD/ESP	GCP+SD/ESP	GCP+SD/ESP(m)+CI+SNCR
SD/FF	GCP+SD/FF	GCP+SD/FF+CI+SNCR
Reg. Alt. II–A:		
No control	GCP+DSI/FF+CI	GCP+SD/FF+CI+SNCR
ESP (low)	GCP+DSI/ESP+CI	GCP+SD/ESP(m)+CI+SNCR
SD/ESP	GCP+SD/ESP+CI	GCP+SD/ESP(m)+CI+SNCR
SD/FF	GCP+SD/FF+CI	GCP+SD/FF+CI+SNCR
Reg. Alt. II–B:		
No control	GCP+DSI/FF+CI	GCP+SD/FF+CI+SNCR
ESP (low)	GCP+DSI/ESP+CI	GCP+SD/FF+CI+SNCR
SD/ESP	GCP+SD/ESP+CI	GCP+SD/ESP(m)+CI+SNCR
SD/FF	GCP+SD/FF+CI	GCP+SD/FF+CI+SNCR
Reg. Alt. III;		
No control	GCP+SD/FF+CI	GCP+SD/FF+CI+SNCR
ESP (low)	GCP+SD/FF+CI	GCP+SD/FF+CI+SNCR
SD/ESP	GCP+SD/FF+CI	GCP+SD/FF+CI+SNCR
SD/FF	GCP+SD/FF+CI	GCP+SD/FF+CI+SNCR
MACT Floor:		
No control	GCP+DSI/FF	GCP+SD/FF+SNCR
ESP (low)	GCP+DSI/ESP	GCP+SD/ESP(M)+SNCR
SD/ESP	GCP+SD/ESP	GCP+SD/ESP(m)+SNCR
SD/FF	GCP+SD/FF	GCP+SD/FF+SNCR

Source: This table is an extract of table 4–2 of the document entitled ''Economic Impact Analysis for Proposed Emission Standards and Guidelines for Municipal Waste Combustors,'' EPA–450/3–91–029, March 1994. See **SUPPLEMENTARY INFORMATION** for information on obtaining this document.

[a] The MWC regulation does not mandate a specific type of control equipment. The MWC owner/operator may use any control equipment that meets the emission standards. The control technologies are the projected compliance strategies used as the basis for computing costs. If the MWC has equipment that is meeting or exceeding the control requirements, no additional costs are incurred.

[b] CI=carbon injection.

TABLE 7A.—EMISSION GUIDELINES FOR EXISTING MWC'S: EMISSION REDUCTIONS AND ANNUALIZED COSTS OF THE REGULATORY ALTERNATIVES [a]

Pollutant category (Mg/yr)/annualized cost ($1990 10^6/yr)	Regulatory alternative				
	Reg. alt. I	Reg. alt. II–A	Reg. alt. II–B	Reg. alt. III	Mact floor
SO_2	41,200	43,300	43,300	45,000	43,300
HCl	51,600	56,300	56,300	57,300	56,300
PM	3,070	3,070	3,070	3,240	3,070
Pb	74.8	74.8	91.1	102	74.8
Cd	5.24	5.24	5.56	6.02	5.24
Hg	44.7	47.5	47.5	47.5	0
NO_X	8,680	8,680	8,690	8,690	8,680
CO	19,300	19,300	19,300	19,300	19,300
Dioxins/furans (total mass)	0.154	0.156	0.157	0.158	[b] 0.153

TABLE 7A.—EMISSION GUIDELINES FOR EXISTING MWC'S: EMISSION REDUCTIONS AND ANNUALIZED COSTS OF THE REGULATORY ALTERNATIVES [a]—Continued

Pollutant category (Mg/yr)/annualized cost ($1990 10^6/yr)	Regulatory alternative				
	Reg. alt. I	Reg. alt. II–A	Reg. alt. II–B	Reg. alt. III	Mact floor
Annualized cost ($1990 10^6/yr)	412	443	448	487	425

Source: This table is an extract of tables 5–14 and 5–21 of the document entitled ''Economic Impact Analysis for Proposed Emission Standards and Guidelines for Municipal Waste Combustors,'' EPA–450/3–91–029, March 1994. See **SUPPLEMENTARY INFORMATION** for information on obtaining this document.

[a] The MWC regulation does not mandate a specific type of control equipment. The MWC owner/operator may use any control equipment that meets the emission standards. The control technologies are the projected compliance strategies used as the basis for computing costs. If the MWC has equipment that is meeting or exceeding the control requirements, no additional costs are incurred.

[b] The MACT floor is regulatory alternative II–A without carbon injection for mercury and dioxin/furan control. The majority of the dioxin/furan emission control is achieved by acid gas controls included in alternative II–A and the floor. It is assumed that adding mercury control (carbon injection) to acid gas control reduces dioxin/furan emissions by at least an additional 50 percent. The dioxin/furan emission reduction estimate for the MACT floor is not provided in the ''Economic Impacts Analysis.''

The regulatory alternatives represent alternative levels of control considered by the EPA, whereas the compliance scenarios represent potential alternative responses by the MWC owners and operators to the emission requirements. Generally speaking, the EPA assumed that MWC owners and operators will choose the minimum-cost control technology that will meet the emission requirements. However, where there is uncertainty regarding the actual emission limits that a particular control technology will achieve in practice, owners may choose a more conservative (and potentially more costly) compliance strategy to reduce the risk of noncompliance. A conservative investment decision is particularly likely when the investment decision affects the facility's ability to remain in operation (e.g., noncompliance results in plant shutdown), is a long-term decision, or involves a significant capital outlay. Consequently, we evaluate two compliance scenarios for meeting the acid gas, PM, and metals control requirements for existing plants subject to guidelines.

A more detailed discussion of the regulatory alternatives EPA considered may be found in the ''Economic Impact Analysis for Proposed Emission Standards and Guidelines for Municipal Waste Combustors,'' EPA–450/3–91–029, March 1994 (see **SUPPLEMENTARY INFORMATION** for information on obtaining this document). Control alternatives were also developed for NO_X control and Hg control. Discussion of these alternatives can be found in the following memos that may be obtained from the EPA's Air Docket, as specified in the **SUPPLEMENTARY INFORMATION** section of this preamble: (1) ''Update Report on Mercury Control Technologies for Municipal Waste Combustors'' prepared by K. Nebel and D. White, Radian Corporation, for W. Stevenson, U.S. Environmental Protection Agency, July 1993; (2) ''NO_X Control on Existing MWC's,'' prepared by E. Soderberg et al., Radian Corporation, for W. Stevenson, U.S. Environmental Protection Agency, August 23, 1991; (3) ''Wet Scrubbing Systems Performance and Cost,'' prepared by K. Nebel, et al., Radian Corporation, for W. Stevenson, U.S. Environmental Protection Agency, June 22, 1994; and (4) ''A Summary of Mercury Emissions and Applicable Control Technologies for Municipal Waste Combustors,'' prepared by K. Nebel and D. White, Radian Corporation, for W. Stevenson, U.S. Environmental Protection Agency, September 1991.

c. *Social Costs.* The regulatory compliance costs of reducing air emissions from MWC's include the total and annualized capital costs; operating and maintenance costs; monitoring, inspection, recordkeeping, and reporting costs; and total annual costs. The annualized capital cost is calculated using a 4-percent discount rate for publicly-owned MWC's and an 8-percent discount rate for privately-owned MWC's. The total annual cost is calculated as the sum of the annualized capital cost; operating and maintenance costs; and the monitoring, inspection, recordkeeping, and reporting costs. There are no Federal funds available to assist State and local governments in meeting these costs.

Table 8 provides the estimated compliance costs for the final regulations and their distribution across public and private MWC's. As shown, the national annual compliance costs for existing MWC's total $405.5 million, with publicly-owned facilities incurring $229.9 million. This total both represents 56.7 percent of the estimated national compliance costs and forms the basis for allocating benefits to publicly-owned MWC's. (The analysis has assumed that benefits are linear with emission reductions). The level of compliance costs depends not only on the absolute number of facilities, but also on the baseline level of pollution control. It is assumed that higher compliance costs are associated with higher emission reductions and are, thus, appropriate for allocating the benefits associated with the reduced emissions.

TABLE 8.—SUMMARY OF REGULATORY COMPLIANCE COSTS FOR EXISTING MWC'S BY OWNERSHIP ($1990, 10^3)

Ownership category	Annual capital costs	Annual operating and maintenance costs	Annual MIRR costs [a]	Total annual costs
Public	67,625	154,163	8,092	229,881
Private	83,936	87,161	4,575	175,672
Total	151,561	241,325	12,667	405,553

[a] MIRR=Monitoring, inspection, reporting, and recordkeeping.

The analysis assumes that the entire increase in costs of combustion services for both public and private entities will be passed through to MWC customers in the form of increases in the tipping fee charged by MWC's. As shown in table 9, the estimated increases in the average tipping fee for publicly-owned MWC's are significant and range from 36 to 59 percent. The range for privately-owned MWC's is 41 to 65 percent.

TABLE 9.—AVERAGE TIPPING FEE INCREASES FOR EXISTING MWC'S BY OWNERSHIP

Ownership	Small MWC plants (35 to 225 Mg/day MSW) (percent change)	Large MWC plants [a] (over 225 Mg/day MSW) (percent change)
Public	59	36
Private	65	41

[a] Fee increases are computed using the average cost per megagram of MSW reported in tables 5–10 and 5–11 of the EPA's ''Economic Impact Analysis for Proposed Emission Standards and Guidelines for Municipal Solid Waste Combustors,'' (EPA–450/3–91–029) and an average tipping fee of $57/Mg of MSW. The average tipping fee is based on the 1993 average tipping fee for MWC's reported in *Waste Age* (Berenyi & Gould, 1993) converted to 1990 dollars.

Section 7.3.1 of the EPA's economic impact analysis (EPA–450/3–91–029) provides a distributional analysis of the impacts on governmental entities with respect to their ability to finance the regulatory compliance capital through revenue bonds. A community's ability to finance the regulatory compliance capital through revenue bonds is estimated by comparing the estimated average annual cost per household to the average annual household income for the community. If the cost per household exceeds one percent of average annual household income, then the community is assumed to have potential difficulty issuing revenue bonds. Of the estimated 100 governmental entities subject to the guidelines, no governmental entities with a population above 50,000 are projected to have difficulty issuing revenue bonds as a result of the regulation on existing sources. Overall, 3 of the 100 governmental entities (all 3 of which have population below 50,000) are projected to have difficulty issuing such bonds.

Without market adjustments, the social costs of the guidelines should be equivalent to the national compliance costs shown in table 8. However, in this analysis, the social costs differ, both because the total capital costs for both public and private MWC's were discounted at the social rate equal to 7 percent, and because of tax differences. Table 10 shows the estimated social cost of the regulations and the distribution across public and private MWC's. The estimated annual social cost of the guidelines is $443 million of which 56.7 percent, or $251.1 million, is attributed to publicly-owned MWC's. This estimate of social cost is greater than the national compliance costs because the total capital costs for publicly-owned MWC's is discounted at the social rate of 7 percent, as opposed to the 4 percent rate used to compute the national compliance costs.

TABLE 10.—SUMMARY OF ESTIMATED ANNUAL SOCIAL COST BY OWNERSHIP ($1990)

Ownership category	Total social costs ($10^3 per year)	Share (percent)
Public	251,107	56.7
Private	191,893	43.3
Total	443,000	100.0

Table 10A provides typical costs of air pollution control retrofits for existing MWC's. The costs shown in table 10A are for 17 model existing plants.

TABLE 10A.—Typical Cost of Air Pollution Control Retrofit for Existing MWC'S

Plant size (Mg/day)	MWC type	Costs ($1990×10^6)		Model plant number
		Capital	Annual	
45	MOD/SA	2	0.5	10
136	MOD/SA	3	10.5	9
181	MOD/EA	3	0.4	11
181	MB/WW	5	0.9	6
454	MB/RWW	13	1.6	12
980	MB/WW	25	3.2	5
2,041	MB/WW	46	5.0	4
181	MB/WW	[a]5	0.8	14
454	MB/RWW	[a]13	1.6	17
544	RDF	28	2.3	8
1,814	RDF	64	4.8	7
1,814	RDF	[a]33	4.4	15
544	RDF	[a]17	2.0	16
218	MB/REF	8	0.9	2
680	MB/REF	39	2.3	1
816	MB/REF	35	4.1	3

Note: See table 5–1 of the ''Economic Impacts Analysis for Proposed Emission Standards and Guidelines for Municipal Waste Combustors'' (EPA–450/3–91–029) for more information.

[a] These model plants are assumed to be relatively new units that originally incorporated good combustion in their design and, therefore, do not need to retrofit good combustion to comply with the guidelines.

d. *Social Benefits.* Society will benefit from the proposed guidelines through the reduction of emissions of dioxins/furans, Cd, Pb, Hg, PM, HCl, SO_2, and NO_X. These pollutant categories are emitted by various types of sources, including MWC's. The level of pollutant emissions and health effects vary among types of sources, and total national emissions of these pollutants has been shown to have the health effects listed in table 11.

TABLE 11.—HEALTH AND OTHER EFFECTS

Pollutant category	Health and other effects
Organics	• Mortality, morbidity. • Carcinogenicity.
Metals	• Retardation and brain damage. • Hypertension. • Central nervous system injury. • Renal dysfunction.
Acid gases	• Materials damage. • Dental erosion. • Acid rain. • Mortality, morbidity. • Respiratory tract problems, permanent harm to lung. • Soiling and materials damage. • Reduced agricultural yield. • Ozone formation.
Particulate matter.	• Mortality, morbidity. • Eye and throat irritation, bronchitis, lung damage. • Impaired visibility. • Soiling and materials damage.

Because of limitations on data on the concentration-response function and valuation of these functions, benefits have not been quantified for all pollutants. Benefits have been quantified only for emissions of SO_2 and PM. Benefits have not been quantified for dioxins/furans, Cd, Pb, Hg, HCl or NO_X emission control. Benefits to the public and environment will result from the control of these hazardous air pollutants (HAP's) and criteria pollutants. For the HAP's, dioxin/furan compounds have been associated with chloracne, reproductive/developmental effects, immune system toxicity, and cancer (probable human carcinogen). Particulate-associated metals including Pb and Cd are toxic and can cause effects such as mucous membrane irritation, gastrointestinal effects, nervous system disorders, skin irritation, and reproductive and developmental disorders. In regard to volatile metals, Hg in all forms may be characterized as quite toxic with each form exhibiting different health effects, including gastrointestinal and respiratory tract disturbances, central nervous system effects, and developmental effects. Additionally, HCl is corrosive and effects the eyes, skin, and mucus membranes, and dermatitis has been reported from long-term exposure.

Table 12 provides the estimated social benefits associated with reductions in PM and SO_2 emissions from MWC's and their distribution across public and private MWC's. The estimated social benefit of reduced PM and SO_2 emissions is $106 million with $60.3 million being attributed to reductions at publicly-owned MWC facilities. These benefits would be experienced annually by the residents of these municipalities. Proper allocation of these benefits would be based on the expected emission reductions at public and private MWC's. However, due to lack of data at the model plant level, these benefits are allocated across public and private MWC's in the same proportion as the estimated national compliance costs (i.e., 56.7 percent for public and 43.3 percent for private).

TABLE 12.—SOCIAL BENEFIT ESTIMATES FOR SO_2 and PM Emission Reductions by Ownership ($1990)

Ownership category	Social benefits ($10^3 per year)[a b]		
	PM	SO_2	Total
Public	30,779	29,475	60,254
Private ...	23,521	22,525	46,046
Total	54,300	52,000	106,300

[a] Benefit estimates are $1,200 per Mg of SO_2 reduced and $17,700 per Mg of PM reduced. (This estimate is derived valuing all mortalities at $4.4 million per life saved. This approach does not consider the length of the changes in longevity resulting from PM exposure). Social benefits attributable to public and private MWC's are proportionate to their share of the total annual costs.

[b] Does not include benefit credits for dioxins/furans, Cd, and Hg control.

Table 13 presents a comparison of the estimated social costs and benefits of the guidelines. Unfortunately, because benefit estimates are not computed for all pollutants, the social benefit provided in table 13 is a partial estimate. Because of this fact, the net benefits (i.e., benefits minus costs) shown in table 13 cannot be used to reach conclusions regarding the total net benefits of the rule for existing sources.

TABLE 13.—SOCIAL COSTS AND PARTIAL SOCIAL BENEFITS FROM REDUCING EMISSIONS AT MWC'S BY OWNERSHIP ($1990, 10^3 PER YEAR)

Ownership category	Total social costs	Partial social benefits
Public	251,107	60,254
Private	191,893	46,046
Total	443,000	106,300

3. Effects on the National Economy

The Unfunded Mandates Act requires that the EPA estimate ''the effect'' of this rule

''on the national economy, such as the effect on productivity, economic growth, full employment, creation of productive jobs, and international competitiveness of the U.S. goods and services, if and to the extent that the EPA in its sole discretion determines that

accurate estimates are reasonably feasible and that such effect is relevant and material.''

As stated in the Unfunded Mandates Act, such macroeconomic effects tend to be measurable, in nationwide econometric models, only if the economic impact of the regulation reaches 0.25 to 0.5 percent of gross domestic product (in the range of $1.5 billion to $3 billion). A regulation with a smaller aggregate effect is highly unlikely to have any measurable impact in macroeconomic terms unless it is highly focused on a particular geographic region or economic sector. For this reason, no estimate of this rule's effect on the national economy has been conducted.

4. Consultation with Government Officials

The Unfunded Mandates Act requires that the EPA describe the extent of the EPA's consultation with affected State, local, and tribal officials, summarize the officials' comments or concerns, and summarize the EPA's response to those comments or concerns. In addition, section 203 of the Clean Air Act requires that the EPA develop a plan for informing and advising small governments that may be significantly or uniquely impacted by a proposal. Throughout the development of these rules (pre-proposal through pre-promulgation phases), the EPA consulted with representatives of affected State and local governments, including the U.S. Conference of Mayors, the National League of Cities, the National Association of Counties, the Solid Waste Association of North America, and the Municipal Waste Management Association, to inform them of the proposed rule and determine their concerns. (The EPA also consulted with representatives from other entities affected by the proposed rule, such as the Integrated Waste Services Association, the Sierra Club, and the Natural Resources Defense Council.)

As part of EPA's consultation efforts in this rulemaking, the EPA mailed a copy of the regulatory summary (FACT SHEET) for the September 20, 1994 proposed MWC standards and guidelines to every elected official in an area with either an operating MWC, an MWC under construction, or a planned MWC. (The EPA also mailed copies of the summary to all owners and operators of these MWC's.) This mailout exceeded 400 informational packages. Since approximately half of the MWC's are owned and/or operated by municipalities, with this effort, the EPA was able to ensure that every affected State and local government was made aware of the proposed rule and had the necessary information to provide comment.

In addition, over a 3-month period, EPA staff consulted with State and local government representatives to discuss their comments regarding the final draft package. Letters were received during this time period from the U.S. Conference Mayors and the Integrated Waste Services Association (see docket A–90–45, items IV–D–44 and IV-D–85, respectively), which raised various concerns; however, in subsequent meetings, the EPA learned that State and local officials, as well as industry representatives, were mainly concerned with the following sections of the final draft emission guidelines: (1) The achievability for some MWC's of the final draft NO_X emission limit included in the emission guidelines; (2) the fact that because the EPA had not subcategorized by combustor type for purposes of determining the NO_X emission limit as it had when it determined the CO emission limit, some MWC's would be forced to install retrofit technology in order to meet the more stringent NO_X limit, (3) the achievability for MWC's with large new ESP's of the final draft dioxin/furan emission limit included in the emission guidelines; and (4) the inconsistency between some of the definitions in the draft rules with the definitions given in 40 CFR part 60, subpart Ea, which establishes emission limits for MWC's that commence construction after December 20, 1989, but on or before September 20, 1994.

As a result of these consultations, the EPA decided to modify the final regulatory package to address these concerns. The final emission guidelines promulgated today:

(1) Subcategorize MWC's by combustor type for the purpose of establishing different NO_x emission guidelines; and

(2) Establish separate dioxin/furan emission guidelines for MWC's with ESP-based systems and MWC's with nonESP-based systems. In addition, in order to address the fourth concern identified by State and local governments, the EPA is publishing today under a separate Federal Register notice, a direct final rule that modifies the applicability and definitions sections of 40 CFR part 60, subpart Ea to improve clarity and make them consistent with those provided in the standards and emission guidelines promulgated in this notice.

Documentation of the EPA's consideration of comments on the proposed standards and guidelines is provided in the BID's for the proposed and final standards and guidelines. Refer to the **SUPPLEMENTARY INFORMATION** and **ADDRESSES** sections of this preamble for information on how to acquire copies of these documents.

As discussed in section IV.F, the number of affected small entities is not expected to be substantial. The full analysis of potential regulatory impacts on households, small governments, and small businesses is included in the economic impact analysis in the docket and listed under **SUPPLEMENTARY INFORMATION.** Because the number of affected small entities is expected to be insubstantial (i.e., the EPA considers that the regulation is likely to affect less than 20 percent of small entities with MWC's—see section IV.F for a more detailed explanation), no plan to inform and advise small governments is required under section 203 of the Unfunded Mandates Act. However, as described above, the EPA has communicated and consulted with small governments and businesses that will be affected by the standards and guidelines, keeping them informed about the content of this promulgation. Refer to section III.C. for a description of these communications.

E. Executive Order 12875

To reduce the burden of Federal regulations on States and small governments, the President issued Executive Order 12875 on October 26, 1993, entitled ''Enhancing the Intergovernmental Partnership.'' Under Executive Order 12875, the EPA is required to consult with representatives of affected State, local, and tribal governments, and keep these affected parties informed about the content and effect of the promulgated standards and emission guidelines. Section III.A of this notice provides a brief summary of the need for the final standards and guidelines. Sections IV.C and V.C provide brief summaries of the cost of the final guidelines and standards. Section III.C provides a brief account of the actions that the EPA has taken to communicate and consult with the affected parties. The discussion provided below provides a brief summary of the content of the final standards and guidelines. For more information on the content of the final standards and guidelines, refer to sections IV.A and V.A of this notice.

The promulgated standards and guidelines establish emission limitations for new and existing MWC units located at MWC plants with plant capacities to combust greater than 35 Mg/day of MSW. The standards and guidelines do not specify which type of air pollution control equipment must be

used at MWC's to meet the promulgated emission limitations. The EPA expects, however, that, as a result of the promulgated standards and guidelines, most new and existing MWC's at large MWC plants (plants with greater than 225 Mg/day capacity) will use SD/FF systems with activated carbon injection (new plants) or retrofit SD/FF or SD/ESP systems with activated carbon injection (existing plants) for dioxins/furans, metals, and acid gas control, and will use SNCR for NO_X control. New MWC's at small MWC plants (plants with 35 to 225 Mg/day capacity) are expected to install SD/FF systems with activated carbon injection, and existing MWC's at small plants are expected to install DSI/ESP systems with activated carbon injection. Selective noncatalytic reduction technology would not be necessary for either new or existing MWC's at small MWC plants.

F. Regulatory Flexibility Act

Section 605 of the RFA (5 U.S.C. 601 *et seq.*) requires Federal agencies to give special consideration to the impacts of regulations on small entities, which are small businesses, small organizations, and small governments. The major purpose of the RFA 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, in this case, 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. In the case at hand, the EPA considers that a regulation that is likely to affect 20 percent or more of small entities with MWC's is a regulation that will affect a substantial number of small entities.

Definitions of small entities are flexible. For analysis of the regulations being proposed today, the EPA considers a small business in this industry to be one with gross annual revenue less than $6 million, and a small government to be one that serves a population less than 50,000. (A typical city of 50,000 generates about 90 Mg/day of MSW.) Most small governments dispose of their MSW by landfilling and, therefore, will not be affected by regulation of MWC emissions. In regard to small organizations such as independent not-for-profit enterprises, the EPA finds that they have no more than a very minor involvement with MWC's, and for that reason the EPA has not found it necessary to study potential direct impacts on small organizations.

The final regulations do not apply to MWC plants with capacity less than 35 Mg/day. The EPA estimates that few if any small-entity MWC's would be affected by today's promulgated standards and guidelines.

Thus, the number of affected small entities is not expected to be substantial, and a regulatory flexibility analysis is not required. Nevertheless, the EPA has conducted an extensive analysis of potential regulatory impacts on households, small governments, and small businesses. The analysis is summarized in the preambles to the proposed standards (59 FR 48198) and guidelines (59 FR 48228.) The full analysis is included in the economic impact assessment in the docket and is listed at the beginning of today's notice under **SUPPLEMENTARY INFORMATION.**

On December 20, 1989, the EPA proposed standards and guidelines for MWC's that applied to all sizes of MWC's. The 1989 proposal had no lower size cutoff. Small businesses, small governments, and groups representing small-entity interests commented extensively on the need to lighten the potential regulatory burden on small entities. Most commenters suggested a small size cutoff considerably smaller than the one now being proposed. The most frequently suggested levels were 5 to 11 Mg/day, 18 Mg/day, 23 Mg/day, and 45 Mg/day. The EPA has used these suggestions and the information submitted by these commenters, as well as information from other sources, to fulfill the intent of the RFA. The EPA has incorporated into the standards and guidelines being promulgated today several features that will mitigate and, in most cases eliminate, any potential, adverse economic impacts on small entities. These features are as follows:

(1) The standards and guidelines will apply only to MWC's with a plant capacity of greater than 35 Mg/day. This cutoff eliminates from the purview of the regulation and guidelines the overwhelming majority of projected new and existing very small MWC's;

(2) The standards and guidelines are ''tiered'' so that the stringency (and therefore potential economic burden) of the emission standards and guidelines increases as the size of the MWC plant increases. Plants with capacities less than or equal to 35 Mg/day are not covered under the final standards and guidelines. Plants with capacities of 35 to 225 Mg/day are not required to control NO_x. Only plants with capacities larger than 225 Mg/day—plants not often associated with small entities—are subject to a full complement of rigorous standards;

(3) As opposed to design, equipment, work practice, or operational standards, the standards for new sources and the guidelines for existing sources consist predominantly of emission limits. Emission limits give MWC owners and operators of new and existing MWC's the freedom to select the most economical means of compliance.

(4) The guidelines are not the usual type of regulation governed by the RFA. The guidelines will not apply directly to any MWC's, but will be used as a guide by individual State air pollution control agencies in developing site-specific regulations for MWC's. States are allowed some flexibility in implementing the guidelines.

Pursuant to the provisions of 5 U.S.C. 605(b), the EPA certifies that the standards and guidelines will not have a significant economic impact on a substantial number of small entities because the number of small entities affected is not substantial.

G. Clean Air Act Procedural Requirements

The following procedural requirements of the Clean Air Act are addressed: Administrative listing, periodic review, external participation, and economic impact assessment.

1. Administrator Listing—Sections 111 and 129 of the Clean Air Act

As prescribed by section 111 of the Clean Air Act, establishment of standards of performance and emission guidelines for MWC's is based on the Administrator's determination (52 FR 25399, July 7, 1987) that these sources contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare. Additionally, section 129 of the 1990 Amendments to the Clean Air Act directs the Administrator to promulgate revised standards for new MWC's and guidelines for existing MWC's.

2. Periodic Review—Sections 111 and 129 of the Clean Air Act

Sections 111 and 129 of the Clean Air Act require that the standards and guidelines be reviewed not later than 5 years following the initial promulgation. At that time and at 5-year intervals thereafter, the Administrator shall review the standards and guidelines and revise them if necessary. This review will include an assessment of such factors as the need for integration with other programs, the existence of alternative methods, enforceability, improvements in emission control technology, and reporting requirements.

3. External Participation

In accordance with section 117 of the Clean Air Act, publication of this promulgation was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies.

4. Economic Impact Assessment

Section 317A of the Clean Air Act requires the EPA to prepare an economic impact assessment for any standards or guidelines promulgated under section 111(b) of the Clean Air Act. An economic impact assessment was prepared for the promulgated standards and guidelines. In the manner described in the sections of this preamble regarding the impacts of and rationale for the promulgated standards and guidelines, the EPA considered all aspects of the economic impact assessment in promulgating the standards and guidelines. The economic impact assessment is included in the list of key technical documents at the beginning of today's notice under **SUPPLEMENTARY INFORMATION.**

List of Subjects in 40 CFR Part 60

Environmental Protection, Air pollution control, Intergovernmental relations, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: October 31, 1995.

Carol M. Browner,

Administrator.

Part 60, chapter I, title 40 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, 7414, 7416, 7429, and 7601.

2. Section 60.17 of subpart A of part 60 is amended by revising paragraphs (h)(1), (h)(2), and (h)(3) to read as follows:

§ 60.17 Incorporation by reference.

* * * * *

(h) * * *

(1) ASME QRO–1–1994, Standard for the Qualification and Certification of Resource Recovery Facility Operators, IBR approved for §§ 60.56a, 60.54b(a) and 60.54b(b).

(2) ASME PTC 4.1–1964 (Reaffirmed 1991), Power Test Codes: Test Code for Steam Generating Units (with 1968 and 1969 Addenda), IBR approved for §§ 60.46b, 60.58a(h)(6)(ii), and 60.58b(i)(6)(ii).

(3) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th Edition (1971), IBR approved for §§ 60.58a(h)(6)(ii) and 60.58b(i)(6)(ii).

* * * * *

3. Section 60.23 of subpart B of part 60 is amended by revising paragraph (a)(1) to read as follows:

§ 60.23 Adoption and submittal of State plans; public hearings.

(a) * * *

(1) Unless otherwise specified in the applicable subpart, within 9 months after notice of the availability of a final guideline document is published under § 60.22(a), each State shall adopt and submit to the Administrator, in accordance with § 60.4 of subpart A of this part, a plan for the control of the designated pollutant to which the guideline document applies.

* * * * *

4. Section 60.24 of subpart B of part 60 is amended by revising paragraph (f) introductory text to read as follows:

§ 60.24 Emission standards and compliance schedules.

* * * * *

(f) Unless otherwise specified in the applicable subpart on a case-by-case basis for particular designated facilities or classes of facilities, States may provide for the application of less stringent emissions standards or longer compliance schedules than those otherwise required by paragraph (c) of this section, provided that the State demonstrates with respect to each such facility (or class of facilities):

* * * * *

5. Subpart C of part 60 is amended by revising § 60.30 to read as follows:

§ 60.30 Scope.

The following subparts contain emission guidelines and compliance times for the control of certain designated pollutants in accordance with section 111(d) and section 129 of the Clean Air Act and subpart B of this part.

(a) Subpart Ca—[Removed and Reserved]

(b) Subpart Cb—Municipal Waste Combustors

(c) Subpart Cc—[Reserved]

(d) Subpart Cd—Sulfuric Acid Production Plants

Subpart Ca—[Removed and Reserved]

5a. Part 60 is amended by removing and reserving subpart Ca.

Subpart Cb—[Redesignated as Subpart Cd]

Subpart Cc—[Reserved]

6. Part 60 is amended by redesignating subpart Cb as Cd, reserving subpart Cc, and revising the new subpart Cd to read as follows:

Subpart Cd—Emissions Guidelines and Compliance Times for Sulfuric Acid Production Units

Sec.

Subpart Cd—Emission Guidelines and Compliance Times for Sulfuric Acid Production Units

§ 60.30d Designated facilities.

Sulfuric acid production units. The designated facility to which §§ 60.31d and 60.32d apply is each existing ''sulfuric acid production unit'' as defined in § 60.81(a) of subpart H of this part.

§ 60.31d Emissions guidelines.

Sulfuric acid production units. The emission guideline for designated facilities is 0.25 grams sulfuric acid mist (as measured by EPA Reference Method 8 of appendix A of this part) per kilogram (0.5 pounds per ton) of sulfuric acid produced, the production being expressed as 100 percent sulfuric acid.

§ 60.32d Compliance times.

Sulfuric acid production units. Planning, awarding of contracts, and installation of equipment capable of attaining the level of the emission guideline established under § 60.31d can be accomplished within 17 months after the effective date of a State emission standard for sulfuric acid mist.

7. Part 60 is further amended by adding a new subpart Cb to read as follows:

Subpart Cb—Emissions Guidelines and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995

Sec.

Subpart Cb—Emissions Guidelines and Compliance Schedules for Municipal Waste Combustors

§ 60.30b Scope.

This subpart contains emission guidelines and compliance schedules for the control of certain designated pollutants from certain municipal waste combustors in accordance with section 111(d) and section 129 of the Clean Air Act and subpart B of this part. The provisions in these emission guidelines supersede the provisions of § 60.24(f) of subpart B of this part.

§ 60.31b Definitions.

Terms used but not defined in this subpart have the meaning given them in the Clean Air Act and subparts A, B, and Eb of this part.

Municipal waste combustor plant means one or more municipal waste combustor units at the same location for which construction was commenced on or before September 20, 1994.

Municipal waste combustor plant capacity means the aggregate municipal waste combustor unit capacity of all municipal waste combustor units at a municipal waste combustor plant for which construction was commenced on or before September 20, 1994.

§ 60.32b Designated facilities.

(a) The designated facility to which these guidelines apply is each municipal waste combustor unit located within a municipal waste combustor plant with an aggregate municipal waste combustor plant capacity greater than 35 megagrams per day of municipal solid waste for which construction was commenced on or before September 20, 1994.

(b) Any waste combustion unit at a medical, industrial, or other type of waste combustor plant that is capable of combusting more than 35 megagrams per day of municipal solid waste and is subject to a federally enforceable permit limiting the plantwide maximum amount of municipal solid waste that may be combusted to less than or equal to 10 megagrams per day is not subject to this subpart if the owner or operator:

(1) Notifies the Administrator of an exemption claim,

(2) Provides a copy of the federally enforceable permit that limits the firing of municipal solid waste to less than 10 megagrams per day, and

(3) Keeps records of the amount of municipal solid waste fired on a daily basis.

(c) Physical or operational changes made to an existing municipal waste combustor unit primarily for the purpose of complying with emission guidelines under this subpart are not considered in determining whether the unit is a modified or reconstructed facility under subpart Ea or subpart Eb of this part.

(d) A qualifying small power production facility, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy is not subject to this subpart if the owner or operator of the facility notifies the Administrator of this exemption and provides data documenting that the facility qualifies for this exemption.

(e) A qualifying cogeneration facility, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy and steam or forms of useful energy (such as heat) that are used for industrial, commercial, heating, or cooling purposes, is not subject to this subpart if the owner or operator of the facility notifies the Administrator of this exemption and provides data documenting that the facility qualifies for this exemption.

(f) Any unit combusting a single-item waste stream of tires is not subject to this subpart if the owner or operator of the unit:

(1) Notifies the Administrator of an exemption claim, and

(2) Provides data documenting that the unit qualifies for this exemption.

(g) Any unit required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to this subpart.

(h) Any materials recovery facility (including primary or secondary smelters) that combusts waste for the primary purpose of recovering metals is not subject to this subpart.

(i) Any cofired combustor, as defined under § 60.51b of subpart Eb of this part, that meets the capacity specifications in paragraph (a) of this section is not subject to this subpart if the owner or operator of the cofired combustor:

(1) Notifies the Administrator of an exemption claim,

(2) Provides a copy of the federally enforceable permit (specified in the definition of cofired combustor in this section), and

(3) Keeps a record on a calendar quarter basis of the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor.

(j) Air curtain incinerators, as defined under § 60.51b of subpart Eb of this part, that meet the capacity specifications in paragraph (a) of this section, and that combust a fuel stream composed of 100 percent yard waste are exempt from all provisions of this subpart except the opacity standard under § 60.37b, the testing procedures under § 60.38b, and the reporting and recordkeeping provisions under § 60.39b.

(k) Air curtain incinerators that meet the capacity specifications in paragraph (a) of this section and that combust municipal solid waste other than yard waste are subject to all provisions of this subpart.

(l) Pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in § 60.51b) are not subject to this subpart if the owner or operator of the plastics/rubber recycling unit keeps records of the weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis; the weight of chemical plant feedstocks and petroleum refinery feedstocks produced and marketed on a calendar quarter basis; and the name and address of the purchaser of the feedstocks. The combustion of 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 are not subject to this subpart.

§ 60.33b Emission guidelines for municipal waste combustor metals, acid gases, organics, and nitrogen oxides.

(a) The emission limits for municipal waste combustor metals are specified in paragraphs (a)(1) through (a)(3) of this section.

(1) For approval, a State plan shall include emission limits for particulate matter and opacity at least as protective as the emission limits for particulate matter and opacity specified in paragraphs (a)(1)(i) through (a)(1)(iii) of this section.

(i) The emission limit for particulate matter contained in the gases discharged to the atmosphere from a designated facility located within a large municipal waste combustor plant is 27 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(ii) The emission limit for particulate matter contained in the gases discharged to the atmosphere from a designated facility located within a small municipal waste combustor plant is 70

milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(iii) The emission limit for opacity exhibited by the gases discharged to the atmosphere from a designated facility located within a small or large municipal waste combustor plant is 10 percent (6-minute average).

(2) For approval, a State plan shall include emission limits for cadmium and lead at least as protective as the emission limits for cadmium and lead specified in paragraphs (a)(2)(i) through (a)(2)(iv) of this section.

(i) The emission limit for cadmium contained in the gases discharged to the atmosphere from a designated facility located within a large municipal waste combustor plant is 0.040 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(ii) The emission limit for cadmium contained in the gases discharged to the atmosphere from a designated facility located within a small municipal waste combustor plant is 0.10 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(iii) The emission limit for lead contained in the gases discharged to the atmosphere from a designated facility located within a large municipal waste combustor plant is 0.49 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(iv) The emission limit for lead contained in the gases discharged to the atmosphere from a designated facility located within a small municipal waste combustor plant is 1.6 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(3) For approval, a State plan shall include emission limits for mercury at least as protective as the emission limits specified in this paragraph. The emission limit for mercury contained in the gases discharged to the atmosphere from a designated facility located within a small or large municipal waste combustor plant is 0.080 milligrams per dry standard cubic meter or 15 percent of the potential mercury emission concentration (an 85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.

(b) The emission limits for municipal waste combustor acid gases, expressed as sulfur dioxide and hydrogen chloride, are specified in paragraphs (b)(1) and (b)(2) of this section.

(1) For approval, a State plan shall include emission limits for sulfur dioxide at least as protective as the emission limits for sulfur dioxide specified in paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(i) The emission limit for sulfur dioxide contained in the gases discharged to the atmosphere from a designated facility located within a large municipal waste combustor plant is 31 parts per million by volume or 25 percent of the potential sulfur dioxide emission concentration (75-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour daily geometric mean.

(ii) The emission limit for sulfur dioxide contained in the gases discharged to the atmosphere from a designated facility located within a small municipal waste combustor plant is 80 parts per million by volume or 50 percent of the potential sulfur dioxide emission concentration (50-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. Compliance with this emission limit is based on a 24-hour geometric mean.

(2) For approval, a State plan shall include emission limits for hydrogen chloride at least as protective as the emission limits for hydrogen chloride specified in paragraphs (b)(2)(i) and (b)(2)(ii) of this section.

(i) The emission limit for hydrogen chloride contained in the gases discharged to the atmosphere from a designated facility located within a large municipal waste combustor plant is 31 parts per million by volume or 5 percent of the potential hydrogen chloride emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.

(ii) The emission limit for hydrogen chloride contained in the gases discharged to the atmosphere from an affected facility located within a small municipal waste combustor plant is 250 parts per million by volume or 50 percent of the potential hydrogen chloride emission concentration (50-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.

(c) The emission limits for municipal waste combustor organics, expressed as total mass dioxins/furans, are specified in paragraphs (c)(1) and (c)(2) of this section.

(1) For approval, a State plan shall include an emission limit for dioxins/furans contained in the gases discharged to the atmosphere from a designated facility located within a large municipal waste combustor plant at least as protective as the emission limit for dioxins/furans specified in either paragraph (c)(1)(i) or (c)(1)(ii) of this section, as applicable.

(i) The emission limit for designated facilities that employ an electrostatic precipitator-based emission control system is 60 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(ii) The emission limit for designated facilities that do not employ an electrostatic precipitator-based emission control system is 30 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(2) For approval, a State plan shall include an emission limit for dioxins/furans contained in the gases discharged to the atmosphere from a designated facility located within a small municipal waste combustor plant at least as protective as the emission limit for dioxins/furans specified in this paragraph. The emission limit for dioxins/furans for designated facilities located within a small municipal waste combustor plant is 125 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(d) For approval, a State plan shall include emission limits for nitrogen oxides at least as protective as the emission limits listed in table 1 of this subpart for designated facilities located within large municipal waste combustor plants. Table 1 provides emission limits for the nitrogen oxides concentration level for each type of designated facility.

TABLE 1.—NITROGEN OXIDES GUIDELINES FOR DESIGNATED FACILITIES AT LARGE MUNICIPAL WASTE COMBUSTOR PLANTS

Municipal waste combustor technology	Nitrogen oxides emission limit (parts per million by volume)[a]
Mass burn waterwall	200
Mass burn rotary waterwall	250
Refuse-derived fuel combustor	250
Fluidized bed combustor	240
Mass burn refractory combustors	no limit
Other[b]	200

[a] Corrected to 7 percent oxygen, dry basis.
[b] Excludes mass burn refractory municipal waste combustors.

(1) A State plan may allow nitrogen oxides emissions averaging as specified in paragraphs (d)(1)(i) through (d)(1)(v) of this section.

(i) An owner or operator of a large municipal waste combustor plant may elect to implement a nitrogen oxides emissions averaging plan for the designated facilities that are located at that plant and that are subject to subpart Cb, except as specified in paragraphs

(d)(1)(i)(A) and (d)(1)(i)(B) of this section.

(A) Municipal waste combustor units subject to subpart Ea or Eb cannot be included in the emissions averaging plan.

(B) Mass burn refractory municipal waste combustor units cannot be included in the emissions averaging plan.

(ii) The designated facilities included in the nitrogen oxides emissions averaging plan must be identified in the initial compliance report specified in § 60.59b(f) or in the annual report specified in § 60.59b(g), as applicable, prior to implementing the averaging plan. The designated facilities being included in the averaging plan may be redesignated each calendar year. Partial year redesignation is allowable with State approval.

(iii) To implement the emissions averaging plan, the average daily (24-hour) nitrogen oxides emission concentration level for gases discharged from the designated facilities being included in the emissions averaging plan must be no greater than the levels specified in table 2 of this subpart. Table 2 provides emission limits for the nitrogen oxides concentration level for each type of designated facility.

TABLE 2.—NITROGEN OXIDES LIMITS FOR EXISTING DESIGNATED FACILITIES INCLUDED IN AN EMISSIONS AVERAGING PLAN AT LARGE MUNICIPAL WASTE COMBUSTOR PLANTS

Municipal waste combustor technology	Nitrogen oxides emission limit (parts per million by volume)[a]
Mass burn waterwall	180
Mass burn rotary waterwall	220
Refuse-derived fuel combustor	230
Fluidized bed combustor	220
Other[b]	180

[a] Corrected to 7 percent oxygen, dry basis.
[b] Excludes mass burn refractory municipal waste combustors. Mass burn refractory municipal waste combustors may not be included in an emissions averaging plan.

(iv) Under the emissions averaging plan, the average daily nitrogen oxides emissions specified in paragraph (d)(1)(iii) of this section shall be calculated using equation (1). Designated facilities that are offline shall not be included in calculating the average daily nitrogen oxides emission level.

$$NO_{X_{24-hr}} = \frac{\sum_{i=1}^{h}\left(NO_{X_i}\right)\left(S_i\right)}{\sum_{i=1}^{h}\left(S_i\right)} \quad (1)$$

where:

$NO_{X\ 24\text{-}hr}$=24-hr daily average nitrogen oxides emission concentration level for the emissions averaging plan (parts per million by volume corrected to 7 percent oxygen).

$NO_{X\ i\text{-}hr}$=24-hr daily average nitrogen oxides emission concentration level for designated facility i (parts per million by volume, corrected to 7 percent oxygen), calculated according to the procedures in § 60.58b(h) of this subpart.

S_i=maximum demonstrated municipal waste combustor unit load for designated facility i (pounds per hour steam or feedwater flow as determined in the most recent dioxin/furan performance test).

h=total number of designated facilities being included in the daily emissions average.

(v) For any day in which any designated facility included in the emissions averaging plan is offline, the owner or operator of the municipal waste combustor plant must demonstrate compliance according to either paragraph (d)(1)(v)(A) of this section or both paragraphs (d)(1)(v)(B) and (d)(1)(v)(C) of this section.

(A) Compliance with the applicable limits specified in table 2 of this subpart shall be demonstrated using the averaging procedure specified in paragraph (d)(1)(iv) of this section for the designated facilities that are online.

(B) For each of the designated facilities included in the emissions averaging plan, the nitrogen oxides emissions on a daily average basis shall be calculated and shall be equal to or less than the maximum daily nitrogen oxides emission level achieved by that designated facility on any of the days during which the emissions averaging plan was achieved with all designated facilities online during the most recent calendar quarter. The requirements of this paragraph do not apply during the first quarter of operation under the emissions averaging plan.

(C) The average nitrogen oxides emissions (kilograms per day) calculated according to paragraph (d)(1)(v)(C)(*2*) of this section shall not exceed the average nitrogen oxides emissions (kilograms per day) calculated according to paragraph (d)(1)(v)(C)(*1*) of this section.

(*1*) For all days during which the emissions averaging plan was implemented and achieved and during which all designated facilities were online, the average nitrogen oxides emissions shall be calculated. The average nitrogen oxides emissions (kilograms per day) shall be calculated on a calendar year basis according to paragraphs (d)(1)(v)(C)(*1*)(*i*) through (d)(1)(v)(C)(*1*)(*iii*) of this section.

(*i*) For each designated facility included in the emissions averaging plan, the daily amount of nitrogen oxides emitted (kilograms per day) shall be calculated based on the hourly nitrogen oxides data required under § 60.38b(a) and specified under § 60.58b(h)(5) of subpart Eb of this part, the flue gas flow rate determined using table 19–1 of EPA Reference Method 19 or a State-approved method, and the hourly average steam or feedwater flow rate.

(*ii*) The daily total nitrogen oxides emissions shall be calculated as the sum of the daily nitrogen oxides emissions from each designated facility calculated under paragraph (d)(1)(v)(C)(*1*)(*i*) of this section.

(*iii*) The average nitrogen oxides emissions (kilograms per day) on a calendar year basis shall be calculated as the sum of all daily total nitrogen oxides emissions calculated under paragraph (d)(1)(v)(C)(*1*)(*ii*) of this section divided by the number of calendar days for which a daily total was calculated.

(*2*) For all days during which one or more of the designated facilities under the emissions averaging plan was offline, the average nitrogen oxides emissions shall be calculated. The average nitrogen oxides emissions (kilograms per day) shall be calculated on a calendar year basis according to paragraphs (d)(1)(v)(C)(*2*)(*i*) through (d)(1)(v)(C)(*2*)(*iii*) of this section.

(*i*) For each designated facility included in the emissions averaging plan, the daily amount of nitrogen oxides emitted (kilograms per day) shall be calculated based on the hourly nitrogen oxides data required under § 60.38b(a) and specified under § 60.58b(h)(5) of subpart Eb of this part, the flue gas flow rate determined using table 19–1 of EPA Reference Method 19 or a State-approved method, and the hourly average steam or feedwater flow rate.

(*ii*) The daily total nitrogen oxides emissions shall be calculated as the sum of the daily nitrogen oxides emissions from each designated facility calculated under paragraph (d)(1)(v)(C)(*2*)(*i*) of this section.

(*iii*) The average nitrogen oxides emissions (kilograms per day) on a calendar year basis shall be calculated

as the sum of all daily total nitrogen oxides emissions calculated under paragraph (d)(1)(v)(C)(*2*)(*ii*) of this section divided by the number of calendar days for which a daily total was calculated.

(2) A State plan may establish a program to allow owners or operators of municipal waste combustor plants to engage in trading of nitrogen oxides emission credits. A trading program must be approved by the Administrator before implementation.

§ 60.34b Emission guidelines for municipal waste combustor operating practices.

(a) For approval, a State plan shall include emission limits for carbon monoxide at least as protective as the emission limits for carbon monoxide listed in table 3 of this subpart. Table 3 provides emission limits for the carbon monoxide concentration level for each type of designated facility located within a small or large municipal waste combustor plant.

TABLE 3.—MUNICIPAL WASTE COMBUSTOR OPERATING GUIDELINES

Municipal waste combustor technology	Carbon monoxide emissions level (parts per million by volume)[a]	Averaging time (hrs)
Mass burn waterwall	100	4
Mass burn refractory	100	4
Mass burn rotary refractory	100	24
Mass burn rotary waterwall	250	24
Modular starved air	50	4
Modular excess air	50	4
Refuse-derived fuel stoker	200	24
Buddling fluidized bed combustor	100	4
Circulating fluidized bed combustor	100	4
Pulverized coal/refuse-derived fuel mixed fuel-fired combustor	150	4
Spreader stoker coal/refuse-derived fuel mixed fuel-fired combustor	200	24

[a] Measured at the combustor outlet in conjunction with a measurement of oxygen concentration, corrected to 7 percent oxygen, dry basis. Calculated as an arithmetic average.

(b) For approval, a State plan shall include requirements for municipal waste combustor operating practices at least as protective as those requirements listed in § 60.53b(b) and (c) of subpart Eb of this part.

§ 60.35b Emission guidelines for municipal waste combustor operator training and certification.

For approval, a State plan shall include requirements for designated facilities located within small or large municipal waste combustor plants for municipal waste combustor operator training and certification at least as protective as those requirements listed in § 60.54b of subpart Eb of this part. The State plan shall require compliance with these requirements according to the schedule specified in § 60.39b(c)(4).

§ 60.36b Emission guidelines for municipal waste combustor fugitive ash emissions.

For approval, a State plan shall include requirements for municipal waste combustor fugitive ash emissions at least as protective as those requirements listed in § 60.55b of subpart Eb of this part.

§ 60.37b Emission guidelines for air curtain incinerators.

For approval, a State plan shall include emission limits for opacity for air curtain incinerators at least as protective as those listed in § 60.56b of subpart Eb of this part.

§ 60.38b Compliance and performance testing.

(a) For approval, a State plan shall include the performance testing methods listed in § 60.58b of subpart Eb of this part, as applicable, except as provided for under § 60.24(b)(2) of subpart B of this part and paragraphs (b) and (c) of this section.

(b) For approval, a State plan shall include for designated facilities at large municipal waste combustor plants the alternative performance testing schedule for dioxins/furans specified in § 60.58b(g)(5)(iii) of subpart Eb of this part, as applicable, for those designated facilities that achieve a dioxin/furan emission level less than or equal to 15 nanograms per dry standard cubic meter total mass, corrected to 7 percent oxygen.

(c) For approval, a State plan shall include for designated facilities at small municipal waste combustor plants the alternative performance testing schedule for dioxins/furans specified in § 60.58b(g)(5)(iii) of subpart Eb of this part, as applicable, for those designated facilities that achieve a dioxin/furan emission level less than or equal to 30 nanograms per dry standard cubic meter total mass, corrected to 7 percent oxygen.

§ 60.39b Reporting and recordkeeping guidelines and compliance schedules.

(a) For approval, a State plan shall include the reporting and recordkeeping provisions listed in § 60.59b of subpart Eb of this part, as applicable, except for the siting requirements under § 60.59b(a), (b)(5), and (d)(11) of subpart Eb of this part.

(b) Not later than December 19, 1996, each State in which a designated facility is operating shall submit to the Administrator a plan to implement and enforce the emission guidelines. The compliance schedule specified in this paragraph is in accordance with section 129(b)(2) of the Act and supersedes the compliance schedule provided in § 60.23(a)(1) of subpart B of this part.

(c) For approval, a State plan shall include the compliance schedules specified in paragraphs (c)(1) through (c)(5) of this section.

(1) A State plan shall allow designated facilities located within large municipal waste combustor plants to comply with all requirements of a State plan (or close) within 1 year after approval of the State plan, except as provided by paragraph (c)(1)(i) and (c)(1)(ii) of this section.

(i) A State plan that allows designated facilities more than 1 year but less than 3 years following the date of issuance of a revised construction or operation permit, if a permit modification is

required, or more than 1 year but less than 3 years following approval of the State plan, if a permit modification is not required, shall include measurable and enforceable incremental steps of progress toward compliance. Suggested measurable and enforceable activities are specified in paragraphs (c)(1)(i)(A) through (c)(1)(i)(J) of this section.

(A) Date for obtaining services of an architectural and engineering firm regarding the air pollution control device(s);

(B) Date for obtaining design drawings of the air pollution control device(s);

(C) Date for submittal of permit modifications, if necessary;

(D) Date for submittal of the final control plan to the Administrator. [§ 60.21 (h)(1) of subpart B of this part.];

(E) Date for ordering the air pollution control device(s);

(F) Date for obtaining the major components of the air pollution control device(s);

(G) Date for initiation of site preparation for installation of the air pollution control device(s);

(H) Date for initiation of installation of the air pollution control device(s);

(I) Date for initial startup of the air pollution control device(s); and

(J) Date for initial performance test(s) of the air pollution control device(s).

(ii) A State plan that allows designated facilities more than 1 year but up to 3 years after State plan approval to close shall require a closure agreement. The closure agreement must include the date of plant closure.

(2) If the State plan requirements for a designated facility located within a large municipal waste combustor plant include a compliance schedule longer than 1 year after approval of the State plan in accordance with paragraph (c)(1)(i) or (c)(1)(ii) of this section, the State plan submittal (for approval) shall include performance test results for dioxin/furan emissions for each designated facility that has a compliance schedule longer than 1 year following the approval of the State plan, and the performance test results shall have been conducted during or after 1990. The performance test shall be conducted according to the procedures in § 60.38b.

(3) A State plan shall allow designated facilities located within small municipal waste combustor plants to comply with all requirements of the State plan (or close) within 3 years following the date of issuance of a revised construction or operation permit, if a permit modification is required, or within 3 years following approval of the State plan, if a permit modification is not required.

(4) A State plan shall require compliance with the municipal waste combustor operator training and certification requirements under § 60.35b according to the schedule specified in paragraphs (c)(4)(i) through (c)(4)(iii) of this section.

(i) For designated facilities located within small municipal waste combustor plants, the State plan shall require compliance with the municipal waste combustor operator training and certification requirements specified under § 60.54b (a) through (c) of subpart Eb of this part by the date 6 months after startup of a designated facility or 18 months after State plan approval, whichever is later.

(ii) For designated facilities located within large municipal waste combustor plants, the State plan shall require compliance with the municipal waste combustor operator training and certification requirements specified under § 60.54b (a) through (c) of subpart Eb of this part by the date 6 months after the date of startup or 12 months after State plan approval, whichever is later.

(iii) For designated facilities located within small or large municipal waste combustor plants, the State plan shall require compliance with the requirements specified in § 60.54b (d), (f), and (g) of subpart Eb of this part no later than 6 months after startup or 12 months after State plan approval, whichever is later.

(A) The requirement specified in § 60.54b(d) of subpart Eb of this part does not apply to chief facility operators, shift supervisors, and control room operators who have obtained full certification from the American Society of Mechanical Engineers on or before the date of State plan approval.

(B) The owner or operator may request that the Administrator waive the requirement specified in § 60.54b(d) of subpart Eb of this part for chief facility operators, shift supervisors, and control room operators who have obtained provisional certification from the American Society of Mechanical Engineers on or before the date of State plan approval.

(C) The initial training requirements specified in § 60.54b(f)(1) of subpart Eb of this part shall be completed no later than the date specified in paragraph (c)(4)(iii)(C)(*1*), (c)(4)(iii)(C)(*2*), or (c)(4)(iii)(C)(*3*), of this section whichever is later.

(*1*) The date 6 months after the date of startup of the affected facility;

(*2*) Twelve months after State plan approval; or

(*3*) The date prior to the day when the person assumes responsibilities affecting municipal waste combustor unit operation.

(5) A State plan shall require all designated facilities for which construction, modification, or reconstruction is commenced after June 26, 1987 that are located within a large municipal waste combustor plant to comply with the emission limit for mercury specified in § 60.33b(a)(3) and the emission limit for dioxins/furans specified in § 60.33b(c)(1) within 1 year following issuance of a revised construction or operation permit, if a permit modification is required, or within 1 year following approval of the State plan, whichever is later.

(d) In the event no plan for implementing the emission guidelines is adopted, all designated facilities meeting the applicability requirements under § 60.32b shall be in compliance with the guidelines no later than December 19, 2000.

8. Part 60 is amended by adding subpart Eb as follows:

Subpart Eb—Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994

Sec.

Subpart Eb—Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994

§ 60.50b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each municipal waste combustor unit located within a municipal waste combustor plant with an aggregate municipal waste combustor plant capacity greater than 35 megagrams per day of municipal solid waste for which construction is commenced after September 20, 1994 or for which modification or reconstruction is commenced after June 19, 1996.

(b) Any waste combustion unit at a medical, industrial, or other type of waste combustor plant that is capable of combusting more than 35 megagrams per day of municipal solid waste and is subject to a federally enforceable permit limiting the plantwide maximum amount of municipal solid waste that may be combusted to less than or equal to 10 megagrams per day is not subject to this subpart if the owner or operator:

(1) Notifies the Administrator of an exemption claim;

(2) Provides a copy of the federally enforceable permit that limits the firing of municipal solid waste to less than 10 megagrams per day; and

(3) Keeps records of the amount of municipal solid waste fired on a daily basis.

(c) An affected facility to which this subpart applies is not subject to subpart E or Ea of this part.

(d) Physical or operational changes made to an existing municipal waste combustor unit primarily for the purpose of complying with emission guidelines under subpart Cb are not considered a modification or reconstruction and do not result in an existing municipal waste combustor unit becoming subject to this subpart.

(e) A qualifying small power production facility, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy is not subject to this subpart if the owner or operator of the facility notifies the Administrator of this exemption and provides data documenting that the facility qualifies for this exemption.

(f) A qualifying cogeneration facility, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy and steam or forms of useful energy (such as heat) that are used for industrial, commercial, heating, or cooling purposes, is not subject to this subpart if the owner or operator of the facility notifies the Administrator of this exemption and provides data documenting that the facility qualifies for this exemption.

(g) Any unit combusting a single-item waste stream of tires is not subject to this subpart if the owner or operator of the unit:

(1) Notifies the Administrator of an exemption claim; and

(3) Provides data documenting that the unit qualifies for this exemption.

(h) Any unit required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to this subpart.

(i) Any materials recovery facility (including primary or secondary smelters) that combusts waste for the primary purpose of recovering metals is not subject to this subpart.

(j) Any cofired combustor, as defined under § 60.51b, located at a plant that meets the capacity specifications in paragraph (a) of this section is not subject to this subpart if the owner or operator of the cofired combustor:

(1) Notifies the Administrator of an exemption claim;

(2) Provides a copy of the federally enforceable permit (specified in the definition of cofired combustor in this section); and

(3) Keeps a record on a calendar quarter basis of the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor.

(k) Air curtain incinerators, as defined under § 60.51b, located at a plant that meet the capacity specifications in paragraph (a) of this section and that combust a fuel stream composed of 100 percent yard waste are exempt from all provisions of this subpart except the opacity limit under § 60.56b, the testing procedures under § 60.58b(l), and the reporting and recordkeeping provisions under § 60.59b (e) and (i).

(l) Air curtain incinerators located at plants that meet the capacity specifications in paragraph (a) of this section combusting municipal solid waste other than yard waste are subject to all provisions of this subpart.

(m) Pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in § 60.51b) are not subject to this subpart if the owner or operator of the plastics/rubber recycling unit keeps records of the weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis; the weight of chemical plant feedstocks and petroleum refinery feedstocks produced and marketed on a calendar quarter basis; and the name and address of the purchaser of the feedstocks. The combustion of 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 are not subject to this subpart.

(n) The following authorities shall be retained by the Administrator and not transferred to a State: None.

(o) This subpart shall become effective June 19, 1996.

§ 60.51b Definitions.

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

Batch municipal waste combustor means a municipal waste combustor unit designed so that 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 while combustion is occurring.

Bubbling fluidized bed combustor means a fluidized bed combustor in which the majority of the bed material remains in a fluidized state in the primary combustion zone.

Calendar quarter means a consecutive 3-month period (nonoverlapping) beginning on January 1, April 1, July 1, and October 1.

Calendar year means the period including 365 days starting 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 combustor and who is responsible for daily onsite supervision, technical direction, management, and overall performance of the facility.

Circulating fluidized bed combustor means a fluidized bed combustor in which the majority of the fluidized bed material is carried out of the primary combustion zone and is transported back to the primary zone through a recirculation loop.

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 yard waste, which is defined elsewhere in this section, or construction, renovation, and demolition wastes (including but not limited to railroad ties and telephone poles), which are exempt from the definition of municipal solid waste in this section.

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

Continuous emission monitoring system means a monitoring system for continuously measuring the emissions of a pollutant from an affected facility.

Dioxin/furan means tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator including the requirements of 40 CFR parts 60, 61, and 63, requirements within any applicable State 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 starting on January 1 and ending on June 30 in any year.

Four-hour block average or *4-hour block average* means the average of all hourly emission concentrations when the affected facility is operating and combusting municipal solid waste measured over 4-hour periods of time from 12:00 midnight to 4 a.m., 4 a.m. to 8 a.m., 8 a.m. to 12:00 noon, 12:00 noon to 4 p.m., 4 p.m. to 8 p.m., and 8 p.m. to 12:00 midnight.

Large municipal waste combustor plant means a municipal waste combustor plant with a municipal waste combustor aggregate plant capacity for affected facilities that is greater than 225 megagrams per day of municipal solid waste.

Mass burn refractory municipal waste combustor means a field-erected combustor that combusts municipal solid waste in a refractory wall furnace. Unless otherwise specified, this includes combustors with a cylindrical rotary refractory wall furnace.

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

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

Materials separation plan means a plan that identifies both a goal and an approach to separate 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 elements such as dropoff facilities, buy-back or deposit-return incentives, curbside pickup programs, or centralized mechanical separation systems. A materials separation plan may include different goals or approaches for different subareas in the service area, and may include no materials separation activities for certain subareas or, if warranted, an entire service area.

Maximum demonstrated municipal waste combustor unit load means the highest 4-hour arithmetic average municipal waste combustor unit load achieved during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified under § 60.52b(c).

Maximum demonstrated particulate matter control device temperature means the highest 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified under § 60.52b(c).

Modification or *modified municipal waste combustor unit* means a municipal waste combustor unit to which changes have been made after June 19, 1996 if the cumulative cost of the changes, over the life of the unit, exceed 50 percent of the original cost of construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs; or any physical change in the municipal waste combustor unit or change in the method of operation of the municipal waste combustor unit increases the amount of any air pollutant emitted by the unit for which standards have been established under section 129 or section 111. Increases in the amount of any air pollutant emitted by the municipal waste combustor unit are determined at 100-percent physical load capability and downstream of all air pollution control devices, with no consideration given for load restrictions based on permits or other nonphysical operational restrictions.

Modular excess-air municipal waste combustor means a combustor that combusts municipal solid waste and that 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 combustor means a combustor that combusts municipal solid waste and that 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* or *MSW* means household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. 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 material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities. Household, commercial/retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which includes but is not limited to railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff). Household, commercial/retail, and institutional wastes include:

(1) Yard waste;

(2) Refuse-derived fuel; and

(3) Motor vehicle maintenance materials limited to vehicle batteries and tires except as specified in § 60.50b(g).

Municipal waste combustor, MWC, or *municipal waste combustor unit*: (1) Means any setting or equipment that combusts solid, liquid, or gasified municipal solid waste including, but not limited to, field-erected incinerators (with or without heat recovery), modular incinerators (starved-air or excess-air), boilers (i.e., steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, air curtain incinerators, or fluidized bed-fired), and pyrolysis/combustion units. Municipal waste combustors do not include pyrolysis/combustion units located at a plastics/rubber recycling unit (as specified in § 60.50b(m) of this section). Municipal waste combustors 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 solid waste combustor are defined as follows. The municipal waste combustor unit includes, but is not limited to, the municipal solid waste fuel feed system, grate system, flue gas system, bottom ash system, and the combustor water system. The municipal waste combustor boundary starts at the

municipal solid waste pit or hopper and extends through:

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

(ii) The combustor bottom ash system, which ends at the truck loading station or similar ash handling equipment that transfer the ash to final disposal, including all ash handling systems that are connected to the bottom ash handling system; and

(iii) The combustor water system, which starts at the feed water pump and ends at the piping exiting the steam drum or superheater.

(3) The municipal waste combustor unit does not include air pollution control equipment, the stack, water treatment equipment, or the turbine-generator set.

Municipal waste combustor acid gases means all acid gases emitted in the exhaust gases from municipal waste combustor units including, but not limited to, sulfur dioxide and hydrogen chloride gases.

Municipal waste combustor metals means metals and metal compounds emitted in the exhaust gases from municipal waste combustor units.

Municipal waste combustor organics means organic compounds emitted in the exhaust gases from municipal waste combustor units and includes tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans.

Municipal waste combustor plant means one or more municipal waste combustor units at the same location for which construction, modification, or reconstruction is commenced after September 20, 1994.

Municipal waste combustor plant capacity means the aggregate municipal waste combustor unit capacity of all municipal waste combustor units at a municipal waste combustor plant for which construction, modification, or reconstruction of the units commenced after September 20, 1994. Any municipal waste combustor units for which construction, modification, or reconstruction is commenced on or before September 20, 1994 are not included for determining applicability under this subpart.

Municipal waste combustor unit capacity means the maximum charging rate of a municipal waste combustor unit expressed in megagrams per day of municipal solid waste combusted, calculated according to the procedures under § 60.58b(j). Section 60.58b(j) includes procedures for determining municipal waste combustor unit capacity for continuous and batch feed municipal waste combustors.

Municipal waste combustor unit load means the steam load of the municipal waste combustor unit measured as specified in § 60.58b(i)(6).

Particulate matter means total particulate matter emitted from municipal waste combustor units as measured by EPA Reference Method 5 (see § 60.58b(c)).

Plastics/rubber recycling unit means an integrated processing unit where plastics, rubber, and/or rubber tires are the only feed materials (incidental contaminants may be included in the feed materials) and they are processed into a chemical plant feedstock or petroleum refinery feedstock, where the feedstock is marketed to and used by a chemical plant or petroleum refinery as input feedstock. The combined weight of the chemical plant feedstock and petroleum refinery feedstock produced by the plastics/rubber recycling unit on a calendar quarter basis shall be more than 70 percent of the combined weight of the plastics, rubber, and rubber tires processed by the plastics/rubber recycling unit on a calendar quarter basis. The plastics, rubber, and/or rubber tire feed materials to the plastics/rubber recycling unit may originate from the separation or diversion of plastics, rubber, or rubber tires from MSW or industrial solid waste, and may include manufacturing scraps, trimmings, and off-specification plastics, rubber, and rubber tire discards. The plastics, rubber, and rubber tire feed materials to the plastics/rubber recycling unit may contain incidental contaminants (e.g., paper labels on plastic bottles, metal rings on plastic bottle caps, etc.).

Potential hydrogen chloride emission concentration means the hydrogen chloride emission concentration that would occur from combustion of municipal solid waste in the absence of any emission controls for municipal waste combustor acid gases.

Potential mercury emission concentration means the mercury emission concentration that would occur from combustion of municipal solid waste in the absence of any mercury emissions control.

Potential sulfur dioxide emissions means the sulfur dioxide emission concentration that would occur from combustion of municipal solid waste in the absence of any emission controls for municipal waste combustor acid gases.

Pulverized coal/refuse-derived fuel mixed fuel-fired combustor means a combustor that fires 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 fired in suspension. This includes both conventional pulverized coal and micropulverized coal.

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

Reconstruction means rebuilding a municipal waste combustor unit for which the reconstruction commenced after June 19, 1996, and the cumulative costs of the construction over the life of the unit exceed 50 percent of the original cost of construction and installation of the unit (not including any cost of land purchased in connection with such construction or installation) updated to current costs (current dollars).

Refractory unit or *refractory wall furnace* means a combustion unit having no energy recovery (e.g., via a waterwall) in the furnace (i.e., radiant heat transfer section) of the combustor.

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 low-density fluff refuse-derived fuel through densified refuse-derived fuel and pelletized refuse-derived fuel.

Refuse-derived fuel stoker means a steam generating unit that combusts refuse-derived fuel in a semisuspension firing mode using air-fed distributors.

Same location means the same or contiguous property that is under common ownership or control including properties that are 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 including any municipality or other governmental unit, or any quasi-governmental authority (e.g., a public utility district or regional waste disposal authority).

Second calendar half means the period starting July 1 and ending on December 31 in any year.

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

Small municipal waste combustor plant means a municipal waste combustor plant with a municipal waste combustor plant capacity for affected

facilities that is greater than 35 megagrams per day but equal to or less than 225 megagrams per day of municipal solid waste.

Spreader stoker coal/refuse-derived fuel mixed fuel-fired combustor means a combustor that fires 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 means a temperature of 20° C and a pressure of 101.3 kilopascals.

Total mass dioxin/furan or *total mass* means the total mass of tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans, as determined using EPA Reference Method 23 and the procedures specified under § 60.58b(g).

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 affected facility is operating and combusting municipal solid waste measured over a 24-hour period 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.'' Pressure-treating compounds include, but are not limited to, chromate copper arsenate, pentachlorophenol, and creosote.

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

Yard waste means grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs that are generated by residential, commercial/retail, institutional, and/or industrial sources as part of maintenance activities associated with yards or other private or public lands. Yard waste does not include construction, renovation, and demolition wastes, which are exempt from the definition of municipal solid waste in this section. Yard waste does not include clean wood, which is exempt from the definition of municipal solid waste in this section.

§ 60.52b Standards for municipal waste combustor metals, acid gases, organics, and nitrogen oxides.

(a) The limits for municipal waste combustor metals are specified in paragraphs (a)(1) through (a)(5) of this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 24 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(2) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 10 percent opacity (6-minute average).

(3) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain cadmium in excess of 0.020 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(4) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from the affected facility any gases that contain lead in excess of 0.20 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.

(5) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from the affected facility any gases that contain mercury in excess of 0.080 milligrams per dry standard cubic meter or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.

(b) The limits for municipal waste combustor acid gases are specified in paragraphs (b)(1) and (b)(2) of this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain sulfur dioxide in excess of 30 parts per million by volume or 20 percent of the potential sulfur dioxide emission concentration (80-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. The averaging time is specified under § 60.58b(e).

(2) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain hydrogen chloride in excess of 25 parts per million by volume or 5 percent of the potential hydrogen chloride emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.

(c) The limits for municipal waste combustor organics are specified in paragraphs (c)(1) and (c)(2) of this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant for which construction, modification, or reconstruction commences after September 20, 1994, but on or before November 20, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain dioxin/furan emissions that exceed 30 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen, for the first 3 years following the date of initial startup. After the first 3 years following the date of initial startup, no owner or operator shall cause to be discharged into the atmosphere from that affected facility any gases that contain dioxin/furan total mass emissions that exceed 13 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(2) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant for which construction,

modification, or reconstruction commences after November 20, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain dioxin/furan total mass emissions that exceed 13 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.

(d) The limits for nitrogen oxides are specified in paragraphs (d)(1) and (d)(2) of this section.

(1) During the first year of operation after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 180 parts per million by volume, corrected to 7 percent oxygen (dry basis). The averaging time is specified under § 60.58b(h).

(2) After the first year of operation following the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 150 parts per million by volume, corrected to 7 percent oxygen (dry basis). The averaging time is specified under § 60.58b(h).

§ 60.53b Standards for municipal waste combustor operating practices.

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged into the atmosphere from that affected facility any gases that contain carbon monoxide in excess of the emission limits specified in table 1 of this subpart.

TABLE 1.—MUNICIPAL WASTE COMBUSTOR OPERATING STANDARDS

Municipal waste combustor technology	Carbon monoxide emission limit (parts per million by volume) [a]	Averaging time (hours)
Mass burn waterwall	100	4
Mass burn refractory	100	4
Mass burn rotary waterwall	100	24
Modular starved air	50	4
Modular excess air	50	4
Refuse-derived fuel stoker	150	24
Bubbling fluidized bed combustor	100	4
Circulating fluidized bed combustor	100	4
Pulverized coal/refuse-derived fuel mixed fuel-fired combustor	150	4
Spreader stoker coal/refuse-derived fuel mixed fuel-fired combustor	150	24

[a] Measured at the combustor outlet in conjunction with a measurement of oxygen concentration, corrected to 7 percent oxygen (dry basis). The averaging times are specified in greater detail in § 60.58b(i).

(b) No owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause such facility to operate at a load level greater than 110 percent of the maximum demonstrated municipal waste combustor unit load as defined in § 60.51b, except as specified in paragraphs (b)(1) and (b)(2) of this section. The averaging time is specified under § 60.58b(i).

(1) During the annual dioxin/furan performance test and the 2 weeks preceding the annual dioxin/furan performance test, no municipal waste combustor unit load limit is applicable.

(2) The municipal waste combustor unit load limit may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

(c) No owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause such facility to operate at a temperature, measured at the particulate matter control device inlet, exceeding 17 °C above the maximum demonstrated particulate matter control device temperature as defined in § 60.51b, except as specified in paragraphs (c)(1) and (c)(2) of this section. The averaging time is specified under § 60.58b(i). The requirements specified in this paragraph apply to each particulate matter control device utilized at the affected facility.

(1) During the annual dioxin/furan performance test and the 2 weeks preceding the annual dioxin/furan performance test, no particulate matter control device temperature limitations are applicable.

(2) The particulate matter control device temperature limits may be waived in accordance with permission granted by the Administrator or delegated State regulatory authority for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.

§ 60.54b Standards for municipal waste combustor operator training and certification.

(a) No later than the date 6 months after the date of startup of an affected facility located within a small or large municipal waste combustor plant or on December 19, 1996, whichever is later, each chief facility operator and shift supervisor shall obtain and maintain a current provisional operator certification from either the American Society of Mechanical Engineers [QRO–1–1994 (incorporated by reference—see § 60.17 of subpart A of this part)] or a State certification program.

(b) Not later than the date 6 months after the date of startup of an affected facility located within a small or large municipal waste combustor plant or on December 19, 1996, whichever is later, each chief facility operator and shift

supervisor shall have completed full certification or shall have scheduled a full certification exam with either the American Society of Mechanical Engineers [QRO–1–1994 (incorporated by reference—see § 60.17 of subpart A of this part)] or a State certification program.

(c) No owner or operator of an affected facility located within a small or large municipal waste combustor plant shall allow the facility to be operated at any time unless one of the following persons is on duty and at the affected facility: A fully certified chief facility operator, a provisionally certified chief facility operator who is scheduled to take the full certification exam according to the schedule specified in paragraph (b) of this section, a fully certified shift supervisor, or a provisionally certified shift supervisor who is scheduled to take the full certification exam according to the schedule specified in paragraph (b) of this section.

(i) The requirement specified in paragraph (c) of this section shall take effect 6 months after the date of startup of the affected facility or on December 19, 1996, whichever is later.

(ii) If one of the persons listed in paragraph (c) of this section must leave the affected facility during their operating shift, a provisionally certified control room operator who is onsite at the affected facility may fulfill the requirement in paragraph (c) of this section.

(d) All chief facility operators, shift supervisors, and control room operators at affected facilities located within a small or large municipal waste combustor plant must complete the EPA or State municipal waste combustor operator training course no later than the date 6 months after the date of startup of the affected facility or by December 19, 1996, whichever is later.

(e) The owner or operator of an affected facility located within a small or large municipal waste combustor plant shall develop and update on a yearly basis a site-specific operating manual that shall, at a minimum, address the elements of municipal waste combustor unit operation specified in paragraphs (e)(1) through (e)(11) of this section.

(1) A summary of the applicable standards under this subpart;

(2) A description of basic combustion theory applicable to a municipal waste combustor unit;

(3) Procedures for receiving, handling, and feeding municipal solid waste;

(4) Municipal waste combustor unit startup, shutdown, and malfunction procedures;

(5) Procedures for maintaining proper combustion air supply levels;

(6) Procedures for operating the municipal waste combustor unit within the standards established under this subpart;

(7) Procedures for responding to periodic upset or off-specification conditions;

(8) Procedures for minimizing particulate matter carryover;

(9) Procedures for handling ash;

(10) Procedures for monitoring municipal waste combustor unit emissions; and

(11) Reporting and recordkeeping procedures.

(f) The owner or operator of an affected facility located within a small or large municipal waste combustor plant shall establish a training program to review the operating manual according to the schedule specified in paragraphs (f)(1) and (f)(2) of this section with each person who has responsibilities affecting the operation of an affected facility including, but not limited to, chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.

(1) Each person specified in paragraph (f) of this section shall undergo initial training no later than the date specified in paragraph (f)(1)(i), (f)(1)(ii), or (f)(1)(iii) of this section whichever is later.

(i) The date 6 months after the date of startup of the affected facility;

(ii) The date prior to the day the person assumes responsibilities affecting municipal waste combustor unit operation; or

(iii) December 19, 1996.

(2) Annually, following the initial review required by paragraph (f)(1) of this section.

(g) The operating manual required by paragraph (e) of this section shall be kept in a readily accessible location for all persons required to undergo training under paragraph (f) of this section. The operating manual and records of training shall be available for inspection by the EPA or its delegated enforcement agency upon request.

§ 60.55b Standards for municipal waste combustor fugitive ash emissions.

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause to be discharged to the atmosphere visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of 5 percent of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22 observations as specified in § 60.58b(k), except as provided in paragraphs (b) and (c) of this section.

(b) The emission limit specified in paragraph (a) of this section does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, the emission limit specified in paragraph (a) of this section does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems.

(c) The provisions specified in paragraph (a) of this section do not apply during maintenance and repair of ash conveying systems.

§ 60.56b Standards for air curtain incinerators.

On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, the owner or operator of an air curtain incinerator located at a plant with a plant capacity to combust greater than 35 megagrams per day of municipal solid waste and that combusts a fuel feed stream composed of 100 percent yard waste and no other municipal solid waste materials shall at no time cause to be discharged into the atmosphere from that incinerator any gases that exhibit greater than 10-percent opacity (6-minute average), except that an opacity level of up to 35 percent (6-minute average) is permitted during startup periods during the first 30 minutes of operation of the unit.

§ 60.57b Siting requirements.

(a) The owner or operator of an affected facility located within a small or large municipal waste combustor plant, for which the initial application for a construction permit under 40 CFR part 51, subpart I, or part 52, as applicable, is submitted after December 19, 1995, shall prepare a materials separation plan, as defined in § 60.51b, for the affected facility and its service area, and shall comply with the requirements specified in paragraphs (a)(1) through (a)(10) of this section. The initial application is defined as representing a good faith submittal for complying with the requirements under 40 CFR part 51, subpart I, or part 52, as applicable, as determined by the Administrator.

(1) The owner or operator shall prepare a preliminary draft materials separation plan and shall make the plan available to the public as specified in

paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(i) The owner or operator shall distribute the preliminary draft materials separation plan to the principal public libraries in the area where the affected facility is to be constructed.

(ii) The owner or operator shall publish a notification of a public meeting in the principal newspaper(s) serving the area where the affected facility is to be constructed and where the waste treated by the affected facility will primarily be collected. As a minimum, the notification shall include the information specified in paragraphs (a)(1)(ii)(A) through (a)(1)(ii)(D) of this section.

(A) The date, time, and location of the public meeting.

(B) The location of the public libraries where the preliminary draft materials separation plan may be found, including normal business hours of the libraries.

(C) An agenda of the issues to be discussed at the public meeting.

(D) The dates that the public comment period on the preliminary draft materials separation plan begins and ends.

(2) The owner or operator shall conduct a public meeting, accept comments on the preliminary draft materials separation plan, and comply with the requirements specified in paragraphs (a)(2)(i) through (a)(2)(iv) of this section.

(i) The public meeting shall be conducted in the county where the affected facility is to be located.

(ii) The public meeting shall be scheduled to occur 30 days or more after making the preliminary draft materials separation plan available to the public as specified under paragraph (a)(1) of this section.

(iii) Suggested issues to be addressed at the public meeting are listed in paragraphs (a)(2)(iii)(A) through (a)(2)(iii)(H) of this section.

(A) The expected size of the service area for the affected facility.

(B) The amount of waste generation anticipated for the service area.

(C) The types and estimated amounts of materials proposed for separation.

(D) The methods proposed for materials separation.

(E) The amount of residual waste to be disposed.

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

(G) Identification of the location(s) where responses to public comment on the preliminary draft materials separation plan will be available for inspection, as specified in paragraphs (a)(3) and (a)(4) of this section.

(H) Identification of the locations where the final draft materials separation plan will be available for inspection, as specified in paragraph (a)(7).

(iv) Nothing in this section shall preclude an owner or operator from combining this public meeting with any other public meeting required as part of any other Federal, State, or local permit review process except the public meeting required under paragraph (b)(4) of this section.

(3) Following the public meeting required by paragraph (a)(2) of this section, the owner or operator shall prepare responses to the comments received at the public meeting.

(4) The owner or operator shall make the document summarizing responses to public comments available to the public (including distribution to the principal public libraries used to announce the meeting) in the service area where the affected facility is to be located.

(5) The owner or operator shall prepare a final draft materials separation plan for the affected facility considering the public comments received at the public meeting.

(6) As required under § 60.59b(a), the owner or operator shall submit to the Administrator a copy of the notification of the public meeting, a transcript of the public meeting, the document summarizing responses to public comments, and copies of both the preliminary and final draft materials separation plans on or before the time the facility's application for a construction permit is submitted under 40 CFR part 51, subpart I, or part 52, as applicable.

(7) As part of the distribution of the siting analysis required under paragraph (b)(3) of this section, the owner or operator shall make the final draft materials separation plan required under paragraph (a)(5) of this section available to the public, as specified in paragraph (b)(3) of this section.

(8) As part of the public meeting for review of the siting analysis required under paragraph (b)(4) of this section, the owner or operator shall address questions concerning the final draft materials separation plan required by paragraph (a)(5) of this section including discussion of how the final draft materials separation plan has changed from the preliminary draft materials separation plan that was discussed at the first public meeting required by paragraph (a)(2) of this section.

(9) If the owner or operator receives any comments on the final draft materials separation plan during the public meeting required in paragraph (b)(4) of this section, the owner or operator shall respond to those comments in the document prepared in accordance with paragraph (b)(5) of this section.

(10) The owner or operator shall prepare a final materials separation plan and shall submit, as required under § 60.59b(b)(5)(ii), the final materials separation plan as part of the initial notification of construction.

(b) The owner or operator of an affected facility located within a small or large municipal waste combustor plant, for which the initial application for a construction permit under 40 CFR part 51, subpart I, or part 52, as applicable, is submitted after December 19, 1995 shall prepare a siting analysis in accordance with paragraphs (b)(1) and (b)(2) of this section and shall comply with the requirements specified in paragraphs (b)(3) through (b)(7) of this section.

(1) The siting analysis shall be an analysis of the impact of the affected facility on ambient air quality, visibility, soils, and vegetation.

(2) The analysis shall consider air pollution control alternatives that minimize, on a site-specific basis, to the maximum extent practicable, potential risks to the public health or the environment.

(3) The owner or operator shall make the siting analysis and final draft materials separation plan required by paragraph (a)(5) of this section available to the public as specified in paragraphs (b)(3)(i) and (b)(3)(ii) of this section.

(i) The owner or operator shall distribute the siting analysis and final draft materials separation plan to the principal public libraries in the area where the affected facility is to be constructed.

(ii) The owner or operator shall publish a notification of a public meeting in the principal newspaper(s) serving the area where the affected facility is to be constructed and where the waste treated by the affected facility will primarily be collected. As a minimum, the notification shall include the information specified in paragraphs (b)(3)(ii)(A) through (b)(3)(ii)(D) of this section.

(A) The date, time, and location of the public meeting.

(B) The location of the public libraries where the siting analyses and final draft materials separation plan may be found, including normal business hours.

(C) An agenda of the issues to be discussed at the public meeting.

(D) The dates that the public comment period on the siting analyses and final draft materials separation plan begins and ends.

(4) The owner or operator shall conduct a public meeting and accept comments on the siting analysis and the final draft materials separation plan required under paragraph (a)(5) of this section. The public meeting shall be conducted in the county where the affected facility is to be located and shall be scheduled to occur 30 days or more after making the siting analysis available to the public as specified under paragraph (b)(3) of this section.

(5) The owner or operator shall prepare responses to the comments on the siting analysis and the final draft materials separation plan that are received at the public meeting.

(6) The owner or operator shall make the document summarizing responses to public comments available to the public (including distribution to all public libraries) in the service area where the affected facility is to be located.

(7) As required under § 60.59b(b)(5), the owner or operator shall submit a copy of the notification of the public meeting, a transcript of the public meeting, the document summarizing responses to public comments, and the siting analysis as part of the initial notification of construction.

(c) The owner or operator of an affected facility located within a small or large municipal waste combustor plant, for which construction is commenced after September 20, 1994 shall prepare a siting analysis in accordance with 40 CFR part 51, Subpart I, or part 52, as applicable, and shall submit the siting analysis as part of the initial notification of construction. Affected facilities subject to paragraphs (a) and (b) of this section are not subject to this paragraph.

§ 60.58b Compliance and performance testing.

(a) The provisions for startup, shutdown, and malfunction are provided in paragraphs (a)(1) and (a)(2) of this section.

(1) Except as provided by § 60.56b, the standards under this subpart apply at all times except during periods of startup, shutdown, or malfunction. Duration of startup, shutdown, or malfunction periods are limited to 3 hours per occurrence.

(i) The startup period commences when the affected facility begins the continuous burning of municipal solid waste and does not include any warmup period when the affected facility is combusting fossil fuel or other nonmunicipal solid waste fuel, and no municipal solid waste is being fed to the combustor.

(ii) Continuous burning is the continuous, semicontinuous, or batch feeding of municipal solid waste for purposes of waste disposal, energy production, or providing heat to the combustion system in preparation for waste disposal or energy production. The use of municipal solid waste solely to provide thermal protection of the grate or hearth during the startup period when municipal solid waste is not being fed to the grate is not considered to be continuous burning.

(2) The opacity limits for air curtain incinerators specified in § 60.56b apply at all times as specified under § 60.56b except during periods of malfunction. Duration of malfunction periods are limited to 3 hours per occurrence.

(b) The owner or operator of a small or large municipal waste combustor plant shall install, calibrate, maintain, and operate a continuous emission monitoring system and record the output of the system for measuring the oxygen or carbon dioxide content of the flue gas at each location where carbon monoxide, sulfur dioxide, or nitrogen oxides emissions are monitored and shall comply with the test procedures and test methods specified in paragraphs (b)(1) through (b)(7) of this section.

(1) The span value of the oxygen (or carbon dioxide) monitor shall be 25 percent oxygen (or carbon dioxide).

(2) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(3) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor, as specified under § 60.8 of subpart A of this part.

(4) The monitor shall conform to Performance Specification 3 in appendix B of this part except for section 2.3 (relative accuracy requirement).

(5) The quality assurance procedures of appendix F of this part except for section 5.1.1 (relative accuracy test audit) shall apply to the monitor.

(6) If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in paragraphs (b)(6)(i) through (b)(6)(iv) of this section. This relationship may be reestablished during performance compliance tests.

(i) The emission rate correction factor and the integrated bag sampling and analysis procedure of EPA Reference Method 3B shall be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(ii) Samples shall be taken for at least 30 minutes in each hour.

(iii) Each sample shall represent a 1-hour average.

(iv) A minimum of three runs shall be performed.

(7) As required by § 60.59b(f)(5), the relationship between carbon dioxide and oxygen concentrations that is established in accordance with paragraph (b)(6) of this section shall be submitted to the EPA as part of the initial performance test report.

(c) The procedures and test methods specified in paragraphs (c)(1) through (c)(11) of this section shall be used to determine compliance with the emission limits for particulate matter and opacity under § 60.52b(a)(1) and (a)(2).

(1) The EPA Reference Method 1 shall be used to select sampling site and number of traverse points.

(2) The EPA Reference Method 3 shall be used for gas analysis.

(3) The EPA Reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the sample train shall be set to provide a gas temperature no greater than $160^{\pm}14$ °C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run.

(4) An owner or operator may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(5) As specified under § 60.8 of subpart A of this part, all performance tests shall consist of three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance.

(6) In accordance with paragraphs (c)(7) and (c)(11) of this section, EPA Reference Method 9 shall be used for determining compliance with the opacity limit except as provided under § 60.11(e) of subpart A of this part.

(7) The owner or operator of an affected facility located within a small or large municipal waste combustor plant shall conduct an initial performance test for particulate matter emissions and opacity as required under § 60.8 of subpart A of this part.

(8) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous

opacity monitoring system for measuring opacity and shall follow the methods and procedures specified in paragraphs (c)(8)(i) through (c)(8)(iv) of this section.

(i) The output of the continuous opacity monitoring system shall be recorded on a 6-minute average basis.

(ii) The continuous opacity monitoring system shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(iii) The continuous opacity monitoring system shall conform to Performance Specification 1 in appendix B of this part.

(iv) The initial performance evaluation shall be completed no later than 180 days after the date of the initial startup of the municipal waste combustor unit, as specified under § 60.8 of subpart A of this part.

(9) Following the date that the initial performance test for particulate matter is completed or is required to be completed under § 60.8 of subpart A of this part for an affected facility located within a large municipal waste combustor plant, the owner or operator shall conduct a performance test for particulate matter on an annual basis (no more than 12 calendar months following the previous performance test).

(10) Following the date that the initial performance test for particulate matter is completed or is required to be completed under § 60.8 of subpart A of this part for an affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a performance test for particulate matter on an annual basis (no more than 12 calendar months following the previous performance test). If all performance tests over a 3-year period indicate compliance with the particulate matter emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for particulate matter shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the particulate matter emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the particulate matter emission limit, performance tests shall be required annually until all annual performance tests over a 3-year period indicate compliance with the particulate matter emission limit.

(11) Following the date that the initial performance test for opacity is completed or is required to be completed under § 60.8 of subpart A of this part for an affected facility located within a small or large municipal waste combustor plant, the owner or operator shall conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test) using the test method specified in paragraph (c)(6) of this section.

(d) The procedures and test methods specified in paragraphs (d)(1) and (d)(2) of this section shall be used to determine compliance with the emission limits for cadmium, lead, and mercury under § 60.52b(a).

(1) The procedures and test methods specified in paragraphs (d)(1)(i) through (d)(1)(ix) of this section shall be used to determine compliance with the emission limits for cadmium and lead under § 60.52b(a) (3) and (4).

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3 shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 shall be used for determining compliance with the cadmium and lead emission limits.

(iv) An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph (d)(1)(iii) of this section.

(v) An owner or operator may request that compliance with the cadmium or lead emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the cadmium or lead emission concentrations from three test runs or more shall be used to determine compliance.

(vii) Following the date of the initial performance test or the date on which the initial performance test is required to be completed under § 60.8 of subpart A of this part, the owner or operator of an affected facility located within a large municipal waste combustor plant shall conduct a performance test for compliance with the emission limits for cadmium and lead on an annual basis (no more than 12 calendar months following the previous performance test).

(viii) Following the date that the initial performance test for cadmium is completed or is required to be completed under § 60.8 of subpart A of this part for an affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a performance test for cadmium emissions on an annual basis (no more than 12 calendar months following the previous performance test). If all performance tests over a 3-year period indicate compliance with the cadmium emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for cadmium shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the cadmium emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the cadmium emission limit, performance tests shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the cadmium emission limit.

(ix) Following the date that the initial performance test for lead is completed or is required to be completed under § 60.8 of subpart A of this part for an affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a performance test for lead emissions on an annual basis (no more than 12 calendar months following the previous performance test). If all three performance tests over a 3-year period indicate compliance with the lead emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for lead shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the lead emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the lead emission limit, performance tests shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the lead emission limit.

(2) The procedures and test methods specified in paragraphs (d)(2)(i) through (d)(2)(xi) of this section shall be used to determine compliance with the mercury emission limit under § 60.52b(a)(5).

(i) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(ii) The EPA Reference Method 3 shall be used for flue gas analysis.

(iii) The EPA Reference Method 29 shall be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 for mercury shall be 1.7 cubic meters.

(iv) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 29 test run for mercury required under paragraph (d)(2)(iii) of this section.

(v) The percent reduction in the potential mercury emissions (%PHg) is computed using equation 1:

$$\left(\%P_{Hg}\right) = \left(\frac{E_i - E_o}{E_i}\right) \times 100 \qquad (1)$$

where:

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

E_i = potential mercury emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

E_o = controlled mercury emission concentration measured at the mercury control device outlet, corrected to 7 percent oxygen (dry basis).

(vi) All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the mercury emission concentrations or percent reductions from three test runs or more is used to determine compliance.

(vii) An owner or operator may request that compliance with the mercury emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(viii) The owner or operator of an affected facility located within a small or large municipal waste combustor plant shall conduct an initial performance test for mercury emissions as required under § 60.8 of subpart A of this part.

(ix) Following the date that the initial performance test for mercury is completed or is required to be completed under § 60.8 of subpart A of this part, the owner or operator of an affected facility located within a large municipal waste combustor plant shall conduct a performance test for mercury emissions on a annual basis (no more than 12 calendar months from the previous performance test).

(x) Following the date that the initial performance test for mercury is completed or is required to be completed under § 60.8 of subpart A of this part for an affected facility located within a small municipal waste combustor plant, the owner or operator shall conduct a performance test for mercury emissions on an annual basis (no more than 12 calendar months following the previous performance test). If all three performance tests over a 3-year period indicate compliance with the mercury emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for mercury shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the mercury emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the mercury emission limit, performance tests shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the mercury emission limit.

(xi) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit shall follow the procedures specified in paragraph (m) of this section for measuring and calculating carbon usage.

(e) The procedures and test methods specified in paragraphs (e)(1) through (e)(14) of this section shall be used for determining compliance with the sulfur dioxide emission limit under § 60.52b(b)(1).

(1) The EPA Reference Method 19, section 4.3, shall be used to calculate the daily geometric average sulfur dioxide emission concentration.

(2) The EPA Reference Method 19, section 5.4, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration.

(3) An owner or operator may request that compliance with the sulfur dioxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(4) The owner or operator of an affected facility shall conduct an initial performance test for sulfur dioxide emissions as required under § 60.8 of subpart A of this part. Compliance with the sulfur dioxide emission limit (concentration or percent reduction) shall be determined by using the continuous emission monitoring system specified in paragraph (e)(5) of this section to measure sulfur dioxide and calculating a 24-hour daily geometric average emission concentration or a 24-hour daily geometric average percent reduction using EPA Reference Method 19, sections 4.3 and 5.4, as applicable.

(5) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere and record the output of the system.

(6) Following the date that the initial performance test for sulfur dioxide is completed or is required to be completed under § 60.8 of subpart A of this part, compliance with the sulfur dioxide emission limit shall be determined based on the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data if compliance is based on an emission concentration, or continuous emission monitoring system inlet and outlet data if compliance is based on a percent reduction.

(7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (e)(7)(i) and (e)(7)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(8) The 1-hour arithmetic averages required under paragraph (e)(6) of this section shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages shall be calculated using the data points

required under § 60.13(e)(2) of subpart A of this part.

(9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations and percent reductions even if the minimum continuous emission monitoring system data requirements of paragraph (e)(7) of this section are not met.

(10) The procedures under § 60.13 of subpart A of this part shall be followed for installation, evaluation, and operation of the continuous emission monitoring system.

(11) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor as specified under § 60.8 of subpart A of this part.

(12) The continuous emission monitoring system shall be operated according to Performance Specification 2 in appendix B of this part.

(i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in appendix B of this part, sulfur dioxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (e)(12)(i)(A) and (e)(12)(i)(B) of this section.

(A) For sulfur dioxide, EPA Reference Method 6, 6A, or 6C shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B shall be used.

(ii) The span value of the continuous emissions monitoring system at the inlet to the sulfur dioxide control device shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit. The span value of the continuous emission monitoring system at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the municipal waste combustor unit.

(13) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in appendix F of this part.

(14) When sulfur dioxide emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day that the affected facility is operated and combusting municipal solid waste for 90 percent of the days per calendar quarter that the affected facility is operated and combusting municipal solid waste.

(f) The procedures and test methods specified in paragraphs (f)(1) through (f)(8) of this section shall be used for determining compliance with the hydrogen chloride emission limit under § 60.52b(b)(2).

(1) The EPA Reference Method 26 or 26A, as applicable, shall be used to determine the hydrogen chloride emission concentration. The minimum sampling time for Method 26 shall be 1 hour.

(2) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 26 test run for hydrogen chloride required by paragraph (f)(1) of this section.

(3) The percent reduction in potential hydrogen chloride emissions (% P_{HCl}) is computed using equation 2:

$$\left(\%P_{HCl}\right) = \left(\frac{E_i - E_o}{E_i}\right) \times 100 \qquad (2)$$

where:

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

E_i=potential hydrogen chloride emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis).

E_o=controlled hydrogen chloride emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis).

(4) An owner or operator may request that compliance with the hydrogen chloride emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(5) As specified under § 60.8 of subpart A of this part, all performance tests shall consist of three test runs. The average of the hydrogen chloride emission concentrations or percent reductions from the three test runs is used to determine compliance.

(6) The owner or operator of an affected facility shall conduct an initial performance test for hydrogen chloride as required under § 60.8 of subpart A of this part.

(7) Following the date that the initial performance test for hydrogen chloride is completed or is required to be completed under § 60.8 of subpart A of this part, the owner or operator of an affected facility located within a large municipal waste combustor plant shall conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test).

(8) Following the date that the initial performance test for hydrogen chloride is completed or is required to be completed under § 60.8 of this part, the owner or operator of an affected facility located within a small municipal waste combustor plant shall conduct a performance test for hydrogen chloride emissions on an annual basis (no more than 12 calendar months following the previous performance test). If all performance tests over a 3-year period indicate compliance with the hydrogen chloride emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years. At a minimum, a performance test for hydrogen chloride shall be conducted every third year (no more than 36 months following the previous performance test) at a small municipal waste combustor plant. If a performance test conducted every third year indicates compliance with the hydrogen chloride emission limit, the owner or operator may elect not to conduct a performance test for an additional 2 years. If any performance test indicates noncompliance with the hydrogen chloride emission limit, performance tests shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the hydrogen chloride emission limit.

(g) The procedures and test methods specified in paragraphs (g)(1) through (g)(9) of this section shall be used to determine compliance with the limits for dioxin/furan emissions under § 60.52b(c).

(1) The EPA Reference Method 1 shall be used for determining the location and number of sampling points.

(2) The EPA Reference Method 3 shall be used for flue gas analysis.

(3) The EPA Reference Method 23 shall be used for determining the dioxin/furan emission concentration.

(i) The minimum sample time shall be 4 hours per test run.

(ii) An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 23 test run for dioxins/furans.

(4) The owner or operator of an affected facility shall conduct an initial performance test for dioxin/furan emissions in accordance with paragraph (g)(3) of this section, as required under § 60.8 of subpart A of this part.

(5) Following the date that the initial performance test for dioxins/furans is completed or is required to be completed under § 60.8 of subpart A of this part, the owner or operator of an affected facility located within small and large municipal waste combustor plants shall conduct performance tests for dioxin/furan emissions in accordance with paragraph (g)(3) of this section, according to one of the schedules specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this section.

(i) For affected facilities located within small and large municipal waste combustor plants, performance tests shall be conducted on an annual basis (no more than 12 calendar months following the previous performance test.)

(ii) For affected facilities located within small municipal waste combustor plants where all performance tests for an affected facility over a 3-year period indicate compliance with the dioxin/furan emission limit, the owner or operator may elect not to conduct a performance test for the subsequent 2 years for that affected facility. At a minimum, a performance test for dioxin/furan emissions shall be conducted every third year (no more than 36 months following the previous performance test) for each affected facility. If a performance test conducted every third year indicates compliance with the dioxin/furan emission limit, the owner or operator may elect not to conduct a performance test on the affected facility for an additional 2 years. If any performance test indicates noncompliance with the dioxin/furan emission limit, performance tests shall be conducted annually until all annual performance tests for the affected facility over a 3-year period indicate compliance with the dioxin/furan emission limit.

(iii) For affected facilities located within small or large municipal waste combustor plants where all performance tests for all affected facilities over a 2-year period indicate that dioxin/furan emissions are less than or equal to 7 nanograms per dry standard cubic meter (total mass) for all affected facilities located within a municipal waste combustor plant, the owner or operator of the municipal waste combustor plant may elect to conduct annual performance tests for one affected facility (i.e., unit) per year at the municipal waste combustor plant. At a minimum, a performance test for dioxin/furan emissions shall be conducted annually (no more than 12 months following the previous performance test) for one affected facility at the municipal waste combustor plant. Each year a different affected facility at the municipal waste combustor plant shall be tested, and the affected facilities at the plant shall be tested in sequence (e.g., unit 1, unit 2, unit 3, as applicable). If each annual performance test continues to indicate a dioxin/furan emission level less than or equal to 7 nanograms per dry standard cubic meter (total mass), the owner or operator may continue conducting a performance test on only one affected facility per year. If any annual performance test indicates a dioxin/furan emission level greater than 7 nanograms per dry standard cubic meter (total mass), performance tests thereafter shall be conducted annually on all affected facilities at the plant until and unless all annual performance tests for all affected facilities at the plant over a 2-year period indicate a dioxin/furan emission level less than or equal to 7 nanograms per dry standard cubic meter (total mass).

(6) The owner or operator of an affected facility that selects to follow the performance testing schedule specified in paragraph (g)(5)(iii) of this section shall follow the procedures specified in § 60.59b(g)(4) for reporting the selection of this schedule.

(7) The owner or operator of an affected facility where activated carbon is used to comply with the dioxin/furan emission limits specified in § 60.52b(c) or the dioxin/furan emission level specified in paragraph (g)(5)(iii) of this section shall follow the procedures specified in paragraph (m) of this section for measuring and calculating the carbon usage rate.

(8) An owner or operator may request that compliance with the dioxin/furan emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(9) As specified under § 60.8 of subpart A of this part, all performance tests shall consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance.

(h) The procedures and test methods specified in paragraphs (h)(1) through (h)(12) of this section shall be used to determine compliance with the nitrogen oxides emission limit for municipal waste combustors located at large municipal waste combustor plants under § 60.52b(d) (no nitrogen oxides performance tests are required for affected facilities located within small municipal waste combustor plants).

(1) The EPA Reference Method 19, section 4.1, shall be used for determining the daily arithmetic average nitrogen oxides emission concentration.

(2) An owner or operator may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(3) The owner or operator of an affected facility located within a large municipal waste combustor plant subject to the nitrogen oxides limit under § 60.52b(d) shall conduct an initial performance test for nitrogen oxides as required under § 60.8 of subpart A of this part. Compliance with the nitrogen oxides emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (h)(4) of this section for measuring nitrogen oxides and calculating a 24-hour daily arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(4) The owner or operator of an affected facility located within a large municipal waste combustor plant subject to the nitrogen oxides emission limit under § 60.52b(d) shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system.

(5) Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under § 60.8 of subpart A of this part, compliance with the emission limit for nitrogen oxides required under § 60.52b(d) shall be determined based on the 24-hour daily arithmetic average of the hourly emission concentrations using continuous emission monitoring system outlet data.

(6) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (h)(6)(i) and (h)(6)(ii) of this section for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) Each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide)

continuous emission monitoring system data.

(7) The 1-hour arithmetic averages required by paragraph (h)(5) of this section shall be expressed in parts per million by volume (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(8) All valid continuous emission monitoring system data must be used in calculating emission averages even if the minimum continuous emission monitoring system data requirements of paragraph (h)(6) of this section are not met.

(9) The procedures under § 60.13 of subpart A of this part shall be followed for installation, evaluation, and operation of the continuous emission monitoring system. The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the municipal waste combustor unit, as specified under § 60.8 of subpart A of this part.

(10) The owner or operator shall operate the continuous emission monitoring system according to Performance Specification 2 in appendix B of this part and shall follow the procedures and methods specified in paragraphs (h)(10)(i) and (h)(10)(ii) of this section.

(i) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 of appendix B of this part, nitrogen oxides and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (h)(10)(i)(A) and (h)(10)(i)(B) of this section.

(A) For nitrogen oxides, EPA Reference Method 7, 7A, 7C, 7D, or 7E shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B shall be used.

(ii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the municipal waste combustor unit.

(11) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 1 in appendix F of this part.

(12) When nitrogen oxides continuous emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of the hours per day for 90 percent of the days per calendar quarter the unit is operated and combusting municipal solid waste.

(i) The procedures specified in paragraphs (i)(1) through (i)(12) of this section shall be used for determining compliance with the operating requirements under § 60.53b.

(1) Compliance with the carbon monoxide emission limits in § 60.53b(a) shall be determined using a 4-hour block arithmetic average for all types of affected facilities except mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers.

(2) For affected mass burn rotary waterwall municipal waste combustors and refuse-derived fuel stokers, compliance with the carbon monoxide emission limits in § 60.53b(a) shall be determined using a 24-hour daily arithmetic average.

(3) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous emission monitoring system for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs (i)(3)(i) through (i)(3)(iii) of this section.

(i) The continuous emission monitoring system shall be operated according to Performance Specification 4A in appendix B of this part.

(ii) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 4A in appendix B of this part, carbon monoxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (i)(3)(ii)(A) and (i)(3)(ii)(B) of this section.

(A) For carbon monoxide, EPA Reference Method 10, 10A, or 10B shall be used.

(B) For oxygen (or carbon dioxide), EPA Reference Method 3A or 3B shall be used.

(iii) The span value of the continuous emission monitoring system shall be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the municipal waste combustor unit.

(4) The 4-hour block and 24-hour daily arithmetic averages specified in paragraphs (i)(1) and (i)(2) of this section shall be calculated from 1-hour arithmetic averages expressed in parts per million by volume corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages shall be calculated using the data points generated by the continuous emission monitoring system. At least two data points shall be used to calculate each 1-hour arithmetic average.

(5) An owner or operator may request that compliance with the carbon monoxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section.

(6) The procedures specified in paragraphs (i)(6)(i) through (i)(6)(v) of this section shall be used to determine compliance with load level requirements under § 60.53b(b).

(i) The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in kilograms per hour (or pounds per hour) on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages.

(ii) The method included in the ''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, see § 60.17 of subpart A of this part) shall be used for calculating the steam (or feedwater) flow required under paragraph (i)(6)(i) of this section. 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—see § 60.17 of subpart A of this part) shall be followed for design, construction, installation, calibration, and use of nozzles and orifices except as specified in (i)(6)(iii) of this section.

(iii) Measurement devices such as flow nozzles and orifices are not required to be recalibrated after they are installed.

(iv) All signal conversion elements associated with steam (or feedwater flow) measurements must be calibrated according to the manufacturer's instructions before each dioxin/furan

performance test, and at least once per year.

(a) [Reserved].

(7) To determine compliance with the maximum particulate matter control device temperature requirements under § 60.53b(c), the owner or operator of an affected facility shall install, calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device utilized by the affected facility. Temperature shall be calculated in 4-hour block arithmetic averages.

(8) The maximum demonstrated municipal waste combustor unit load shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in § 60.52b(c) is achieved. The maximum demonstrated municipal waste combustor unit load shall be the highest 4-hour arithmetic average load achieved during four consecutive hours during the most recent test during which compliance with the dioxin/furan emission limit was achieved.

(9) For each particulate matter control device employed at the affected facility, the maximum demonstrated particulate matter control device temperature shall be determined during the initial performance test for dioxins/furans and each subsequent performance test during which compliance with the dioxin/furan emission limit specified in § 60.52b(c) is achieved. The maximum demonstrated particulate matter control device temperature shall be the highest 4-hour arithmetic average temperature achieved at the particulate matter control device inlet during four consecutive hours during the most recent test during which compliance with the dioxin/furan limit was achieved.

(10) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained as specified in paragraphs (i)(10)(i) and (i)(10)(ii) of this section for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting municipal solid waste.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) continuous emission monitoring system data.

(11) All valid continuous emission monitoring system data must be used in calculating the parameters specified under paragraph (i) of this section even if the minimum data requirements of paragraph (i)(10) of this section are not met. When carbon monoxide continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained using other monitoring systems as approved by the Administrator or EPA Reference Method 10 to provide, as necessary, the minimum valid emission data.

(12) Quarterly accuracy determinations and daily calibration drift tests for the carbon monoxide continuous emission monitoring system shall be performed in accordance with procedure 1 in appendix F of this part.

(j) The procedures specified in paragraphs (j)(1) and (j)(2) of this section shall be used for calculating municipal waste combustor unit capacity as defined under § 60.51b.

(1) For municipal waste combustor units capable of combusting municipal solid waste continuously for a 24-hour period, municipal waste combustor unit capacity, in megagrams per day of municipal solid waste combusted, shall be calculated based on 24 hours of operation at the maximum charging rate. The maximum charging rate shall be determined as specified in paragraphs (j)(1)(i) and (j)(1)(ii) of this section as applicable.

(i) For combustors that are designed based on heat capacity, the maximum charging rate shall be calculated based on the maximum design heat input capacity of the unit and a heating value of 10,500 kilojoules per kilogram.

(ii) For combustors that are not designed based on heat capacity, the maximum charging rate shall be the maximum design charging rate.

(2) For batch feed municipal waste combustor units, municipal waste combustor unit capacity, in megagrams per day of municipal solid waste combusted, shall be calculated as the maximum design amount of municipal solid waste that can be charged per batch multiplied by the maximum number of batches that could be processed in a 24-hour period. The maximum number of batches that could be processed in a 24-hour period is calculated as 24 hours divided by the design number of hours required to process one batch of municipal solid waste, and may include fractional batches (e.g., if one batch requires 16 hours, then 24/16, or 1.5 batches, could be combusted in a 24-hour period). For batch combustors that are designed based on heat capacity, the design heating value of 10,500 kilojoules per kilogram for all municipal solid waste shall be used in calculating the municipal waste combustor unit capacity in megagrams per day of municipal solid waste.

(k) The procedures specified in paragraphs (k)(1) through (k)(3) of this section shall be used for determining compliance with the fugitive ash emission limit under § 60.55b.

(1) The EPA Reference Method 22 shall be used for determining compliance with the fugitive ash emission limit under § 60.55b. The minimum observation time shall be a series of three 1-hour observations. The observation period shall include times when the facility is transferring ash from the municipal waste combustor unit to the area where ash is stored or loaded into containers or trucks.

(2) The average duration of visible emissions per hour shall be calculated from the three 1-hour observations. The average shall be used to determine compliance with § 60.55b.

(3) The owner or operator of an affected facility shall conduct an initial performance test for fugitive ash emissions as required under § 60.8 of subpart A of this part.

(l) The procedures specified in paragraphs (l)(1) through (l)(3) of this section shall be used to determine compliance with the opacity limit for air curtain incinerators under § 60.56b.

(1) The EPA Reference Method 9 shall be used for determining compliance with the opacity limit.

(2) The owner or operator of the air curtain incinerator shall conduct an initial performance test for opacity as required under § 60.8 of subpart A of this part.

(3) Following the date that the initial performance test is completed or is required to be completed under § 60.8 of subpart A of this part, the owner or operator of the air curtain incinerator shall conduct a performance test for opacity on an annual basis (no more than 12 calendar months following the previous performance test).

(m) The owner or operator of an affected facility where activated carbon injection is used to comply with the mercury emission limit under § 60.52b(a)(5), or the dioxin/furan emission limits under § 60.52(b)(c), or the dioxin/furan emission level specified in § 60.58b(g)(5)(iii) shall follow the procedures specified in paragraphs (m)(1) through (m)(3) of this section.

(1) During the performance tests for dioxins/furans and mercury, as

applicable, the owner or operator shall estimate an average carbon mass feed rate based on carbon injection system operating parameters such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed, as specified in paragraphs (m)(1)(i) and (m)(1)(ii) of this section.

(i) An average carbon mass feed rate in kilograms per hour or pounds per hour shall be estimated during the initial performance test for mercury emissions and each subsequent performance test for mercury emissions.

(ii) An average carbon mass feed rate in kilograms per hour or pounds per hour shall be estimated during the initial performance test for dioxin/furan emissions and each subsequent performance test for dioxin/furan emissions.

(2) During operation of the affected facility, the carbon injection system operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder setting) must equal or exceed the level(s) documented during the performance tests specified under paragraphs (m)(1)(i) and (m)(1)(ii) of this section.

(3) The owner or operator shall estimate the total carbon usage of the plant (kilograms or pounds) for each calendar quarter by two independent methods, according to the procedures in paragraphs (m)(3)(i) and (m)(3)(ii) of this section.

(i) The weight of carbon delivered to the plant.

(ii) Estimate the average carbon mass feed rate in kilograms per hour or pounds per hour for each hour of operation for each affected facility based on the parameters specified under paragraph (m)(1) of this section, and sum the results for all affected facilities at the plant for the total number of hours of operation during the calendar quarter.

§ 60.59b Reporting and recordkeeping requirements.

(a) The owner or operator of an affected facility located at a municipal waste combustor plant with a capacity to combust greater than 35 megagrams per day shall submit, on or before the date the application for a construction permit is submitted under 40 CFR part 51, subpart I, or part 52, as applicable, the items specified in paragraphs (a)(1) through (a)(4) of this section.

(1) The preliminary and final draft materials separation plans required by § 60.57b(a)(1) and (a)(5).

(2) A copy of the notification of the public meeting required by § 60.57b(a)(1)(ii).

(3) A transcript of the public meeting required by § 60.57b(a)(2).

(4) A copy of the document summarizing responses to public comments required by § 60.57b(a)(3).

(b) The owner or operator of an affected facility located at a municipal waste combustor plant with a capacity to combust greater than 35 megagrams per day shall submit a notification of construction, which includes the information specified in paragraphs (b)(1) through (b)(5) of this section.

(1) Intent to construct.

(2) Planned initial startup date.

(3) The types of fuels that the owner or operator plans to combust in the affected facility.

(4) The municipal waste combustor unit capacity, municipal waste combustor plant capacity, and supporting capacity calculations prepared in accordance with § 60.58b(j).

(5) Documents associated with the siting requirements under § 60.57b (a) and (b), as specified in paragraphs (b)(5)(i) through (b)(5)(v) of this section.

(i) The siting analysis required by § 60.57b (b)(1) and (b)(2).

(ii) The final materials separation plan for the affected facility required by § 60.57b(a)(10).

(iii) A copy of the notification of the public meeting required by § 60.57b(b)(3)(ii).

(iv) A transcript of the public meeting required by § 60.57b(b)(4).

(v) A copy of the document summarizing responses to public comments required by § 60.57b (a)(9) and (b)(5).

(c) The owner or operator of an air curtain incinerator subject to the opacity limit under § 60.56b shall provide a notification of construction that includes the information specified in paragraphs (b)(1) through (b)(4) of this section.

(d) The owner or operator of an affected facility located within a small or large municipal waste combustor plant and subject to the standards under §§ 60.52b, 60.53b, 60.54b, 60.55b, and 60.57b shall maintain records of the information specified in paragraphs (d)(1) through (d)(15) of this section, as applicable, for each affected facility for a period of at least 5 years.

(1) The calendar date of each record.

(2) The emission concentrations and parameters measured using continuous monitoring systems as specified under paragraphs (d)(2)(i) and (d)(2)(ii) of this section.

(i) The measurements specified in paragraphs (d)(2)(i)(A) through (d)(2)(i)(D) of this section shall be recorded and be available for submittal to the Administrator or review onsite by an inspector.

(A) All 6-minute average opacity levels as specified under § 60.58b(c).

(B) All 1-hour average sulfur dioxide emission concentrations as specified under § 60.58b(e).

(C) All 1-hour average nitrogen oxides emission concentrations as specified under § 60.58b(h) (large municipal waste combustor plants only).

(D) All 1-hour average carbon monoxide emission concentrations, municipal waste combustor unit load measurements, and particulate matter control device inlet temperatures as specified under § 60.58b(i).

(ii) The average concentrations and percent reductions, as applicable, specified in paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) of this section shall be computed and recorded, and shall be available for submittal to the Administrator or review on-site by an inspector.

(A) All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions as specified under § 60.58b(e).

(B) All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under § 60.58b(h) (large municipal waste combustor plants only).

(C) All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under § 60.58b(i).

(D) All 4-hour block arithmetic average municipal waste combustor unit load levels and particulate matter control device inlet temperatures as specified under § 60.58b(i).

(3) Identification of the calendar dates when any of the average emission concentrations, percent reductions, or operating parameters recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(E) of this section, or the opacity levels recorded under paragraph (d)(2)(i)(A) of this section are above the applicable limits, with reasons for such exceedances and a description of corrective actions taken.

(4) For affected facilities that apply activated carbon for mercury or dioxin/furan control, the records specified in paragraphs (d)(4)(i) through (d)(4)(v) of this section.

(i) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as required under § 60.58b(m)(1)(i) of this section during the initial mercury performance test and all subsequent annual performance tests, with supporting calculations.

(ii) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated as required under

§ 60.58b(m)(1)(ii) of this section during the initial dioxin/furan performance test and all subsequent annual performance tests, with supporting calculations.

(iii) The average carbon mass feed rate (in kilograms per hour or pounds per hour) estimated for each hour of operation as required under § 60.58b(m)(3)(ii) of this section, with supporting calculations.

(iv) The total carbon usage for each calendar quarter estimated as specified by paragraph 60.58b(m)(3) of this section, with supporting calculations.

(v) Carbon injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon feed rate (e.g., screw feeder speed).

(5) [Reserved]

(6) Identification of the calendar dates for which the minimum number of hours of any of the data specified in paragraphs (d)(6)(i) through (d)(6)(v) of this section have not been obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(i) Sulfur dioxide emissions data;

(ii) Nitrogen oxides emissions data (large municipal waste combustor plants only);

(iii) Carbon monoxide emissions data;

(iv) Municipal waste combustor unit load data; and

(v) Particulate matter control device temperature data.

(7) Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data (large municipal waste combustors only), or operational data (i.e., carbon monoxide emissions, unit load, and particulate matter control device temperature) have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.

(8) The results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides (large municipal waste combustors only), and carbon monoxide continuous emission monitoring systems, as required under appendix F of this part, procedure 1.

(9) The test reports documenting the results of the initial performance test and all annual performance tests listed in paragraphs (d)(9)(i) and (d)(9)(ii) of this section shall be recorded along with supporting calculations.

(i) The results of the initial performance test and all annual performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits.

(ii) For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests recorded under paragraph (d)(9)(i) of this section, the maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device).

(10) [Reserved]

(11) For each municipal waste combustor subject to the siting provisions under § 60.57b, the siting analysis, the final materials separation plan, a record of the location and date of the public meetings, and the documentation of the responses to public comments received at the public meetings.

(12) The records specified in paragraphs (d)(12)(i) through (d)(12)(iii) of this section.

(i) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by § 60.54b(a) including the dates of initial and renewal certifications and documentation of current certification.

(ii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by the American Society of Mechanical Engineers or an equivalent State-approved certification program as required by § 60.54b(a) including the dates of initial and renewal certifications and documentation of current certification.

(iii) Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a State-approved equivalent course as required by § 60.54b(d) including documentation of training completion.

(13) Records showing the names of persons who have completed a review of the operating manual as required by § 60.54b(f) including the date of the initial review and subsequent annual reviews.

(14) For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the average carbon mass feed rates recorded under (d)(4)(iii) of this section were less than either of the hourly carbon feed rates estimated during performance tests for mercury or dioxin/furan emissions and recorded under paragraphs (d)(4)(i) and (d)(4)(ii) of this section, respectively, with reasons for such feed rates and a description of corrective actions taken.

(15) For affected facilities that apply activated carbon for mercury or dioxin/furan control, identification of the calendar dates when the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate (e.g., screw feeder speed) recorded under paragraph (d)(4)(v) of this section are below the level(s) estimated during the performance tests as specified in § 60.58b(m)(1)(i) and § 60.58b(m)(1)(ii) of this section, with reasons for such occurrences and a description of corrective actions taken.

(e) The owner or operator of an air curtain incinerator subject to the opacity limit under § 60.56b shall maintain records of results of the initial opacity performance test and subsequent performance tests required by § 60.58b(l) for a period of at least 5 years.

(f) The owner or operator of an affected facility located within a small or large municipal waste combustor plant shall submit the information specified in paragraphs (f)(1) through (f)(6) of this section in the initial performance test report.

(1) The initial performance test data as recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) of this section for the initial performance test for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature.

(2) The test report documenting the initial performance test recorded under paragraph (d)(9) of this section for particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emissions.

(3) The performance evaluation of the continuous emission monitoring system using the applicable performance specifications in appendix B of this part.

(4) The maximum demonstrated municipal waste combustor unit load and maximum demonstrated particulate matter control device inlet temperature(s) established during the initial dioxin/furan performance test as recorded under paragraph (d)(9) of this section.

(5) For affected facilities that apply activated carbon injection for mercury control, the owner or operator shall submit the average carbon mass feed rate recorded under paragraph (d)(4)(i) of this section.

(6) For those affected facilities that apply activated carbon injection for dioxin/furan control, the owner or

operator shall submit the average carbon mass feed rate recorded under paragraph (d)(4)(ii) of this section.

(g) Following the first year of municipal combustor operation, the owner or operator of an affected facility located within a small or large municipal waste combustor plant shall submit an annual report including the information specified in paragraphs (g)(1) through (g)(4) of this section, as applicable, no later than February 1 of each year following the calendar year in which the data were collected (once the unit is subject to permitting requirements under Title V of the Act, the owner or operator of an affected facility must submit these reports semiannually).

(1) A summary of data collected for all pollutants and parameters regulated under this subpart, which includes the information specified in paragraphs (g)(1)(i) through (g)(1)(v) of this section.

(i) A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during the performance tests recorded under paragraph (d)(9) of this section.

(ii) A list of the highest emission level recorded for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature based on the data recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) of this section.

(iii) List the highest opacity level measured, based on the data recorded under paragraph (d)(2)(i)(A) of this section.

(iv) The total number of days that the minimum number of hours of data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature data were not obtained based on the data recorded under paragraph (d)(6) of this section.

(v) The total number of hours that data for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load, and particulate matter control device temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded under paragraph (d)(7) of this section.

(2) The summary of data reported under paragraph (g)(1) of this section shall also provide the types of data specified in paragraphs (g)(1)(i) through (g)(1)(vi) of this section for the calendar year preceding the year being reported, in order to provide the Administrator with a summary of the performance of the affected facility over a 2-year period.

(3) The summary of data including the information specified in paragraphs (g)(1) and (g)(2) of this section shall highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under this subpart.

(4) A notification of intent to begin the reduced dioxin/furan performance testing schedule specified in § 60.58b(g)(5)(iii) of this section during the following calendar year.

(h) The owner or operator of an affected facility located within a small or large municipal waste combustor plant shall submit a semiannual report that includes the information specified in paragraphs (h)(1) through (h)(5) of this section for any recorded pollutant or parameter that does not comply with the pollutant or parameter limit specified under this subpart, according to the schedule specified under paragraph (h)(6) of this section.

(1) The semiannual report shall include information recorded under paragraph (d)(3) of this section for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, and opacity.

(2) For each date recorded as required by paragraph (d)(3) of this section and reported as required by paragraph (h)(1) of this section, the semiannual report shall include the sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, or opacity data, as applicable, recorded under paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) and (d)(2)(i)(A) of this section, as applicable.

(3) If the test reports recorded under paragraph (d)(9) of this section document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semiannual report shall include a copy of the test report documenting the emission levels and the corrective actions taken.

(4) The semiannual report shall include the information recorded under paragraph (d)(15) of this section for the carbon injection system operating parameter(s) that are the primary indicator(s) of carbon mass feed rate.

(5) For each operating date reported as required by paragraph (h)(4) of this section, the semiannual report shall include the carbon feed rate data recorded under paragraph (d)(4)(iii) of this section.

(6) Semiannual reports required by paragraph (h) of this section shall be submitted according to the schedule specified in paragraphs (h)(6)(i) and (h)(6)(ii) of this section.

(i) If the data reported in accordance with paragraphs (h)(1) through (h)(5) of this section were collected during the first calendar half, then the report shall be submitted by August 1 following the first calendar half.

(ii) If the data reported in accordance with paragraphs (h)(1) through (h)(5) of this section were collected during the second calendar half, then the report shall be submitted by February 1 following the second calendar half.

(i) The owner or operator of an air curtain incinerator subject to the opacity limit under § 60.56b shall submit the results of the initial opacity performance test and all subsequent annual performance tests recorded under paragraph (e) of this section. Annual performance tests shall be submitted by February 1 of the year following the year of the performance test.

(j) All reports specified under paragraphs (a), (b), (c), (f), (g), (h), and (i) of this section shall be submitted as a paper copy, postmarked on or before the submittal dates specified under these paragraphs, and maintained onsite as a paper copy for a period of 5 years.

(k) All records specified under paragraphs (d) and (e) of this section shall be maintained onsite in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator.

(l) If an owner or operator would prefer to select a different annual or semiannual date for submitting the periodic reports required by paragraphs (g), (h) and (i) of this section, then the dates may be changed by mutual agreement between the owner or operator and the Administrator according to the procedures specified in § 60.19(c) of subpart A of this part.

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