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Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Hospital/Medical/Infectious Waste Incinerators; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA–HQ–OAR–2006–0534; FRL–8743–1]

RIN 2060–A004

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Hospital/Medical/Infectious Waste Incinerators

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: On September 15, 1997, EPA adopted new source performance standards (NSPS) and emission guidelines (EG) for hospital/medical/infectious waste incinerators (HMIWI). The NSPS and EG were established under sections 111 and 129 of the Clean Air Act (CAA or Act). The Sierra Club and the Natural Resources Defense Council (Sierra Club) filed suit in the U.S. Court of Appeals for the District of Columbia Circuit (the Court) challenging EPA's methodology for adopting the regulations. On March 2, 1999, the Court remanded the rule to EPA for further explanation of the Agency's reasoning in determining the minimum regulatory ''floors'' for new and existing HMIWI. The Court did not vacate the regulations, so the NSPS and EG remain in effect and were fully implemented by September 2002.

On February 6, 2007, EPA published a proposed response to the Court's remand and a proposed response to the CAA section 129(a)(5) requirement to review the NSPS and EG every 5 years. However, following recent court decisions and receipt of public comments regarding that proposal, we chose to re-assess our response to the Court's remand. Therefore, this action provides the results of EPA's reassessment in the form of another proposed response to the Court's remand and solicits public comment regarding it. This re-proposal also satisfies the CAA section 129(a)(5) requirement to conduct a review of the standards every 5 years.

DATES: *Comments.* Comments must be received on or before February 17, 2009. Under the Paperwork Reduction Act, comments on the information collection provisions must be received by the Office of Management and Budget (OMB) on or before December 31, 2008. Because of the need to resolve the issues raised in this action in a timely manner, EPA will not grant requests for extensions beyond these dates.

Public Hearing. If anyone contacts EPA by December 22, 2008 requesting to speak at a public hearing, EPA will hold a public hearing on January 15, 2009.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2006–0534, by one of the following methods:

http://www.regulations.gov: Follow the on-line instructions for submitting comments.

E-mail: Send your comments via electronic mail to *a-and-r-Docket@epa.gov,* Attention Docket ID No. EPA–HQ–OAR–2006–0534.

Facsimile: Fax your comments to (202) 566–9744, Attention Docket ID No. EPA–HQ–OAR–2006–0534.

Mail: Send your comments to: EPA Docket Center (EPA/DC), Environmental Protection Agency, Mailcode 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. EPA–HQ–OAR–2006–0534. Please include a total of two copies. We request that a separate copy also be sent to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT**).

Hand Delivery: Deliver your comments to: EPA Docket Center (EPA/DC), EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC, 20460, Attention Docket ID No. EPA–HQ–OAR–2006–0534. Such deliveries are accepted only during the normal hours of operation (8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays), and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2006–0534. The EPA's policy is that all comments received will be included in the public docket and may be made available online at *http://www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Public Hearing: If a public hearing is held, it will be held at EPA's Campus located at 109 T.W. Alexander Drive in Research Triangle Park, NC, or an alternate site nearby. Contact Ms. Pamela Garrett at (919) 541–7966 to request a hearing, to request to speak at a public hearing, to determine if a hearing will be held, or to determine the hearing location. If no one contacts EPA requesting to speak at a public hearing concerning this proposed rule by December 22, 2008, the hearing will be cancelled without further notice.

Docket: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2006–0534 and Legacy Docket ID No. A–91–61. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at *http://www.regulations.gov* or in hard copy at the EPA Docket Center EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Ms. Mary Johnson, Energy Strategies Group, Sector Policies and Programs Division (D243–01), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–5025; fax number: (919) 541–5450; e-mail address: *johnson.mary@epa.gov.*

SUPPLEMENTARY INFORMATION:

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

I. General Information

A. Does the proposed action apply to me?

Regulated Entities. Categories and entities potentially affected by the proposed action are those which operate HMIWI. The NSPS and EG for HMIWI affect the following categories of sources:

Category	NAICS Code	Examples of potentially regulated entities
Industry	622110	Private hospitals, other health care facilities, commercial research laboratories, commercial waste disposal companies, private universities
	622310	
	325411	
	325412	
	562213	
	611310	
Federal Government	622110	Federal hospitals, other health care facilities, public health service, armed services
	541710	
	928110	
State/local/Tribal Government.	622110	State/local hospitals, other health care facilities, State/local waste disposal services, State universities
	562213	
	611310	

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by the proposed action. To determine whether your facility would be affected by the proposed action, you should examine the applicability criteria in 40 CFR 60.50c of subpart Ec and 40 CFR 60.32e of subpart Ce. If you have any questions regarding the applicability of the proposed action to a particular entity, contact the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. What should I consider as I prepare my comments?

1. Submitting CBI

Do not submit information that you consider to be CBI electronically through *http://www.regulations.gov* or e-mail. Send or deliver information identified as CBI to only the following address: Ms. Mary Johnson, c/o OAQPS Document Control Officer (Room C404–02), U.S. EPA, Research Triangle Park, NC 27711, Attention Docket ID No. EPA–HQ–OAR–2006–0534. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

2. Tips for Preparing Your Comments

When submitting comments, remember to:

a. Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).

b. Follow directions. EPA may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.

c. Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.

d. Describe any assumptions and provide any technical information and/or data that you used.

e. If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.

f. Provide specific examples to illustrate your concerns, and suggest alternatives.

g. Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

h. Make sure to submit your comments by the comment period

deadline identified in the preceding section titled **DATES**.

3. Docket

The docket number for the proposed action regarding the HMIWI NSPS (40 CFR part 60, subpart Ec) and EG (40 CFR part 60, subpart Ce) is Docket ID No. EPA–HQ–OAR–2006–0534.

4. Worldwide Web (WWW)

In addition to being available in the docket, an electronic copy of the proposed action is available on the WWW through the Technology Transfer Network Web site (TTN Web). Following signature, EPA posted a copy of the proposed action on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control.

II. Background

Section 129 of the CAA, entitled ''Solid Waste Combustion,'' requires EPA to develop and adopt NSPS and EG for solid waste incineration units pursuant to CAA sections 111 and 129. Sections 111(b) and 129(a) of the CAA (NSPS program) address emissions from new HMIWI, and CAA sections 111(d) and 129(b) (EG program) address emissions from existing HMIWI. The NSPS are directly enforceable Federal regulations, and under CAA section 129(f)(1) become effective 6 months after promulgation. Under CAA section 129(f)(2), the EG become effective and enforceable the sooner of 3 years after EPA approves a State plan implementing the EG or 5 years after the date they are promulgated.

An HMIWI is defined as any device used to burn hospital waste or medical/infectious waste. Hospital waste means discards generated at a hospital, and medical/infectious waste means any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals (e.g., vaccines, cultures, blood or blood products, human pathological waste, sharps). As explained in EPA's regulations, hospital/medical/infectious waste does not include household waste, hazardous waste, or human and animal remains not generated as medical waste. An HMIWI typically is a small, dual-chamber incinerator that burns on average about 800 pounds per hour (lb/hr) of waste. Smaller units burn as little as 15 lb/hr while larger units burn as much as 3,700 lb/hr, on average.

Incineration of hospital/medical/infectious waste causes the release of a wide array of air pollutants, some of which exist in the waste feed material and are released unchanged during combustion, and some of which are generated as a result of the combustion process itself. These pollutants include particulate matter (PM); heavy metals, including lead (Pb), cadmium (Cd), and mercury (Hg); toxic organics, including chlorinated dibenzo-p-dioxins/dibenzofurans (CDD/CDF); carbon monoxide (CO); nitrogen oxides (NO_X); and acid gases, including hydrogen chloride (HCl) and sulfur dioxide (SO_2). In addition to the use of pollution prevention measures (i.e., waste segregation) and good combustion control practices, HMIWI are typically controlled by wet scrubbers or dry sorbent injection fabric filters (dry scrubbers).

Waste segregation is the separation of certain components of the healthcare waste stream in order to reduce the amount of air pollution emissions associated with that waste when incinerated. The separated waste may include paper, cardboard, plastics, glass, batteries, or metals. Separation of these types of wastes reduces the amount of chlorine- and metal-containing wastes being incinerated, which results in lower potential emissions of HCl, CDD/CDF, Hg, Cd, and Pb.

Combustion control includes the proper design, construction, operation, and maintenance of HMIWI to destroy or prevent the formation of air pollutants prior to their release to the atmosphere. Test data indicate that as secondary chamber residence time and temperature increase, emissions decrease. Combustion control is most effective in reducing CDD/CDF, PM, and CO emissions. The 2-second combustion level, which includes a minimum secondary chamber temperature of 1800°F and residence time of 2 seconds, is considered to be the best level of combustion control (i.e., good combustion) that is applied to HMIWI. Wet scrubbers and dry scrubbers provide control of PM, CDD/CDF, HCl, and metals, but do not influence CO, or NO_X and have little impact on SO_2 at the low concentrations emitted by HMIWI. (See Legacy Docket ID No. A–91–61, item II–A–111; 60 FR 10669, 10671–10677; and 61 FR 31742–31743.)

On September 15, 1997, EPA adopted NSPS (40 CFR part 60, subpart Ec) and EG (40 CFR part 60, subpart Ce) for entities which operate HMIWI. The NSPS and EG are designed to reduce air pollution emitted from new and existing HMIWI, including HCl, CO, Pb, Cd, Hg, PM, CDD/CDF (total, or 2,3,7,8-tetrachlorinated dibenzo-p-dioxin toxic equivalent (TEQ)), NO_X, SO_2, and opacity. The NSPS apply to HMIWI for which construction began after June 20, 1996, or for which modification began after March 16, 1998. The NSPS became effective on March 16, 1998, and apply as of that date or at start-up of a HMIWI, whichever is later. The EG apply to HMIWI for which construction began on or before June 20, 1996, and required compliance by September 2002.

The CAA sets forth a two-stage approach to regulating emissions from incinerators. EPA has substantial discretion to distinguish among classes, types and sizes of incinerator units within a category while setting standards. In the first stage of setting standards, CAA section 129(a)(2) requires EPA to establish technology-based emission standards that reflect levels of control EPA determines are achievable for new and existing units, after considering costs, non-air quality health and environmental impacts, and energy requirements associated with the implementation of the standards. Section 129(a)(5) then directs EPA to review those standards and revise them as necessary every 5 years. In the second stage, section 129(h)(3) requires EPA to determine whether further revisions of the standards are necessary in order to provide an ample margin of safety to protect public health. *See, e.g., NRDC and LEAN* v. *EPA,* 529 F.3d 1077, 1079–80 (D.C. Cir. 2008) (addressing the similarly required two-stage approach under CAA sections 112(d) and (f), and upholding EPA's implementation of same).

In setting forth the methodology EPA must use to establish the first-stage technology-based NSPS and EG, CAA section 129(a)(2) provides that standards ''applicable to solid waste incineration units promulgated under section 111 and this section shall reflect the maximum degree of reduction in emissions of [certain listed air pollutants] 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 and existing units in each category.'' This level of control is referred to as a maximum achievable control technology, or MACT standard.

In promulgating a MACT standard, EPA must first calculate the minimum stringency levels for new and existing solid waste incineration units in a category, generally based on levels of emissions control achieved or required to be achieved by the subject units. The minimum level of stringency is called

the MACT ''floor,'' and CAA section 129(a)(2) sets forth differing levels of minimum stringency that EPA's standards must achieve, based on whether they regulate new and reconstructed sources, or existing sources. For new and reconstructed sources, CAA section 129(a)(2) provides that the ''degree of reduction in emissions that is deemed achievable [* * *] shall not be less stringent than the emissions control that is achieved in practice by the best controlled similar unit, as determined by the Administrator.'' Emissions standards for existing units may be less stringent than standards for new units, but ''shall not be less stringent than the average emissions limitation achieved by the best performing 12 percent of units in the category.''

The MACT floors form the least stringent regulatory option EPA may consider in the determination of MACT standards for a source category. EPA must also determine whether to control emissions ''beyond-the-floor,'' after considering the costs, non-air quality health and environmental impacts, and energy requirements of such more stringent control. EPA made such MACT floor and beyond-the-floor determinations in the 1997 HMIWI rulemaking, and the Court remanded them in 1999 for further explanation, leaving the standards in force in the meantime. As mentioned above, every 5 years after adopting a MACT standard under section 129, CAA section 129(a)(5) requires EPA to review and, if appropriate, revise the incinerator standards. In addition to responding to the Court's remand in *Sierra Club* v. *EPA,* 167 F.3d 658 (D.C. Cir. 1999), the proposed action constitutes the first 5-year review of the HMIWI standards.

III. Summary

A. Litigation and Proposed Remand Response

1. What is EPA's general methodology for determining MACT?

In general, all MACT analyses involve an assessment of the air pollution control systems or technologies used by the better performing units in a source category. The technology assessment can be based solely on actual emissions data, on knowledge of the air pollution control in place in combination with actual emissions data, or on State regulatory requirements that may enable EPA to estimate the actual performance of the regulated units. For each source category, the assessment of the technology involves a review of actual emissions data with an appropriate accounting for emissions variability. Where there is more than one method or technology to control emissions, the analysis may result in a series of potential regulations (called regulatory options), one of which is selected as MACT.

Each regulatory option EPA may consider must be at least as stringent as the CAA's minimum stringency ''floor'' requirements. However, MACT is not necessarily the least stringent regulatory option. EPA must examine, but is not necessarily required to adopt, more stringent ''beyond-the-floor'' regulatory options to determine MACT. Unlike the floor minimum stringency requirements, EPA must consider various impacts of the more stringent regulatory options in determining whether MACT standards are to reflect ''beyond-the-floor'' requirements. If EPA concludes that the more stringent regulatory options have unreasonable impacts, EPA selects the ''floor-based'' regulatory option as MACT. But if EPA concludes that impacts associated with ''beyond-the-floor'' levels of control are acceptable in light of additional emissions reductions achieved, EPA selects those levels as MACT.

As stated earlier, the CAA requires that MACT for new sources be no less stringent than the emissions control achieved in practice by the best controlled similar unit. Under CAA section 129(a)(2), EPA determines the best control currently in use for a given pollutant and establishes one potential regulatory option at the emission level achieved by that control with an appropriate accounting for emissions variability. More stringent potential regulatory options might reflect controls used on other sources that could be applied to the source category in question.

For existing sources, the CAA requires that MACT be no less stringent than the average emissions limitation achieved by the best performing 12 percent of units in a source category. EPA must determine some measure of the average emissions limitation achieved by the best performing 12 percent of units to form the floor regulatory option. More stringent beyond-the-floor regulatory options reflect other or additional controls capable of achieving better performance.

2. What was EPA's methodology in the 1997 HMIWI rulemaking?

On February 27, 1995, EPA published a notice of proposed rulemaking regarding emissions standards for HMIWI (60 FR 10654). The proposal was the result of several years of reviewing available information. During the public comment period for the proposal, EPA received new information that led EPA to consider the need for numerous changes to the proposed rule, and on June 20, 1996, the Agency published a re-proposal (61 FR 31736). EPA published the final rule on September 15, 1997 (62 FR 48348).

During the data-gathering phase of developing the 1995 proposal, EPA found it difficult to obtain an accurate count of the thousands of HMIWI that then operated nationwide, or to find HMIWI with add-on air pollution control systems in place. A few HMIWI with combustion control were tested to assess performance of combustion control in reducing emissions. One unit with a wet scrubber, and a few units with dry scrubbing systems were tested to determine performance capabilities of add-on controls. (See 61 FR 31738.)

Altogether, data were available from only 7 out of the estimated then-operating 3,700 existing HMIWI (60 FR 10674). EPA developed the proposed regulations with the existing data, but EPA specifically requested comment on EPA's MACT determinations and on EPA's conclusions about the performance capabilities of air pollution control technologies on HMIWI in light of the relatively small database (60 FR 10686).

a. EPA's Methodology in the 1997 Rulemaking for New HMIWI. In determining the MACT floor for new HMIWI in the 1997 rulemaking, EPA first examined the data available for various air pollution control technologies applied to HMIWI to determine the performance capabilities of the technologies (60 FR 10671–73, 61 FR 31741–43). To determine the performance capabilities, EPA grouped all of the test data by control technology and established the numerical value for corresponding emission limitations somewhat higher than the highest test data point for each particular control technology. (See Legacy Docket ID No. A–91–61, items IV–B–46, 47, 48, and 49.) Following the determination of performance capability, EPA identified the best control technology for each air pollutant for each subcategory of HMIWI, and established the numerical values for the floor regulatory option at the emission limitation associated with that particular control technology. (See 60 FR 10673; Legacy Docket ID No. A–91–61, item IV–B–38; 61 FR 31745–46.) Other, more stringent, beyond-the-floor regulatory options were developed reflecting the actual performance of other, more effective, control technologies (61 FR 31766–68).

In EPA's 1997 final standards, EPA selected a regulatory option for new HMIWI that was, overall, more stringent

than the identified MACT floor (62 FR 48365). The final standards were based on emission limits achievable with good combustion and a moderate-efficiency wet scrubber for new small HMIWI (units with maximum waste burning capacity of less than or equal to 200 lb/hr), and good combustion and a combined dry/wet control system with carbon for new medium HMIWI (units with maximum waste burning capacity of more than 200 lb/hr but less than or equal to 500 lb/hr) and new large HMIWI (units with maximum waste burning capacity of more than 500 lb/hr). *Id.* These standards reflected the MACT floor emissions levels for new small and large HMIWI, but were more stringent than the MACT floor for new medium HMIWI, based on the floor-determination methodology EPA used as described above. *Id.* EPA estimated that the standards would reduce emissions from these units of HCl by up to 98 percent, PM and Pb by up to 92 percent, Cd by up to 91 percent, CDD/CDF by up to 87 percent, Hg by up to 74 percent, and CO, SO_2, and NO_X by up to 52 percent (62 FR 48366).

b. EPA's Methodology in the 1997 Rulemaking for Existing HMIWI. For existing units, EPA did not have sufficient emissions data to fully characterize the actual emissions performance of the best performing 12 percent of existing HMIWI. Based exclusively on the data it did have, EPA concluded that it did not have a clear indication of the technology used by the best 12 percent of units. As a result, EPA used emission limits included in State regulations and State-issued permits (hereinafter referred to as regulatory limits) as surrogate information to determine emissions limitations achieved by the best performing 12 percent of units in each subcategory (60 FR 10674). At that time, EPA expected this information reflected levels of performance achieved on a continuous basis by better-controlled units, since the units had to meet these limits or risk violating enforceable requirements. EPA assumed that all HMIWI were achieving their regulatory limits (60 FR 10674). Where there were regulatory limits for more than 12 percent of units in a subcategory, the regulatory limits were ranked from the most stringent to least stringent, and the average of the regulatory limits for the top 12 percent of units in the subcategory was calculated. *Id.*; 61 FR 31744–45. Where the number of units subject to specific emissions limitations did not comprise 12 percent of the population in a subcategory, EPA assumed those units with regulatory limits were the best performing units, and the remaining units in the top 12 percent were assigned an emission value associated with ''combustion control.'' (See 60 FR 10674; 61 FR 31745; Legacy Docket ID No. A–91–61, item IV–B–24 at 2.) In previous **Federal Register** notices regarding HMIWI (60 FR 10654, 61 FR 31736, and 62 FR 48348), this level of control was referred to as ''uncontrolled,'' which is misleading because sources with combustion control emit lesser amounts of CDD/CDF, CO, and PM than would a truly ''uncontrolled'' source. Where regulatory limits did not fill 12 percent of the source category, the average of the regulatory limits plus enough combustion-controlled emission values to account for 12 percent of units in the subcategory was calculated. (See Legacy Docket ID No. A–91–61, item IV–B–24 at 2–4.)

After calculating the averages of regulatory limits and combustion-controlled emission values, EPA examined the resulting calculated values to determine what level of air pollution control would be needed to meet the calculated average values. (See 60 FR 10675–78; 61 FR 31755–56.) For many pollutants, the calculated averages presented no clear indication of the type of air pollution control used by the best performing units. However, the calculated values for three key pollutants, PM, CO, and HCl, did provide a good indication of the type of air pollution control used on the best performing 12 percent of units. The level of air pollution control associated with the calculated average values for PM, CO, and HCl formed the technical basis of the MACT floor regulatory option considered by EPA (61 FR 31756, Table 13). The emission limitations assigned to each pollutant reflected the actual performance of the technology on which they were based. Finally, EPA developed a series of regulatory options based on progressively more stringent technologies and assigned emission limitations to each regulatory option based on the actual performance capabilities of the technologies (61 FR 31757, Table 14).

In EPA's final standards promulgated in 1997, EPA selected a regulatory option for existing HMIWI that was overall more stringent than the floor, based on the floor determination methodology described above (62 FR 48371). The final standards were based on emission limits achievable with good combustion and a low-efficiency wet scrubber for most existing small HMIWI, good combustion and a moderate-efficiency wet scrubber for existing medium HMIWI, and good combustion and a high-efficiency wet scrubber for existing large HMIWI (62 FR 48371). The final standards allow small HMIWI that meet certain rural criteria to meet emissions limits achievable with good combustion alone. *Id.* These standards reflected the identified MACT floor emissions levels for existing small HMIWI meeting rural criteria, medium HMIWI, and large HMIWI, but were more stringent than the MACT floor for most existing small HMIWI (i.e., non-rural), based on the methodology EPA used then (62 FR 48371–72). The final standards for existing medium and large HMIWI were structured so that either a dry scrubber or a wet scrubber could be used to achieve the emission limits. EPA estimated that the final EG would reduce emissions of CDD/CDF by up to 97 percent, Hg by up to 95 percent, PM by up to 92 percent, Pb by up to 87 percent, Cd by up to 84 percent, CO by up to 82 percent, HCl by up to 98 percent, and SO_2 and NO_X by up to 30 percent (62 FR 48372). Table 1 of this preamble summarizes the emission limits for the NSPS and EG promulgated in 1997.

TABLE 1—SUMMARY OF PROMULGATED EMISSION LIMITS

Pollutant (units)	Unit size [1]	Limit for existing HMIWI [2]	Limit for new HMIWI [2]
HCl (parts per million by volume (ppmv)).	L, M, S	100 or 93% reduction	15 or 99% reduction
	SR	3,100	N/A [3]
CO (ppmv)	L, M, S	40	40
	SR	40	N/A
Pb (milligrams per dry standard cubic meter (mg/dscm)).	L, M	1.2 or 70% reduction	0.07 or 98% reduction [3]
	S	1.2 or 70% reduction	1.2 or 70% reduction

TABLE 1—SUMMARY OF PROMULGATED EMISSION LIMITS—Continued

Pollutant (units)	Unit size [1]	Limit for existing HMIWI [2]	Limit for new HMIWI [2]
	SR	10	N/A
Cd (mg/dscm)	L, M	0.16 or 65% reduction	0.04 or 90% reduction
	S	0.16 or 65% reduction	0.16 or 65% reduction
	SR	4	N/A
Hg (mg/dscm)	L, M , S	0.55 or 85% reduction	0.55 or 85% reduction
	SR	7.5	N/A
PM (grains per dry standard cubic foot (gr/dscf)).	L	0.015	0.015
	M	0.03	0.015
	S	0.05	0.03
	SR	0.086	N/A
CDD/CDF, total (nanograms per dry standard cubic meter (ng/dscm)).	L, M	125	25
	S	125	125
	SR	800	N/A
CDD/CDF, TEQ (ng/dscm)	L, M	2.3	0.6
	S	2.3	2.3
	SR	15	N/A
NO_X (ppmv)	L, M, S	250	250
	SR	250	N/A
SO_2 (ppmv)	L, M, S	55	55
	SR	55	N/A
Opacity (%)	L, M, S, SR	10	10

[1] L = Large; M = Medium; S = Small; SR = Small Rural.
[2] All emission limits are measured at 7 percent oxygen.
[3] Not applicable.

c. Compliance by HMIWI. At the time of promulgation (September 1997), EPA estimated that there were approximately 2,400 HMIWI still operating in the United States. Those units combusted approximately 830 thousand tons of hospital/medical/infectious waste annually. Of those existing HMIWI, about 48 percent were small units, 29 percent were medium units, and 20 percent were large units. About 3 percent of the HMIWI were commercial units. EPA projected that no new small or medium HMIWI would be constructed, and that up to 60 new large units and 10 new commercial units would be constructed.

After approximately 98 percent of the HMIWI that were operating in 1997 shut down or obtained exemptions, there remain only 52 existing HMIWI at 47 facilities from the set of 2,400 that operated at promulgation. Additionally, only 5 new HMIWI at 4 facilities began operation following the 1997 rulemaking. The total 57 existing and new units are estimated to combust approximately 146,000 tons of waste annually. Of the 52 existing HMIWI subject to the EG, 33 are large units, 16 are medium units, and 3 are small units (2 of which meet the rural criteria). Twenty-three percent of the existing HMIWI (i.e., 14 units) are commercially owned. Of the five new HMIWI, three are large units, one is a medium unit, and one is a small unit. Two of the new units are county-owned but accept waste from other sources, similar to commercial units. The actual emissions reductions achieved as a result of implementation of the standards exceeded the 1997 projections for all nine of the regulated pollutants. A comparison of the estimated pollutant reductions versus the actual reductions is presented in Table 2 of this preamble.

TABLE 2—COMPARISON OF ESTIMATED POLLUTANT REDUCTIONS VERSUS ACTUAL POLLUTANT REDUCTIONS

Pollutant	Estimated emissions reduction, percent	Actual emissions reduction, percent [1]	Emissions reduction due to shutdowns/exemptions	Emissions reduction due to compliance with standards
HCl	98	98.4	98.3	0.1
CO	75 to 82	98.0	94.8	3.2
Pb	80 to 87	98.2	95.9	2.3
Cd	75 to 84	98.7	95.4	3.3
Hg	93 to 95	97.8	94.6	3.2
PM	88 to 92	95.6	92.8	2.9
CDD/CDF, total	96 to 97	99.4	97.3	2.0
CDD/CDF, TEQ	95 to 97	99.4	97.2	2.2
NO_X	0 to 30	56.7	see footnote 2	
SO_2	0 to 30	76.2	see footnote 2	

[1] Reflects the effect of unit shutdowns and exemptions that were obtained, as well as the effect of compliance with the promulgated standards.
[2] Percentages cannot be accurately calculated because units were not required to conduct emissions testing for NO_X and SO_2.

3. What was the Sierra Club's challenge?

On November 14, 1997, the Sierra Club and the Natural Resources Defense Council (Sierra Club) filed suit in the U.S. Court of Appeals for the District of Columbia Circuit (the Court). The Sierra Club claimed that EPA violated CAA section 129 by setting emission standards for HMIWI that are less stringent than required by section 129(a)(2); that EPA violated section 129 by not including pollution prevention or waste minimization requirements; and that EPA had not adequately considered the non-air quality health and environmental impacts of the standards. For new units, the Sierra Club argued that to satisfy the statutory phrase ''best controlled similar unit'' in CAA section 129(a)(2), EPA should have identified the single best performing unit in each subcategory and based the MACT floor on that particular unit's performance, rather than consider the performance of other units using the same technology. The Sierra Club also argued that EPA erroneously based the new unit floors on the emissions of the worst performing unit using a particular technology. Regarding existing units, the Sierra Club claimed that CAA section 129(a)(2)'s words, ''average emissions limitation achieved by the best performing 12 percent of units,'' preclude the use of regulatory data, and that the legislative history reflects congressional intent to prohibit EPA from relying on regulatory data. Moreover, the Sierra Club claimed that using regulatory data was impossible because such data existed for fewer than 12 percent of HMIWI, and that using it impermissibly imported an achievability requirement into the floor determination. Finally, the Sierra Club argued that EPA failed to require HMIWI to undertake programs to reduce the Hg and chlorinated plastic in their waste streams, in violation of CAA section 129(a)(3).

4. What was the Court's ruling?

On March 2, 1999, the Court issued its opinion in *Sierra Club* v. *EPA*, 167 F.3d 658 (D.C. Cir. 1999). While the Court rejected the Sierra Club's statutory arguments under CAA section 129, the Court remanded the rule to EPA for further explanation regarding how EPA derived the MACT floors for new and existing HMIWI. Furthermore, the Court did not vacate the regulations, and the regulations remain in effect during the remand.

a. The Court's Ruling on New Units. Regarding EPA's treatment of new units, the Court first opined that EPA would be justified in setting the floors at a level that is a reasonable estimate of the performance of the ''best controlled similar unit'' under the worst reasonably foreseeable circumstances. The Court observed that if an emissions standard is as stringent as ''the emissions control that is achieved in practice'' by a particular unit, then that particular unit will not violate the standard. But this would result only if ''achieved in practice'' means ''achieved under the worst foreseeable circumstances.'' The Court then stated that in *National Lime Ass'n* v. *EPA*, 627 F.2d 416, 431 n. 46 (D.C. Cir. 1980), it held that where a statute requires that a standard be ''achievable,'' it must be achievable ''under most adverse circumstances which can reasonably be expected to recur,'' and the same principle should apply when a standard is to be derived from the operating characteristics of a particular unit. *Sierra Club* v. *EPA*, 167 F.3d at 665.

The Court refused to rule that EPA's approach of considering emissions of units other than the single best controlled unit was unlawful, and suggested that considering all units with the same technology might be a justifiable way to predict the worst reasonably foreseeable performance of the best unit. The Court also supposed that EPA may have considered all units with the same technology equally ''well-controlled,'' so that each unit with the best technology is a ''best-controlled unit'' even if they vary in performance. *Sierra Club* v. *EPA*, 167 F.3d at 665.

However, the Court concluded that the possible rationale for this treatment of new units was not presented in the rulemaking record with enough clarity for the Court to determine that EPA's path may reasonably be discerned, and that EPA had not explained why the phrase best controlled similar unit could encompass all units using the same technology as the unit with the best observed performance, rather than just the single best unit. *Sierra Club* v. *EPA*, 167 F.3d at 665. The Court further directed EPA to provide additional explanation regarding how the Agency had calculated the upper bound of the best-controlled unit's performance through rounding. *Id.*

b. The Court's Ruling on Existing Units. With respect to existing units, the Court first rejected the Sierra Club's statutory objections to using regulatory data and ''uncontrolled'' (i.e., combustion-controlled) emissions values. Then, after analyzing and rejecting the Sierra Club's arguments that the plain language of the CAA and its legislative history forbid EPA's methodology, the Court held that the use of regulatory data is permissible as long as it allows a reasonable inference as to the performance of the top 12 percent of units. Similarly, as long as there is a reasonable basis for concluding that some of the best performing 12 percent of units are combustion controlled, EPA may include data points giving a reasonable representation of the performance of those units. *Sierra Club* v. *EPA*, 167 F.3d at 662, 663.

However, the Court concluded that, although EPA said that it believed the combination of regulatory and combustion-controlled data gave an accurate picture of HMIWI performance, EPA did not account for the possibility that HMIWI might be substantially overachieving the permit limits, which would cause permit limits to be of little value in estimating the top 12 percent of HMIWI performance. In addition, EPA did not give a reason for assuming that HMIWI that were not subject to permit requirements did not deploy emission controls of any sort. *Id.*, at 663–664. The Court further questioned the rationality of EPA using the highest of its test run data in cases where the regulatory data did not alone comprise the necessary 12 percent. *Id.*, at 664.

5. What was EPA's methodology in the 2007 proposed remand response?

Following the 1999 remand of the HMIWI MACT floors in *Sierra Club* v. *EPA*, but prior to EPA's February 6, 2007, proposed response to the Court remand, the Court issued a series of rulings in other cases addressing MACT rules that were relevant to and guided EPA's development of the February 2007 proposed response regarding HMIWI. Those rulings and their relevance are fully explained in sections III.A.4.c. and IV.A. of the preamble to EPA's February 2007 proposal (72 FR 5510). The first of these was *Nat'l Lime Ass'n* v. *EPA*, 233 F.3d 625 (D.C. Cir. 2000) (*NLA II*), which involved EPA's MACT standards under CAA section 112(d) for portland cement manufacturing facilities. In that case, the Sierra Club argued that EPA should have based its estimate of the top performing 12 percent of sources on actual emissions data. But the Court determined that EPA's approach of selecting the median performing plant out of the best twelve percent of the plants for which EPA had information and setting the floor at the level of the worst performing plant in the database using the same technology as the median plant had not been shown to be unreasonable. *NLA II*, 233 F.3d at 633.

In addition, the Court partially clarified its position regarding EPA's approach of accounting for emissions

performance variability by setting floors at a level that reasonably estimates the performance of the ''best controlled similar unit'' under the worst reasonably foreseeable circumstances. First, the Court stressed that EPA should not simply set floors at levels reflecting the worst foreseeable circumstances faced by any worst performing unit in a given source category. Second, the Court stated that considering all units with the same technology may be a justifiable way to predict the worst reasonably foreseeable performance of such technology only if pollution control technology were the only factor determining emission levels of that HAP. *NLA II*, 233 F.3d at 633.

In *Cement Kiln Recycling Coalition* v. *EPA*, 255 F.3d 855 (D.C. Cir. 2001) (*CKRC*), the Court again addressed when it is appropriate for EPA to base MACT floors on the performance of air pollution control technology. The Sierra Club challenged EPA's MACT standards for hazardous waste combustors (HWC), and argued that factors other than MACT technology influenced the emissions performance of the best performing sources.

The Court agreed that since the HWC rulemaking record showed that factors besides technological controls significantly influenced HWC emission rates, emissions of the worst-performing source using technology may not reflect what the best-performers actually achieve. *CKRC*, 255 F.3d at 864. EPA had claimed that MACT floors must be achievable by all sources using MACT technology, and that to account for the best-performing sources' operational variability we had to base floors on the worst performers' emissions. But the Court stressed that whether variability in the control technology accurately estimates emissions variability of the best performing sources depends on whether factors other than technological control contribute to emissions. The Court stated that the relevant question is whether the variability experienced by the best-performing sources can be estimated by relying on emissions data from the worst-performing sources using technological controls. *Id.*, at 865. However, the Court also reiterated that if the Agency can demonstrate with substantial evidence that MACT technology significantly controls emissions, or that factors other than technological control have a negligible effect, the MACT approach could be a reasonable means of satisfying the statute's requirements. *Id.*, at 866.

EPA's February 2007 proposed response to the HMIWI remand was based on a reassessment of information and data that were available at the time of promulgation in 1997, in light of the Agency's understanding of the Court's rulings in the Sierra Club, NLA II, CKRC and other cases discussed in our 2007 proposal notice. The proposed response would have revised some of the emission limits in both the NSPS and EG. Relative to the NSPS, the emission limits for CO, Pb, Cd, Hg, PM, and CDD/CDF would have been revised. Relative to the EG, the emission limits for HCl, Pb, Cd, and CDD/CDF would have been revised. EPA believed that the revised emission limits proposed in February 2007 as a result of its response to the remand could be achieved with the same emission control technology currently used by HMIWI to meet the 1997 rule.

a. EPA's Methodology in the 2007 Proposal for New HMIWI. The revised standards for new HMIWI in the 2007 proposal were based on the same technologies upon which the 1997 final standards were based. In general, we proposed emission limits for each air pollutant for each subcategory of new HMIWI based on the highest observed data points associated with the control technologies upon which the emission standards were based, since we identified the ''best controlled similar unit'' as one using the relevant control technologies for each subcategory of new units. This was a similar MACT determination approach to that used at the time of promulgation, with two significant differences—the proposed limits did not include the addition of 10 percent to the highest observed emissions levels, nor did it include the rounding up of those figures. The 2007 proposal's revised MACT determination approach for new HMIWI and its rationale were explained in detail in section IV.A.1. of the preamble to EPA's February 2007 proposal (72 FR 5510).

b. EPA's Methodology in the 2007 Proposal for Existing HMIWI. Although the proposed revised standards for existing HMIWI in the 2007 proposal were generally based on the same technologies upon which the 1997 final standards were based, they also reflected a number of changes to the MACT determination approach used at promulgation. In determining the best performing existing HMIWI, regulatory limits that reflected higher emissions levels than those corresponding to EPA's combustion-controlled emission estimates were not used. Furthermore, where actual emissions test data reflecting emissions performance were available in the 1997 record, those data took precedence over other types of data (i.e., regulatory limits or performance values) and were the initial type of pollutant-specific values considered. Additionally, where we had some indication that add-on controls may have been used but there were no test data or regulatory limits for that source, we did not use combustion-controlled emission estimates in the floor calculations to represent the performance of those sources. Rather, an average of the maximum dry and wet control system performance was determined for each pollutant, and those values were added to the data set towards comprising the best performing 12 percent. These default performance values also were used where regulatory limits existed but were higher than the default performance values.

In the 2007 proposal, the average emission limitation achieved by the best performing 12 percent of existing sources was determined using the median as a measure of central tendency. This approach resulted in the emission level that corresponds to that of the best performing 6 percent of sources (i.e., the 94th percentile) representing the MACT floor control level. MACT floors for each pollutant within each subcategory were based on this approach. We then determined the technology associated with each ''average of the best-performing 12 percent'' value by comparing the average values to average performance data for wet scrubbers, dry injection fabric filters (also known as dry scrubbers), and combustion controls (no add-on air pollution controls). The technology needed to meet the average values reflected the technology used by the 94th percentile unit and served as the basis for the proposed revised MACT floor.

Numerical emission limits were determined by combining the appropriate average emission value for each pollutant within each subcategory of HMIWI with a variability factor. The 2002 compliance test data for HMIWI were used in calculating pollutant-specific variability factors. While these data were not available at the time of promulgation of the 1997 rule, we believed that they were the best data available in 2007 for providing a quantitative assessment of variability of emissions from well-controlled HMIWI. To determine the pollutant-specific variability factors, a statistical analysis was conducted. Specifically, the emission limit for each pollutant was determined based on the combination of actual emissions test data, regulatory data, and estimated performance levels (as described earlier) and a statistics-based variability factor calculated for each pollutant. A detailed explanation of the 2007 proposed revised MACT determination approach for existing

HMIWI and its rationale was set forth in section IV.A.2. of the preamble to EPA's February 2007 proposal (72 FR 5510).

6. Why is EPA re-proposing a response to the remand?

EPA's decision to re-propose its response to the Court's remand is based on a number of factors, including further rulings by the U.S. Court of Appeals that issued after our 2007 proposal was published. In addition, public comments regarding the 2007 proposal raised issues that, upon further consideration, we believe are best addressed through a re-proposal. One issue regards the use of emission limits included in State regulations and State-issued permits as surrogates for estimated actual emissions limitations achieved. As previously stated, EPA used regulatory limits in its MACT floor determinations supporting the 1997 rulemaking for HMIWI. At that time, we believed this information could be expected to reliably reflect levels of performance achieved by HMIWI on a continuous basis. In the 2007 proposed response to the Court's remand, with adjustments to our methodology as described above, we continued to use some of the regulatory limits to determine achieved MACT floor emissions limitations. Upon reassessment of the regulatory limits and minimal emissions test data in the 1997 record, however, it is uncertain how well the regulatory limits represented the performance of each HMIWI. Given the uncertainty regarding whether the regulatory limits that specific HMIWI were subject to at the time of promulgation provided a reasonable estimate of emissions limitations achieved by those HMIWI, the inability to gather additional information regarding non-operational units (approximately 98 percent shut down or obtained exemptions), and the fact that we now have some actual emissions data from the HMIWI remaining in operation, we believe the best course of action is to re-propose a response to the remand based on data from the 57 currently operating HMIWI. This data is the most reliable we have obtained that reflects the emissions levels achieved in practice by the best performing HMIWI.

Another issue regards EPA's previous reliance on control technology performance as the sole indicator of HMIWI performance in making MACT floor determinations, which did not necessarily account for other factors that affect emissions (e.g., waste mix, combustion conditions). Commenters on our 2007 proposal specifically asked that we revisit this issue. Our treatment of this issue also addresses the Court's concern with our 1997 rule's use of highest data points of units with best performing technology, where control technology is not the only factor that affects emissions. As we discuss in detail later in this notice, although our work to-date in regulating HMIWI shows that control technology significantly controls emissions, we are not able to conclude that factors other than the controls have a negligible effect on emissions performance and on the levels achieved in practice by the best performing sources. While it is not possible to precisely quantify the additional emissions reduction that is associated with waste segregation or combustion conditions, we have found that it is possible to account for those measures (and any other emission reduction strategies) through the identification and use of actual emissions levels in floor determinations, since these levels reflect emissions performance resulting from the use of add-on controls and other measures known to be used at HMIWI. Thus, the proposed revised MACT emission limits are based on performance data from the best-performing 12 percent of existing HMIWI and the best-performing unit for new HMIWI.

Following publication of our 2007 proposed remand response, the Court issued a ruling in another case challenging EPA's MACT methodology, specifically as applied to brick and ceramic kilns. In *Sierra Club* v. *EPA*, 479 F.3d 875 (D.C. Cir. 2007), the Court reiterated its holding in *CKRC* that EPA may not justify MACT floors by claiming that floors must be achievable by all sources using MACT technology. *Sierra Club* v. *EPA*, 479 F.3d at 880. The Court concluded that by excluding a certain control technology from the agency's ranking of best-performing kilns, EPA had impermissibly ignored the emission levels actually achieved by best performers in order to ensure that the MACT floor is achievable by all kilns. *Sierra Club*, 479 F.3d at 880–81.

The Court then referred to its ruling in *CKRC* declaring unlawful EPA's method of estimating emissions among best performing sources by basing MACT floors on levels achieved by worst performers using MACT technology, and held that in the kilns rule EPA failed to show that the emission levels achieved by the worst performers using a given pollution control device actually predict the range of emission levels achieved by the best performers using that device. *Sierra Club*, 479 F.3d at 882. The Court distinguished EPA's approach to kilns from the permissible approach the agency had performed in *Mossville Environmental Action Now* v. *EPA*, 370 F.3d 1232 (D.C. Cir. 2004), in which EPA's record evidence demonstrated that the floor reasonably estimated actual emissions variability of the best-performing sources. There, the Court held that MACT floors may legitimately account for variability because each source must meet the specified standard every day and under all operating conditions. *Mossville*, 370 F.3d at 1242.

The *Sierra Club* Court then addressed EPA's approach to considering non-technology factors in the brick and ceramic kiln rule. The Court stressed that EPA may not refuse to consider such factors in the MACT floor merely because it is impossible to reliably quantify their effect on emissions performance. Consequently, the Court rejected EPA's approach in the kiln rule, in which the agency acknowledged that a non-technology factor (clay type) had an appreciable effect on emissions but for which EPA lacked data to quantify such effects. *Sierra Club*, 479 F.3d at 882–83. The Court further rejected EPA's argument that since the non-technology factor in the kiln rule did not reflect a deliberate step taken to reduce emissions, it did not amount to an emission control or limitation achieved by kilns: The Court stated that *NLA II* requires neither an intentional action nor a deliberate strategy to reduce emissions, and that the Clean Air Act requires the EPA to set MACT floors based upon the ''average emission limitation[s] achieved'' without suggesting that this achievement must be the product of a specific intent. *Sierra Club*, 479 F.3d at 883.

The Court's treatment of each of these issues caused us to reassess our MACT floor approach in the HMIWI remand response.

7. Are the emission limits being revised as a result of the re-proposal?

Yes, the proposed response to the remand would revise all of the emission limits in both the NSPS and EG. Table 3 of this preamble summarizes the emission limits being proposed in this action in response to the Court remand for new HMIWI.

TABLE 3—SUMMARY OF EMISSION LIMITS PROPOSED IN RESPONSE TO THE REMAND FOR NEW HMIWI

Pollutant (units)	Unit size [1]	Proposed remand response limit [2]
HCl (ppmv)	L	0.75
	M	1.8
	S	4.5

TABLE 3—SUMMARY OF EMISSION LIMITS PROPOSED IN RESPONSE TO THE REMAND FOR NEW HMIWI—Continued

Pollutant (units)	Unit size [1]	Proposed remand response limit [2]
CO (ppmv)	L	2.9
	M	1.9
	S	8.2
Pb (mg/dscm)	L	0.00047
	M	0.016
	S	0.18
Cd (mg/dscm)	L	0.00012
	M	0.0071
	S	0.012
Hg (mg/dscm)	L	0.00093
	M	0.0020
	S	0.0075
PM (gr/dscf)	L	0.0048
	M	0.0099
	S	0.017
CDD/CDF, total (ng/dscm)	L	0.60
	M	0.35
	S	8.3
CDD/CDF, TEQ (ng/dscm)	L	0.014
	M	0.0097
	S	0.0080
NO_X (ppmv)	L	110
	M, S	38
SO_2 (ppmv)	L	1.9
	M, S	0.78
Opacity (%)	L, M, S	2

[1] L = Large; M = Medium; S = Small
[2] All emission limits are measured at 7 percent oxygen.

Table 4 of this preamble summarizes the emission limits being proposed in this action in response to the Court remand for existing HMIWI.

TABLE 4—SUMMARY OF EMISSION LIMITS PROPOSED IN RESPONSE TO THE REMAND FOR EXISTING HMIWI

Pollutant (units)	Unit size [1]	Proposed remand response limit [2]
HCl (ppmv)	L	2.4
	M	2.5
	S	4.5
	SR	440
CO (ppmv)	L	3.9
	M	3.0
	S	8.2
	SR	12
Pb (mg/dscm)	L	0.013
	M	0.017
	S	0.18
	SR	0.35
Cd (mg/dscm)	L	0.0041
	M	0.0071
	S	0.012
	SR	0.068
Hg (mg/dscm)	L	0.0095
	M	0.0079
	S	0.0075
	SR	0.0040
PM (gr/dscf)	L	0.0056
	M	0.012
	S	0.017
	SR	0.030
CDD/CDF, total (ng/dscm)	L	1.6
	M	0.63
	S	8.3
	SR	130
CDD/CDF, TEQ (ng/dscm)	L	0.029
	M	0.0097
	S	0.0080
	SR	2.6
NO_X (ppmv)	L	140
	M, S	200
	SR	110
SO_2 (ppmv)	L, M, S	2.8
	SR	43
Opacity (%)	L, M, S, SR.	2

[1] L = Large; M = Medium; S = Small; SR = Small Rural
[2] All emission limits are measured at 7 percent oxygen.

B. Proposed CAA Section 129(a)(5) 5-Year Review Response

Section 129(a)(5) of the CAA requires EPA to conduct a review of the NSPS and EG at 5 year intervals and, in accordance with sections 129 and 111, revise the NSPS and EG. We do not interpret section 129(a)(5), together with section 111, as requiring EPA to recalculate MACT floors in connection with this periodic review. See, *e.g.*, 71 FR 27324, 27327–28 (May 10, 2006) (''Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors; Final Rule''); *see* also, *NRDC and LEAN* v. *EPA*, 529 F.3d 1077, 1083–84 (D.C. Cir. 2008) (upholding EPA's interpretation that the periodic review requirement in CAA section 112(d)(6) does not impose an obligation to recalculate MACT floors).

Rather, in conducting such periodic reviews, EPA attempts to assess the performance of and variability associated with control measures affecting emissions performance at sources in the subject source category (including the installed emissions control equipment), along with developments in practices, processes and control technologies, and determines whether it is appropriate to revise the NSPS and EG. This is the same general approach taken by EPA in periodically reviewing CAA section 111 standards, as section 111 contains a similar review and revise provision. Specifically, section 111(b)(1)(B) requires EPA, except in specified circumstances, to review NSPS promulgated under section 111 every 8 years and to revise the standards if EPA determines that it is ''appropriate'' to do so, 42 U.S.C. 7411(b)(1)(B). In light of the explicit reference in section 129(a)(5) to section 111, which contains direct guidance on how to review and revise standards previously promulgated, EPA reasonably interprets section 129(a)(5) to provide that EPA must review and, if appropriate, revise section 129 standards.

Section 129 provides guidance on the criteria to be used in determining whether it is appropriate to revise a section 129 standard. Section 129(a)(3) states that standards under sections 111 and 129 ''shall be based on methods and technologies for removal or destruction of pollutants before, during and after combustion.'' It can be reasonably inferred from the reference to ''technologies'' that EPA is to consider advances in technology, both as to their effectiveness and their costs, as well as the availability of new technologies, in determining whether it is ''appropriate'' to revise a section 129 standard. This inference is further supported by the fact that the standards under review are based, in part, on an assessment of the performance of control technologies currently being used by sources in a category or subcategory.

This approach is also consistent with the approach used in establishing and updating NSPS under section 111. Consistent with the definition of ''standard of performance'' in section 111(a)(1), standards of performance promulgated under section 111 are based on ''the best system of emission reductions'' which generally equates to some type of control technology. Where EPA determines that it is ''appropriate'' to revise section 111 standards, section 111(b)(1)(B) directs that this be done ''following the procedure required by this subsection for promulgation of such standards.'' In updating section 111 standards in accordance with section 111(b)(1)(B), EPA has consistently taken the approach of evaluating advances in existing control technologies, both as to performance and cost, as well as the availability of new technologies and then, on the basis of this evaluation, determined whether it is appropriate to revise the standard. See, for example, 71 FR 9866 (Feb. 27, 2006) (updating the boilers NSPS) and 71 FR 38482 (July 6,

2006) (updating the stationary combustion turbines NSPS). In these reviews, EPA takes into account, among other things, the currently installed equipment and its performance and operational variability. As appropriate, we also consider new technologies and control measures that have been demonstrated to reliably control emissions from the source category.

The approach is similar to the one that Congress spelled out in section 112(d)(6), which is also entitled ''Review and revision.'' Section 112(d)(6) directs EPA to every 8 years ''review, and revise as necessary (taking into account developments in practices, processes, and control technologies)'' emission standards promulgated pursuant to section 112. There are a number of significant similarities between what is required under section 129, which addresses emissions of hazardous air pollutants (HAP) and other pollutants from solid waste incineration units, and section 112, which addresses HAP emissions generally. For example, under both section 112(d)(3) and section 129(a)(2) initial standards applicable to existing sources ''shall not be less stringent than the average emissions limitation achieved by the best performing 12 percent of units in the category.'' Also, as stated above, both sections require that standards be reviewed at specified intervals of time. Finally, both sections contain a provision addressing ''residual risk'' (sections 112(f) and 129(h)(3)). As a result, EPA believes that section 112(d)(6) is relevant in ascertaining Congress' intent regarding how EPA is to proceed in implementing section 129(a)(5).

Like its counterpart CAA section 112(d)(6), section 129(a)(5) does not state that EPA must conduct a MACT floor analysis every 5 years when reviewing standards promulgated under sections 129(a)(2) and 111. Had Congress intended EPA to conduct a new floor analysis every 5 years, it would have said so expressly by directly incorporating such requirements into section 129(a)(5), for example by referring directly to section 129(a)(2), rather than just to ''this section'' and section 111. It did not do so, however, and, in fact, section 129 encompasses more than just MACT standards under section 129(a)(2)—it also includes risk-based standards under section 129(h)(3), which are not determined by an additional MACT analysis. Reading section 129(a)(5) to require recalculation of the MACT floor would be both inconsistent with Congress' express direction that EPA should revise section 129 standards in accordance with section 111, which plainly provides that such revision should occur only if we determine that it is ''appropriate'' to do so. It would also result in effectively reading the reference to section 111 out of the Act, a circumstance that Congress could not have intended. Required recalculation of floors would completely eviscerate EPA's ability to base revisions to section 129 standards on a determination that it is ''appropriate'' to revise such standards, as EPA's only discretion would be in deciding whether to establish a standard that is more stringent than the recalculated floor. EPA believes that depriving the agency of any meaningful discretion in this manner is at odds with what Congress intended.

Further, required recalculation of floors would have the inexorable effect of driving existing sources to the level of performance exhibited by new sources on a 5-year cycle, a result that is unprecedented and that should not be presumed to have been intended by Congress in the absence of a clear statement to that effect. There is no such clear statement. It is reasonable to assume that if the floor must be recalculated on a 5-year cycle, some, if not most or all, of the sources that form the basis for the floor calculation will be sources that were previously subject to standards applicable to new sources. As a result, over time, existing sources which had not made any changes in their operations would eventually be subject to essentially the same level of regulation as new sources. Such a result would be unprecedented, particularly in the context of a standard that is established under both sections 129 and 111. Under section 111, an existing source only becomes a new source and thus subject to a new source standard when it is either modified (section 111(a)(2)) or reconstructed (40 CFR 60.15). Given this context, it is not reasonable to assume that Congress intended for existing sources subject to section 129 standards to be treated as new sources over time where their circumstances have not changed.

We believe that a reasonable interpretation of section 129(a)(5) is that Congress preserved EPA's discretion in reviewing section 129 standards to revise them when the Agency determines it is ''appropriate'' to do so, and that the D.C. Circuit's recent ruling regarding section 112(d)(6) supports this view (see *NRDC and LEAN* v. *EPA,* 529 F.3d 1077, 1084 (D.C. Cir. 2008). In that case, petitioners had ''argued that EPA was obliged to completely recalculate the maximum achievable control technology—in other words, to start from scratch.'' *NRDC and LEAN,* 529 F.3d at 1084. The Court held: ''We do not think the words 'review, and revise as necessary' can be construed reasonably as imposing any such obligation.'' *Id.* The Court's ruling in *NRDC and LEAN* is consistent with our interpretation of section 129(a)(5) as providing a broad range of discretion in terms of whether to revise MACT standards adopted under sections 129(a)(2) and 111.

1. What was EPA's Approach in the 2007 Proposal Regarding the 5-Year Review Requirement?

In the 2007 proposed response to the Court's remand, EPA also proposed amendments that reflected changes determined to be appropriate after completing the 5-year review. Following compliance with the EG in 2002, EPA gathered information on the performance levels actually being achieved by HMIWI that were operating under the guidelines. Those HMIWI that remained in operation either continued operation with their existing configuration or were retrofitted with add-on air pollution control devices in order to meet the 1997 standards. The 2002 compliance test information provided the first quantitative assessment of the performance of the installed control equipment's ability to attain the NSPS and EG limits. The compliance data indicated that the control technologies that were installed and the practices that were implemented to meet the 1997 NSPS and EG achieved reductions somewhat superior to what we had expected, based on the regulatory data we had used to establish the limits, under the 1997 limits for many of the pollutants.

EPA used the compliance test data to develop the revised emission limits proposed in February 2007 in response to the 5-year review requirement. The proposed amendments did not reflect adoption of new control technologies or processes, but reflected more efficient practices in operation of the control technologies that sources used in order to meet the 1997 MACT standards. The proposed amendments also would have resulted in some changes to the performance testing and monitoring requirements based on information received during implementation of the HMIWI NSPS and EG. EPA's approach was explained in detail in sections III.B. and IV.B. of the preamble to EPA's February 2007 proposal (72 FR 5510).

We did not regard the proposed revised amendments under the 5-year review as reflecting a recalculation of the MACT floors for their own sake, or, as some have put it, ''MACT-on-MACT.'' Rather, consistent with our

overall interpretation of the requirements of section 129(a)(5), the proposed revised amendments reflected what we viewed as a more accurate translation into numeric emissions rates of the emissions performance achieved by the MACT technological controls we had identified in the 1997 final rule. This seemed a reasonable approach, since we now had, for the first time, actual emissions data that indicated the emissions levels achieved through application of the MACT technology, rather than just the regulatory data and combustion-control emissions factors to which we have been previously limited, and which, as discussed above, we have since learned did not provide the most accurate estimation of the emissions levels achieved by the best performing sources.

2. Why is EPA Re-Proposing Different Revised Standards under the 5-Year Review?

Although we believe that the approach used in our 2007 proposed response to the 5-year review of the HMIWI emission standards, as promulgated in 1997, correctly addressed the intent of the CAA section 129(a)(5) requirement and resulted in proposed revisions to the emission standards that would have appropriately reflected the emissions levels achieved by the control technologies imposed by the 1997 final rule, we are re-proposing our response to the remand in *Sierra Club* such that the proposed revised MACT standards, reflecting floor levels determined by actual emissions data, would be more stringent than what we proposed in 2007 for both the remand response and the 5-year review, with the exceptions noted and discussed in sections IV.A. and IV.B of this preamble. Consequently, we believe that our obligation to conduct a 5-year review based on implementation of the 1997 emission standards will also be fulfilled through this action's re-proposal of the remand response. This is supported by the fact that the revised MACT floor determinations and emission limits associated with the remand response are based on performance data for the 57 currently operating HMIWI that are subject to the 1997 standards, and by the re-proposal's accounting for non-technology factors that affect HMIWI emissions performance, which the 2007 proposed remand response and 5-year review did not fully consider. Thus, the proposed remand response more than addresses the technology review's goals of assessing the performance efficiency of the installed equipment and ensuring that the emission limits reflect the performance of the technologies required by the MACT standards. In addition, the proposed remand response addresses whether new technologies and processes and improvements in practices have been demonstrated at sources subject to the emissions limitations. Accordingly, the remand response in this proposed action fulfills EPA's obligations regarding the first 5-year review of the HMIWI standards and, therefore, replaces the 2007 proposal's 5-year review proposed revisions.

C. Other Proposed Amendments

This proposed action puts forward the same changes based on information received during implementation of the HMIWI NSPS and EG that were proposed in 2007. The proposal also includes additional changes regarding requirements for NO_X and SO2 emissions testing for all HMIWI, performance testing requirements for small rural HMIWI, monitoring requirements for HMIWI that install selective non-catalytic reduction (SNCR) technology to reduce NO_X emissions, and procedures for test data submittal. A summary of these changes follows.

1. Performance Testing and Monitoring Amendments

The proposed amendments would require all HMIWI to demonstrate initial compliance with the revised NO_X and SO_2 emission limits. Testing and demonstration of compliance with the NO_X and SO_2 emission limits are not currently required by the standards. In addition to demonstrating initial compliance with the NO_X and SO_2 emission limits, small rural HMIWI would be required to demonstrate initial compliance with the other seven regulated pollutants' emission limits and the opacity standard. Currently, small rural HMIWI are only required to demonstrate initial compliance with the PM, CO, CDD/CDF, Hg, and opacity standards. Small rural HMIWI also would be required to determine compliance with the PM, CO, and HCl emission limits by conducting an annual performance test. On an annual basis, small rural HMIWI are currently required to demonstrate compliance with the opacity limit. The proposed amendments would allow sources to use results of their previous emissions tests to demonstrate initial compliance with the proposed revised emission limits as long as the sources certify that the previous test results are representative of current operations. Only those sources who could not so certify and/or whose previous emissions tests do not demonstrate compliance with one or more revised emission limits would be required to conduct another emissions test for those pollutants (note that most sources are already required to test for HCl, CO, and PM on an annual basis, and those annual tests are still required).

The proposed amendments would require, for existing HMIWI, annual inspections of scrubbers, fabric filters, and other air pollution control devices that may be used to meet the emission limits, as well as a one-time Method 22 of appendix A–7 visible emissions test of the ash handling operations to be conducted during the next compliance test. For new HMIWI, the proposed amendments would require CO continuous emissions monitoring systems (CEMS), bag leak detection systems for fabric-filter controlled units, annual inspections of scrubbers, fabric filters, and other air pollution control devices that may be used to meet the emission limits, as well as Method 22 visible emissions testing of the ash handling operations to be conducted during each compliance test. For existing HMIWI, use of CO CEMS would be an approved alternative, and specific language with requirements for CO CEMS is included in the proposed amendments. For new and existing HMIWI, use of PM, HCl, multi-metals, and Hg CEMS, and integrated sorbent trap Hg monitoring and dioxin monitoring (continuous sampling with periodic sample analysis) also would be approved alternatives, and specific language for those alternatives is included in the proposed amendments. HMIWI that install SNCR technology to reduce NO_X emissions would be required to monitor the reagent (e.g., ammonia or urea) injection rate and secondary chamber temperature.

2. Electronic Data Submittal

Compliance test data are necessary for conducting 5-year reviews of CAA section 129 standards, as well as for many other purposes including compliance determinations, development of emission factors, and determining annual emission rates. In conducting 5-year reviews, EPA has found it burdensome and time consuming to collect emission test data because of varied locations for data storage and varied data storage methods. One improvement that has occurred in recent years is the availability of stack test reports in electronic format as a replacement for burdensome paper copies.

In this action, we are taking a step to improve data accessibility. HMIWI sources will have the option of submitting, to an EPA electronic data base, an electronic copy of annual stack

test reports. Data entry requires only access to the internet and is expected to be completed by the stack testing company as part of the work that they are contracted to perform. This option would become available as of December 31, 2011.

Please note that the proposed option to submit source test data electronically to EPA would not require any additional performance testing. In addition, when a facility elects to submit performance test data to WebFIRE, there would be no additional requirements for data compilation; instead, we believe industry would greatly benefit from improved emissions factors, fewer information requests, and better regulation development as discussed below. Because the information that would be reported is already required in the existing test methods and is necessary to evaluate the conformance to the test method, facilities would already be collecting and compiling these data. One major advantage of electing to submit source test data through the Electronic Reporting Tool (ERT), which was developed with input from stack testing companies (who already collect and compile performance test data electronically), is that it would provide a standardized method to compile and store all the documentation required by this rule. Another important benefit of submitting these data to EPA at the time the source test is conducted is that it will substantially reduce the effort involved in data collection activities in the future. Specifically, because EPA would already have adequate source category data to conduct residual risk assessments or technology reviews, there would be fewer data collection requests (e.g., Section 114 letters). This results in a reduced burden on both affected facilities (in terms of reduced manpower to respond to data collection requests) and EPA (in terms of preparing and distributing data collection requests). Finally, another benefit of electing to submit these data to WebFIRE electronically is that these data will greatly improve the overall quality of the existing and new emissions factors by supplementing the pool of emissions test data upon which the emission factor is based and by ensuring that data are more representative of current industry operational procedures. A common complaint we hear from industry and regulators is that emissions factors are out-dated or not representative of a particular source category. Receiving most performance tests would ensure that emissions factors are updated and more accurate. In summary, receiving these test data already collected for other purposes and using them in the emissions factors development program will save industry, state/local/tribal agencies, and EPA time and money.

The electronic data base that will be used is EPA's WebFIRE, which is a Web site accessible through EPA's TTN. The WebFIRE Web site was constructed to store emissions test data for use in developing emission factors. A description of the WebFIRE data base can be found at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main*. The ERT will be able to transmit the electronic report through EPA's Central Data Exchange (CDX) network for storage in the WebFIRE data base. Although ERT is not the only electronic interface that can be used to submit source test data to the CDX for entry into WebFIRE, it makes submittal of data very straightforward and easy. A description of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/ert_tool.html*. The ERT can be used to document the conduct of stack tests data for various pollutants including PM (EPA Method 5 of appendix A–3), SO_2 (EPA Method 6C of appendix A–4), NO_X (EPA Method 7E of appendix A–4), CO (EPA Method 10 of appendix A–4), Cd (EPA Method 29 of appendix A–8), Pb (Method 29), Hg (Method 29), and HCl (EPA Method 26A of appendix A–8). Presently, the ERT does not handle dioxin/furan stack test data (EPA Method 23 of appendix A–7), but the tool is being upgraded to handle dioxin/furan stack test data. The ERT does not currently accept opacity data or CEMS data.

EPA specifically requests comment on the utility of this electronic reporting option and the burden that owners and operators of HMIWI estimate would be associated with this option.

3. Miscellaneous Other Amendments

The proposed amendments would revise the definition of ''Minimum secondary chamber temperature'' to read ''Minimum secondary chamber temperature means 90 percent of the highest 3-hour average secondary chamber temperature (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM, CO, and dioxin/furan emission limits.''

The proposed amendments would require HMIWI sources to submit, along with each test report, a description, including sample calculations, of how operating parameters are established during the initial performance test and, if applicable, re-established during subsequent performance tests.

D. Proposed Implementation Schedule for Existing HMIWI

Under the proposed amendments to the EG, and consistent with CAA section 129, revised State plans containing the revised existing source emission limits and other requirements in the proposed amendments would be due within 1 year after promulgation of the amendments. That is, revised State plans would have to be submitted to EPA 1 year after the date on which EPA promulgates revised standards.

The proposed amendments to the EG then would allow existing HMIWI to demonstrate compliance with the amended standards within 3 years from the date of approval of a State plan or 5 years after promulgation of the revised standards, whichever is earlier. Consistent with CAA section 129, EPA expects States to require compliance as expeditiously as practicable. However, because we believe that many HMIWI will find it necessary to retrofit existing emission control equipment and/or install additional emission control equipment in order to meet the proposed revised limits, EPA anticipates that States may choose to provide the maximum compliance period allowed by CAA section 129(f)(2).

In revising the emission limits in a State plan, a State would have two options. First, it could include both the current and the new emission limits in its revised State plan, which would allow a phased approach in applying the new limits. That is, the State plan would make it clear that the current emission limits remain in force and apply until the date the new existing source emission limits are effective (as defined in the State plan). States whose existing HMIWI do not find it necessary to improve their performance in order to meet the revised emission limits may want to consider a second approach where the State would insert the revised emission limits in place of the current emission limits, follow procedures in 40 CFR part 60, subpart B, and submit a revised State plan to EPA for approval. If the revised State plan contains only the revised emission limits (i.e., the current emission limits are not retained), then the revised emission limits must become effective immediately since the current limits would be removed from the State plan.

EPA will revise the existing Federal plan to incorporate any changes to existing source emission limits and other requirements that EPA ultimately promulgates. The Federal plan applies to HMIWI in any State without an approved State plan. The proposed amendments to the EG would allow

existing HMIWI subject to the Federal plan up to 5 years after promulgation of the revised standards to demonstrate compliance with the amended standards.

E. Proposed Changes to the Applicability Date of the 1997 NSPS

HMIWI would be treated differently under the amended standards, as proposed, than they were under the 1997 standards in terms of whether they are ''existing'' or ''new'' sources, and there would be new dates defining what are ''new'' sources and imposing compliance deadlines regarding any amended standards. Since under this proposed rule the EG for each pollutant and each subcategory would be more stringent than the NSPS as promulgated in 1997, all NSPS units, with respect to the standards as promulgated in 1997, would become ''existing'' sources under the proposed amended standards and would be required to meet the revised EG by the applicable compliance date for the revised guidelines. However, those sources would continue to be NSPS units subject to the standards as promulgated in 1997, until they become ''existing'' sources under the amended standards. Units for which construction is commenced after the date of this proposal, or modification is commenced on or after the date 6 months after promulgation of the amended standards, would be ''new'' units subject to more stringent NSPS emission limits than units for which construction or modification was completed prior to those dates.

Thus, under these specific proposed amendments, units that commenced construction after June 20, 1996, and on or before December 1, 2008, or that are modified before the date 6 months after the date of promulgation of any revised final standards, would continue to be or would become subject to the 40 CFR part 60, subpart Ec NSPS emission limits that were promulgated in 1997 until the applicable compliance date for the revised EG, at which time those units would become ''existing'' sources. Similarly, EG units under the 1997 rule would need to meet the revised EG by the applicable compliance date for the revised guidelines. HMIWI that commence construction after December 1, 2008 or that are modified 6 months or more after the date of promulgation of any revised standards would have to meet the revised NSPS emission limits being added to the subpart Ec NSPS within 6 months after the promulgation date of the amendments or upon startup whichever is later.

IV. Rationale

A. Rationale for the Proposed Response to the Remand

This action responds to the Court's remand by proposing a response that is based on data from currently operating HMIWI. This proposed action replaces the February 2007 proposal that responded to the remand based on data in the public record that supported the 1997 HMIWI rulemaking.

1. New HMIWI

The Court raised three issues with regard to EPA's treatment of the MACT floor for new units and the achievable emission limitations. First, the Court asked EPA to explain why the floor was based on the highest emissions levels of the ''worst-performing'' unit employing the MACT technology rather than on the lowest observed emissions levels of the best performing unit using the MACT technology. (See *Sierra Club* v. *EPA ,* 167 F.3d at 665.) Second, the Court requested further explanation of why EPA considered multiple units employing the MACT technology, rather than identify the single best-performing unit and basing the floor on that particular unit's performance with that technology. *Id.* Third, the Court requested further explanation of EPA's procedure for determining the achievable emission limitation from the available data, where EPA selected a numerical value somewhat higher than the highest observed data point. *Id.*

The methodology used to determine the MACT floor and proposed revised emission limits for new HMIWI addresses the three issues raised by the Court. The methodology that supports this action does not base the MACT floor for new units on the highest emissions levels of the ''worst-performing'' unit employing the MACT technology, nor does it consider multiple units employing the MACT technology. As explained in section III of this preamble, EPA relied on control technology performance as the sole indicator of unit performance in making MACT floor determinations that supported the 1997 rulemaking as well as the 2007 proposal. However, based on recently obtained information, we now understand that factors other than the controls (e.g., waste mix and combustion conditions) affect HMIWI performance, and those emission reduction strategies must be accounted for in MACT floor determinations.

In November 2007, we solicited information regarding waste segregation practices from nine entities that own or operate HMIWI. The nine entities chosen include various: (1) Types of facilities (i.e., hospitals, pharmaceutical operations, universities, and commercial operations), (2) incinerator sizes (i.e., large, medium, and small HMIWI), (3) incinerator ages (i.e., existing versus new), and (4) control techniques (e.g., dry control systems, wet control systems, and combustion controls). The responses to EPA's request for information indicate that waste segregation is a common practice at HMIWI facilities. Onsite waste segregation is practiced at the six hospitals, the pharmaceutical facility, and the university that responded to the questionnaire. Materials separated from the waste stream include batteries, fluorescent light bulbs, paper and/or cardboard, glass, and plastics. The commercial operations that dispose of waste generated offsite indicated in their responses that they encourage waste segregation from their clients through various efforts, including waste management plans, contract requirements, and waste acceptance protocols.

a. Development of the MACT Floors and Proposed Emission Limits for New Units. Section 129(a)(2) of the CAA requires that EPA determine the emissions control that is achieved in practice by the ''best controlled similar unit'' when establishing the MACT floors for new units. Section 129 requires EPA to develop standards based on emission levels already achieved in practice by one or more units. Thus, the MACT floor for new units is based on the ''emissions control'' that is attained by any emission reduction strategies at the best similar unit. The use of actual emissions levels in the MACT floor determinations supporting the proposed emission limits for new HMIWI accounts for all emission reduction strategies (i.e., add-on controls or other emission reducing measures) used by individual HMIWI.

MACT floors were determined for each air pollutant for each subcategory of HMIWI using emissions data from the 57 currently operating HMIWI. As explained in section III of this preamble, we believe it is appropriate to re-propose a response to the remand based on data from the currently operating HMIWI given the uncertainty regarding the reliability of the regulatory limits for units operating in 1997 and the lack of other more reliable data for those units. We are retaining the large, medium, and small subcategories from the 1997 rulemaking. We continue to consider these subcategories to be ''classes'' of similar units in that all units within each ''class'' have been subject to the same regulatory requirements in the 1997 HMIWI standards. Thus, when

determining MACT floors and proposed emission limits using data for HMIWI within each ''class,'' we believe it is appropriate to continue to apply those emission limits to HMIWI of similar size (e.g., data from existing medium HMIWI would be used to determine emission limits for new medium HMIWI).

Within each subcategory and for each pollutant, EPA determined the best performing HMIWI based on an examination of the average emissions levels for each HMIWI. That is, the MACT floor for each pollutant is based on one unit (i.e., the unit with the lowest average emissions level). MACT floors for each pollutant within each subcategory, with the exceptions of NO_X and SO_2 for small HMIWI, were based on this approach. We do not have any NO_X or SO_2 emissions data for the two small HMIWI because they have not tested for NO_X or SO_2 and are not required to do so by the 1997 HMIWI standards. Both small units use wet scrubbers. The best performing medium HMIWI with respect to NO_X and SO_2 use wet scrubbers as well. In both of these instances, the NO_X and SO_2 emission limits being proposed for new medium HMIWI also are being proposed for new small units. Although use of data from the medium units does not account for any control strategies in addition to the wet scrubbers being used by the small units, we believe that using the NO_X and SO_2 emission limits for new medium HMIWI as surrogate emission limits for new small HMIWI is the most appropriate way to address these two instances. A summary of the add-on control technologies used, in addition to any other emission reductions measures, by the single best performing HMIWI on a pollutant-specific basis within each subcategory is presented in Table 5 of this preamble.

TABLE 5—SUMMARY OF ADD-ON CONTROL TECHNOLOGIES FOR BEST PERFORMING HMIWI

Pollutant	Large HMIWI	Medium HMIWI	Small HMIWI
HCl	Wet scrubber	Wet scrubber	Wet scrubber.
CO	Wet scrubber	Dry scrubber	Wet scrubber.
Pb	Carbon adsorber/wet scrubber	Dry scrubber	Wet scrubber.
Cd	Carbon adsorber/wet scrubber	Dry scrubber	Wet scrubber.
Hg	Fabric filter	Wet scrubber	Wet scrubber.
PM	Dry scrubber	Dry scrubber	Wet scrubber.
CDD/CDF	Dry scrubber	Wet scrubber	Wet scrubber.
NO_X	Carbon adsorber/wet scrubber	Wet scrubber	Wet scrubber.
SO_2	Dry scrubber	Wet scrubber	Wet scrubber.

We then used emissions data for those best performing HMIWI to determine emission limits to be proposed, with an accounting for variability. EPA must exercise its judgment, based on an evaluation of the relevant factors and available data, to determine the level of emissions control that has been achieved by the best performing HMIWI under variable conditions. The Court has recognized that EPA may consider variability in estimating the degree of emission reduction achieved by best-performing sources and in setting MACT floors. See *Mossville Envt'l Action Now* v. *EPA,* 370 F.3d 1232, 1241–42 (D.C. Cir 2004) (holding EPA may consider emission variability in estimating performance achieved by best-performing sources and may set the floor at level that best-performing source can expect to meet ''every day and under all operating conditions'').

MACT and other technology-based standards are necessarily derived from short-term emissions test data, but such data are not representative of the range of operating conditions that the best performing facilities face on a day-to-day basis. In statistical terms, each test produces a limited data sample, not a complete enumeration of the available data for performance of the unit over a long period of time. (See Natrella, *Experimental Statistics,* National Bureau of Standards Handbook 91, chapter 1 (revised ed., 1966).) EPA, therefore, often needs to adjust the short-term data to account for these varying conditions. The types of variability that EPA attempts to account for include operational distinctions between and within tests at the same unit.

''Between-test variability'' can occur even where conditions appear to be the same when two or more tests are conducted. Variations in emissions may be caused by different settings for emissions testing equipment, different field teams conducting the testing, differences in sample handling, or different laboratories analyzing the results. Identifying an achieved emissions level needs to account for these differences between tests, in order for ''a uniform standard [to] be capable of being met under most adverse conditions which can reasonably be expected to recur[.]'' (See *NLA I,* 627 F.2d at 431, n. 46.) (See also *Portland Cement Ass'n,* 486 F.2d at 396 (noting industry point that ''a single test offered a weak basis'' for inferring that plants could meet the standards).)

The same types of differences leading to between-test variability also cause variations in results between various runs comprising a single test, or ''within-test variability.'' A single test at a unit usually includes at least three separate test runs. (See 40 CFR 63.7(e)(3) (for MACT standards under section 112 of the CAA), and 40 CFR 60.8(f) (for NSPS under CAA section 111).) Each data point should be viewed as a snapshot of actual performance. Along with an understanding of the factors that may affect performance, each of these snapshots gives information about the normal, and unavoidable, variation in emissions that would be expected to recur over time.

To account for pollutant-specific variability at the best performing HMIWI, we used emissions data for each test run conducted by the best performing units. The amount of pollutant-specific test data for the single best performing HMIWI within each subcategory varies from 3 data points to 18 data points for large units; 3 data points to 21 data points for medium units; and 3 data points to 12 data points for small units (excluding NO_X and SO_2 for which there is no data for small units). Given the limited amount of test data and the uncertainty regarding that short-term emissions test data, we determined use of the 99.9 percent upper confidence level (UCL) to be an appropriate method of estimating variability. The UCL represents the statistical likelihood that a value, in this case an emission value from the best performing source, will fall at or below the UCL value. The average (or sample mean) and sample standard deviation, which are two statistical measures calculated from the sample data, are used to calculate the UCL. The average

is the central value of a data set and the standard deviation is the common measure of the dispersion of the data set around the average. The 99.9 percent UCL is appropriate for use in this analysis because sources must meet the standards at all times, and as mentioned above, the limited amount of test data introduces a degree of uncertainty.

To calculate the achieved emission limit, including variability, we used the equation: 99.9 percent UCL = mean + 3.09 * standard deviation. The mean and standard deviation are based on the test runs for the single best performing HMIWI for each pollutant. Accounting for variability using the 99.9 percent UCL means: ''For each pollutant, the performance of the best performing HMIWI, on average, is estimated to meet (i.e., not exceed) the emission limit 99.9 percent of the time.'' The emission values adjusted for variability are presented with two significant figures according to standard engineering practices, and these values represent the MACT floor-based emission limits being proposed. The second significant figure was rounded up to the next place value. EPA has, at times, presented emission limits with either two or three significant figures. For the low concentrations being proposed, two significant figures provide the appropriate precision. In all cases, the significant figure approach and associated rounding does not meaningfully change the proposed emission limits.

After determining the MACT floor-based emission limits for each pollutant, EPA examined additional measures that could be taken to further reduce emissions, but as discussed in section IV.A.1.b of this preamble, EPA determined that these additional ''beyond-the-floor'' measures are not reasonable based on the high costs that would be incurred and the minimal additional emissions reductions that could be achieved. Therefore, all of the emission limits proposed in this action for new HMIWI are based on the MACT floor level of control.

A summary of the pollutant-specific average emissions associated with the best performing HMIWI, the emission values adjusted for variability, and the emission limits being proposed for new HMIWI are presented in Table 6 of this preamble.

TABLE 6—SUMMARY OF AVERAGE EMISSION VALUES, EMISSION VALUES WITH VARIABILITY, AND EMISSION LIMITS FOR NEW HMIWI

Pollutant (units)	Unit size [1]	Average emission value [2]	Emission value with variability [2]	Proposed emission limit [2]
HCl (ppmv)	L	0.190	0.745	0.75
	M	0.46	1.73	1.8
	S	1.03	4.47	4.5
CO (ppmv)	L	0.87	2.88	2.9
	M	0.68	1.86	1.9
	S	2.27	8.18	8.2
Pb (mg/dscm)	L	0.000296	0.000470	0.47
	M	0.0040	0.0154	0.016
	S	0.073	0.174	0.18
Cd (mg/dscm)	L	0.000106	0.000116	0.12
	M	0.00106	0.00807	[3] 0.0071
	S	0.0026	0.0115	0.012
Hg (mg/dscm)	L	0.000695	0.000925	0.00093
	M	0.00084	0.00200	0.0020
	S	0.00292	0.00742	0.0075
PM (gr/dscf)	L	0.00106	0.00471	0.0048
	M	0.00294	0.00983	0.0099
	S	0.0076	0.0167	0.017
CDD/CDF, total (ng/dscm)	L	0.152	0.594	0.60
	M	0.097	0.344	0.35
	S	2.89	8.28	8.3
CDD/CDF, TEQ (ng/dscm)	L	0.0038	0.0135	0.014
	M	0.00291	0.00972	[3] 0.0097
	S	0.00453	0.00792	0.0080
NO_X (ppmv)	L	66.9	101.0	110
	M	15.0	37.8	38
	S	[4] 15.0	[4] 37.8	[4] 38
SO_2 (ppmv)	L	0.46	1.82	1.9
	M	0.336	0.773	0.78
	S	[4] 0.336	[4] 0.773	[4] 0.78

[1] L = Large; M = Medium; S = Small.
[2] All values are measured at 7 percent oxygen.
[3] Proposed emission limit reflects the proposed emission limit for existing HMIWI.
[4] Emission value reflects data from best performing medium HMIWI.

Using the procedure described above for Cd and CDD/CDF, TEQ for new medium units would result in emission limits slightly less stringent than the proposed emission limits for existing medium units. In these two instances, the proposed emission limits have been lowered to reflect the Cd and CDD/CDF, TEQ emission limits for existing medium HMIWI. Cadmium has been lowered from 0.0081 mg/dscm to 0.0071 mg/dscm, and CDD/CDF, TEQ has been lowered from 0.0098 ng/dscm to 0.0097 ng/dscm. These are not significant differences that we are adjusting for and the differences are functions of the emissions data and data operations (e.g., statistical procedures). The adjustments, however, are necessary such that the MACT standards for new sources are no less stringent than the MACT standards for existing sources.

Table 7 of this preamble summarizes the emission limits promulgated in

1997, the emission limits proposed in 2007 in response to the Court's remand, and the emission limits being proposed in this action in response to the Court's remand for new HMIWI.

TABLE 7—SUMMARY OF 1997 PROMULGATED EMISSION LIMITS, EMISSION LIMITS PROPOSED IN 2007 IN RESPONSE TO THE REMAND, AND EMISSION LIMITS CURRENTLY BEING PROPOSED IN RESPONSE TO THE REMAND FOR NEW HMIWI

Pollutant (units)	Unit size [1]	Promulgated limit [2]	Remand response limit proposed in 2007 [2]	Proposed remand response limit [2]
HCl (ppmv)	L	15 or 99% reduction	15 or 99% reduction	0.75
	M	15 or 99% reduction	15 or 99% reduction	1.8
	S	15 or 99% reduction	15 or 99% reduction	4.5
CO (ppmv)	L	40	25	2.9
	M	40	25	1.9
	S	40	25	8.2
Pb (mg/dscm)	L	0.07 or 98% reduction	0.060 or 98% reduction	0.00047
	M	0.07 or 98% reduction	0.060 or 98% reduction	0.016
	S	1.2 or 70% reduction	0.64 or 71% reduction	0.18
Cd (mg/dscm)	L	0.04 or 90% reduction	0.030 or 93% reduction	0.00012
	M	0.04 or 90% reduction	0.030 or 93% reduction	0.0071
	S	0.16 or 65% reduction	0.060 or 74% reduction	0.012
Hg (mg/dscm)	L	0.55 or 85% reduction	0.33 or 96% reduction	0.00093
	M	0.55 or 85% reduction	0.33 or 96% reduction	0.0020
	S	0.55 or 85% reduction	0.33 or 96% reduction	0.0075
PM (gr/dscf)	L	0.015	0.0090	0.0048
	M	0.015	0.0090	0.0099
	S	0.03	0.018	0.017
CDD/CDF, total (ng/dscm).	L	25	20	0.60
	M	25	20	0.35
	S	125	111	8.3
CDD/CDF, TEQ (ng/dscm).	L	0.6	0.53	0.014
	M	0.6	0.53	0.0097
	S	2.3	2.0	0.0080
NO_X (ppmv)	L	250	212	110
	M, S	250	212	38
SO_2 (ppmv)	L	55	28	1.9
	M, S	55	28	0.78

[1] L = Large; M = Medium; S = Small
[2] All emission limits are measured at 7 percent oxygen.

With one exception, the emission limits for new HMIWI being proposed in this action are more stringent than the emission limits proposed in 2007. The PM emission limit for new medium units being proposed in this action is slightly higher than the limit proposed in 2007 (0.0090 gr/dscf versus 0.0099 gr/dscf). There are several potential causes for this difference in emission limits. There are three fewer medium HMIWI now, we have more emissions data to consider, and, most importantly, the methodology used to determine the MACT floors and emission limits in this action is different than in the 2007 proposal.

b. Consideration of Options More Stringent Than the MACT Floor for New HMIWI. After establishing the MACT floor emission level for each pollutant for new sources, EPA is required to look ''beyond-the-floor'' at additional measures that that could be taken to further reduce emissions, considering the cost of achieving such additional reduction and any non-air quality health and environmental impacts and energy requirements associated with imposing additional requirements. For each subcategory, EPA looked for control measures not anticipated to be required by the new source floors, and where options were identified, EPA estimated costs of the options for a model unit in each subcategory. For large units, SNCR was identified as a potential option to reduce NO_X emissions. For this beyond-the-floor option, total NO_X reductions for new large HMIWI are estimated at 7,900 lb/yr at a cost of $110,000 per year. For medium units, the floor level of control includes all known measures for reducing emissions, and, consequently, no beyond-the-floor options were identified. For small units, addition of a dry injection fabric filter (DIFF) and activated carbon injection were identified as potential options to reduce emissions of lead, mercury, and dioxin. For this beyond-the-floor option, the total cost for a new small HMIWI is $210,000, and EPA estimates emissions reductions of 0.45 lb/yr of lead, 0.0073 lb/yr of mercury, and 0.0091 grams/yr of total CDD/CDF. A memorandum entitled ''Analysis of Beyond-the-Floor Options'' is included in the docket, and presents detailed results of the beyond-the-floor options, including estimates of reductions of air pollutants, costs, and secondary impacts. Considering the cost-effectiveness (for all pollutants) of the beyond-the-floor control measures, which averaged $27,000 per ton for large units and $940 million per ton for small units, EPA determined that the beyond-the-floor measures were not reasonable and, therefore, MACT for new units is based on the MACT floor level of control for all of the subcategories.

2. Existing Units

The Court raised three specific concerns regarding EPA's approach for existing units in concluding that EPA had not adequately explained why the combination of regulatory and uncontrolled (i.e., combustion-controlled) data provided a ''reasonable

estimate'' of HMIWI performance. First, the Court ruled that EPA did not discuss the possibility that HMIWI might be substantially overachieving the regulatory limits, which would result in those limits having little value in estimating the top 12 percent of HMIWI performance (167 F.3d at 663). Second, the Court found that EPA gave no reason for believing that HMIWI that were not subject to regulatory limits did not employ any emission controls. Without this, the Court concluded it was unable to assess the rationality in using ''uncontrolled'' (i.e., combustion-controlled) data for the units that were not subject to regulatory requirements (167 F.3d at 664). Third, the Court held that even if the regulatory data was a good proxy for the better controlled units and there were shortfalls in reaching the necessary 12 percent, EPA did not explain why it was reasonable to use the highest of its test run data to make up the gap. *Id.*

With regard to the Court's first concern, additional Court rulings issued after EPA's 2007 proposed response to the remand and public comments regarding the 2007 proposal gave us reason to revisit our MACT floor methodology, including the use of State regulations and State-issued permits as a surrogate for estimated actual emission limitations achieved. A comparison between the regulatory limits and emissions test data in the 1997 record indicate that in some instances the emissions data was higher than or about the same as the regulatory limit, but in most instances the regulatory limit was higher than the emissions data. Thus, we are no longer confident that the regulatory limits in the 1997 record provided a reasonable estimate of emission limitations for HMIWI operating at that time. Use of those particular regulatory limits as surrogates for actual emissions levels achieved also would not account for factors other than control technology that we have since learned in fact affect HMIWI performance. These uncertainties are two of the reasons that this action's proposed remand response is not based on information in the 1997 record but, rather, on data for the 57 currently operating HMIWI. This is not to say that as a general matter it is inappropriate to use regulatory limits as a means to estimate the emissions limitations achieved by best performing sources. In some cases, it may be that such regulatory limits can be shown to reflect the emissions performance achieved by both add-on controls and other measures that affect such performance. In the case of HMIWI, however, the regulatory data used in support of the 1997 rule was not adequate for this, and cannot be used to support a MACT floor determination that comports with the requirements of the CAA as interpreted by the Court.

The Court's second concern was that EPA had not made a finding that HMIWI that were not subject to regulatory requirements did not use emissions controls of any kind. The Court viewed such a finding as a necessary prerequisite to using uncontrolled (i.e., combustion-controlled) data for units not subject to regulatory requirements. EPA continues to view the 1997 record as showing that most HMIWI were not at that time equipped with add-on air pollution control. Therefore, the use of uncontrolled emission estimates for units for which where there was no indication air pollution control technology was in place and applicable regulatory limits allowed higher levels of emissions than our combustion-controlled emissions values reflected, was warranted for purposes of identifying emissions levels achieved by combustion-control alone. However, it did not necessarily reflect emissions levels as influenced by measures other than the use (or lack of use) of add-on control technology, such as waste segregation. EPA's decision to use data for the 57 currently operating HMIWI to re-propose a response to the Court remand fully addresses the Court's concern, in that the data reflect all measures, add-on control technology or otherwise, that affect the emissions levels achieved by the best performing sources. For each HMIWI, we have detailed information regarding control technologies used, as well as actual emissions data resulting from the use of those technologies and any other measures.

The Court's third concern regarded our use of the highest of the test run data to reflect uncontrolled (i.e., combustion-controlled) emissions in cases where regulatory data did not comprise the necessary 12 percent of best performing sources. As described below, the methodology that supports this action does not continue that approach.

a. Development of the MACT Floors and Proposed Emission Limits for Existing Units. When establishing the MACT floors for existing units, section 129(a)(2) of the CAA requires that EPA determine the average emissions limitation achieved by the ''best performing 12 percent of units'' in a source category. Thus, EPA must determine some measure of the average emissions limitation achieved by the best performing 12 percent of HMIWI within each subcategory for each pollutant to be regulated. The MACT floor for existing units is based on the level of ''emissions control'' that is attained by any emission reduction strategies used by the best performing 12 percent of HMIWI. As is the case with new HMIWI, the use of actual emissions levels in the MACT floor determinations supporting the proposed emission limits for existing HMIWI accounts for all emission reduction strategies (i.e., add-on controls or other emission reducing measures) used by individual HMIWI.

We are retaining the large, medium, small, and small rural subcategories from the 1997 rulemaking. As previously explained, we continue to consider these subcategories to be ''classes'' of similar units in that all units within each ''class'' have been subject to the same regulatory requirements in the 1997 HMIWI standards. Thus, we believe it is appropriate to determine MACT floors and proposed emission limits using data for HMIWI within each ''class'' and to then apply those revised emission limits to those same HMIWI within each ''class.''

Within each subcategory and for each pollutant, EPA determined the best performing 12 percent of HMIWI based on an examination of average emissions levels for each HMIWI. (Note that section 129 of the CAA does not include the section 112 text regarding the MACT floor for existing sources being based on the best performing 5 sources where there are fewer than 30 sources in the category or subcategory.) In determining how many HMIWI comprise the best performing 12 percent, we rounded up the number of sources to the next whole number. This ensures that the CAA section 129 requirement to consider the best performing 12 percent of sources is met, as not rounding up would result in a number of sources that would be less than 12 percent. Further, rounding of a sample size is a common sampling technique (Cochran, William G. Sampling Techniques. Third Edition. John Wiley & Sons, 1977. page 76 and pages 72–87).

Table 8 of this preamble presents the total number of HMIWI in each subcategory and the number of HMIWI that comprise the best performing 12 percent of units (i.e., the MACT floor pool) for each subcategory.

TABLE 8—NUMBER OF HMIWI THAT ARE IN EACH SUBCATEGORY AND THAT COMPRISE THE MACT FLOORS

Unit size	Total number of HMIWI	Number of HMIWI in MACT floor pool
Large	36	5
Medium	17	3
Small	2	1
Small Rural	2	1

The next step in the MACT analysis for existing HMIWI was to determine the average emission limitation achieved by the best-performing 12 percent of existing sources. Our general approach to identifying the average emission limitation has been to use a measure of central tendency, such as the arithmetic mean or the median. First, unit average emissions for each pollutant within each subcategory were ranked from lowest to highest. Then, a MACT floor emissions level for each pollutant was identified based on the arithmetic mean of the emissions values for the best performing 12 percent of HMIWI within each subcategory. MACT floors for each pollutant within each subcategory, with the exceptions of NO_X and SO_2 for small HMIWI, were based on this approach. As previously explained, we do not have any NO_X or SO_2 emissions data for the two small HMIWI because they have not tested for NO_X or SO_2 and are not required to do so by the 1997 HMIWI standards. Both small units use wet scrubbers, as do the best performing 12 percent of medium HMIWI (3 units) with respect to NO_X and SO_2. In both of these instances, the NO_X and SO_2 emission limits being proposed for existing medium HMIWI also are being proposed for existing small units, since they employ the same emissions control technology, and we do not have information suggesting that the small units are employing other measures that would further affect their emissions performance. A summary of the various add-on control technologies used, in addition to any other emission reduction measures, by the best performing 12 percent HMIWI on a pollutant-specific basis for existing large and medium HMIWI is presented in Table 9 of this preamble.

TABLE 9—SUMMARY OF ADD-ON CONTROL TECHNOLOGIES FOR BEST PERFORMING 12 PERCENT OF LARGE AND MEDIUM HMIWI

Pollutant	Large HMIWI	Medium HMIWI
HCl	wet scrubber	wet scrubber
CO	wet scrubber; dry scrubber; fabric filter.	dry scrubber; wet scrubber
Pb	carbon adsorber/wet scrubber; dry scrubber.	dry scrubber
Cd	carbon adsorber/wet scrubber; dry scrubber.	dry scrubber
Hg	fabric filter; wet scrubber; carbon adsorber/wet scrubber; dry scrubber.	wet scrubber
PM	dry scrubber; dry scrubber/wet scrubber; fabric filter.	dry scrubber; wet scrubber
CDD/CDF.	dry scrubber; carbon adsorber/wet scrubber; wet scrubber.	wet scrubber
NO_X	carbon adsorber/wet scrubber; wet scrubber; dry scrubber.	wet scrubber
SO_2	dry scrubber; wet scrubber.	wet scrubber

Table 10 of this preamble presents the same information for existing small HMIWI and for existing small HMIWI meeting the rural criteria.

TABLE 10—SUMMARY OF ADD-ON CONTROL TECHNOLOGIES FOR BEST PERFORMING 12 PERCENT OF SMALL AND SMALL RURAL HMIWI

Pollutant	Small HMIWI	Small Rural HMIWI
HCl	wet scrubber	combustion control
CO	wet scrubber	combustion control
Pb	wet scrubber	combustion control
Cd	wet scrubber	combustion control
Hg	wet scrubber	combustion control
PM	wet scrubber	combustion control
CDD/CDF.	wet scrubber	combustion control
NO_X	wet scrubber	combustion control
SO_2	wet scrubber	combustion control

We then used emissions data for those best performing 12 percent HMIWI to determine emission limits to be proposed, with an accounting for variability. As previously explained in this preamble with respect to development of emission limits for new HMIWI, EPA must exercise its judgment, based on an evaluation of the relevant factors and available data, to determine the level of emissions control that can be customarily achieved by the best performing HMIWI under variable conditions. To account for pollutant-specific variability at the best performing HMIWI, we used emissions data for each test run conducted by the best performing 12 percent of HMIWI within each subcategory. The amount of pollutant-specific test data for the best performing 12 percent HMIWI within each subcategory varies from 33 data points to 60 data points for large units; 9 data points to 70 data points for medium units; 3 data points to 12 data points for small units (excluding NO_X and SO_2 for which there is no data for small units); and 3 data points to 4 data points for small rural units. Similar to the analyses for new HMIWI, we determined use of the 99.9 percent UCL to be an appropriate method of estimating variability. The UCL represents the statistical likelihood that a value, in this case an emission value from the average source in the best performing 12 percent of sources, will fall at or below the UCL value. The 99.9 percent UCL is appropriate for use in this analysis because sources must meet the standards at all times, and the limited amount of test data introduces a degree of uncertainty. To calculate the emission limit, including variability, we used the equation: 99.9 percent UCL = mean + 3.09 * standard deviation. The mean and standard deviation are based on the test runs for the best performing 12 percent HMIWI for each pollutant. Accounting for variability using the 99.9 percent UCL means: ''For each pollutant, the performance of the average HMIWI within the best performing 12 percent HMIWI is estimated to meet (i.e., not exceed) the emission limit 99.9 percent of the time.'' As described for new HMIWI, the emission values adjusted for variability are presented with two significant figures. After determining the MACT floor-based emission limits for each pollutant, EPA examined additional measures that could be taken to further reduce emissions. Table 11 of this preamble presents a summary of the emissions reductions and costs associated with the beyond-the-floor options for each subcategory.

TABLE 11—SUMMARY OF BEYOND-THE-FLOOR EMISSIONS REDUCTIONS AND COSTS FOR EXISTING HMIWI

Pollutant	Large HMIWI reductions, lb/yr [a]	Medium HMIWI reductions, lb/yr [a]	Small HMIWI Reductions, lb/yr [a]	Small rural HMIWI reductions, lb/yr [a]
HCl	8,000	110	0	570
CO	1,900	160	57	0
Pb	47	0.23	3.4	0.32
Cd	11	0	0	0.18
Hg	39	0.8	0.12	0
PM	5,400	1,100	180	0
Total CDD/CDF	1.9	0.032	0.033	0.21
TEQ	0.027	0	0	0.0047
NO_X	280,000	30,000	3,400	190
SO_2	6,700	1,000	140	58
Total	300,000	32,000	3,800	820
BTF Cost	$14,000,000	$1,200,000	$500,000	$390,000

[a] Sums of individual numbers may not equal totals due to internal rounding. CDD/CDF and TEQ emissions in grams per year.

As discussed in section IV.A.2.b of this preamble, EPA determined that these additional beyond-the-floor measures are not reasonable based on the high costs that would be incurred and the minimal additional emissions reductions that could be achieved. Therefore, all of the emission limits proposed in this action for existing HMIWI are based on the MACT floor level of control.

A summary of the pollutant-specific average emissions associated with the best performing 12 percent HMIWI, the emission values adjusted for variability, and the emission limits being proposed for existing HMIWI are presented in Table 12 of this preamble.

TABLE 12—SUMMARY OF AVERAGE EMISSION VALUES, EMISSION VALUES WITH VARIABILITY, AND EMISSION LIMITS FOR EXISTING HMIWI

Pollutant (units)	Unit size[1]	Average emission value[2]	Emission value with variability[2]	Proposed emission limit[2]
HCl (ppmv)	L	0.47	2.38	2.4
	M	0.60	2.50	2.5
	S	1.03	4.47	4.5
	SR	135	432	440
CO (ppmv)	L	1.03	3.88	3.9
	M	0.95	2.96	3.0
	S	2.27	8.18	8.2
	SR	5.4	11.9	12
Pb (mg/dscm)	L	0.0032	0.0130	0.013
	M	0.0041	0.0163	0.017
	S	0.073	0.174	0.18
	SR	0.226	0.346	0.35
Cd (mg/dscm)	L	0.00077	0.00408	0.0041
	M	0.00116	0.00701	0.0071
	S	0.0026	0.0115	0.012
	SR	0.0380	0.0671	0.068
Hg (mg/dscm)	L	0.00210	0.00943	0.0095
	M	0.00136	0.00782	0.0079
	S	0.00292	0.00742	0.0075
	SR	0.00158	0.00391	0.0040
PM (gr/dscf)	L	0.00143	0.00559	0.0056
	M	0.0036	0.0119	0.012
	S	0.0076	0.0167	0.017
	SR	0.0128	0.0294	0.030
CDD/CDF, total (ng/dscm)	L	0.37	1.54	1.6
	M	0.158	0.621	0.63
	S	2.89	8.28	8.3
	SR	30	122	130
CDD/CDF, TEQ (ng/dscm)	L	0.0074	0.0282	0.029
	M	0.00306	0.00970	0.0097
	S	0.00453	0.00792	0.0080
	SR	0.62	2.59	2.6
NO_X (ppmv)	L	73	135	140
	M	63	193	200
	S	63	[3] 193	[3] 200
	SR	95	110	110
SO_2 (ppmv)	L	0.80	2.71	2.8
	M	0.90	2.79	2.8
	S	0.90	[3] 2.8	[3] 2.8

TABLE 12—SUMMARY OF AVERAGE EMISSION VALUES, EMISSION VALUES WITH VARIABILITY, AND EMISSION LIMITS FOR EXISTING HMIWI—Continued

Pollutant (units)	Unit size[1]	Average emission value[2]	Emission value with variability[2]	Proposed emission limit[2]
	SR	22.6	42.7	43

[1] L = Large; M = Medium; S = Small; SR = Small Rural.
[2] All values are measured at 7 percent oxygen.
[3] Emission value reflects data from best performing medium HMIWI.

Table 13 of this preamble summarizes the emission limits promulgated in 1997, the emission limits proposed in 2007 in response to the Court's remand, and the emission limits being proposed in this action in response to the Court's remand for existing HMIWI.

TABLE 13—SUMMARY OF 1997 PROMULGATED EMISSION LIMITS, EMISSION LIMITS PROPOSED IN 2007 IN RESPONSE TO THE REMAND, AND EMISSION LIMITS CURRENTLY BEING PROPOSED IN RESPONSE TO THE REMAND FOR EXISTING HMIWI

Pollutant (units)	Unit size[1]	Promulgated limit[2]	Remand response limit proposed in 2007[2]	Proposed remand response limit[2]
HC1 (ppmv)	L	100 or 93% reduction	78 or 93% reduction	2.4
	M	100 or 93% reduction	78 or 93% reduction	2.5
	S	100 or 93% reduction	78 or 93% reduction	4.5
	SR	3,100	3,100	440
CO (ppmv)	L	40	40	3.9
	M	40	40	3.0
	S	40	40	8.2
	SR	40	40	12
Pb (mg/dscm)	L	1.2 or 70% reduction	0.78 or 71% reduction	0.013
	M	1.2 or 70% reduction	0.78 or 71% reduction	0.017
	S	1.2 or 70% reduction	0.78 or 71% reduction	0.18
	SR	10	8.9	0.35
Cd (mg/dscm)	L	0.16 or 65% reduction	0.11 or 66% reduction	0.0041
	M	0.16 or 65% reduction	0.11 or 66% reduction	0.0071
	S	0.16 or 65% reduction	0.11 or 66% reduction	0.012
	SR	4	4	0.068
Hg (mg/dscm)	L	0.55 or 85% reduction	0.55 or 87% reduction	0.0095
	M	0.55 or 85% reduction	0.55 or 87% reduction	0.0079
	S	0.55 or 85% reduction	0.55 or 87% reduction	0.0075
	SR	7.5	6.6	0.0040
PM (gr/dscf)	L	0.015	0.015	0.0056
	M	0.03	0.030	0.012
	S	0.05	0.050	0.017
	SR	0.086	0.086	0.030
CDD/CDF, total (ng/dscm).	L	125	115	1.6
	M	125	115	0.63
	S	125	115	8.3
	SR	800	800	130
CDD/CDF, TEQ (ng/dscm).	L	2.3	2.2	0.029
	M	2.3	2.2	0.0097
	S	2.3	2.2	0.0080
	SR	15	15	2.6
NO_X (ppmv)	L	250	250	140
	M, S	250	250	200
	SR	250	250	110
SO_2 (ppmv)	L, M, S	55	55	2.8
	SR	55	55	43

[1] L = Large; M = Medium; S = Small; SR = Small Rural.
[2] All emission limits are measured at 7 percent oxygen.

b. Consideration of Options More Stringent than the MACT Floor for Existing HMIWI. As discussed earlier regarding new HMIWI, after establishing the MACT floor emission level for each pollutant for existing sources, EPA is required to look ''beyond-the-floor'' at additional measures that could be taken to further reduce emissions. The beyond-the-floor options for large and medium HMIWI included the addition of wet scrubber or DIFF controls (for units not already projected to be operating both types of controls based on the MACT floor requirements); replacement of DIFF controls; increased activated carbon, sodium bicarbonate, and/or caustic usage; combustion improvements; and addition of SNCR. For some units, no beyond-the-floor measures were identified because we

estimated that to achieve the MACT floor limits, those units would have to use all available add-on controls and other control measures. The beyond-the-floor options for small units included addition of DIFF controls, increased activated carbon and/or caustic usage, combustion improvements, and addition of SNCR. EPA analyzed the additional air pollutant reductions, costs, and secondary impacts for the beyond-the-floor options, and detailed information on the analyses are available in a memorandum entitled ''Analysis of Beyond-the Floor Options'' that is included in the docket. Considering the cost-effectiveness (for all pollutants) of the beyond-the-floor control measures, which averaged $167,000 per ton for large units, $118,000 per ton for medium units, $325,000 for small units, and $1.3 million per ton for small rural units, EPA determined that the beyond-the-floor measures were not reasonable and, therefore, MACT is based on the floor level of control for all of the subcategories.

3. Opacity Limits for New and Existing Units

EPA also is proposing a revised opacity standard for new and existing HMIWI as part of responding to the Court's remand. The 1997 standards require that opacity testing be conducted according to EPA Test Method 9 of appendix A–4 of 40 CFR part 60. Method 9 specifies that opacity shall be determined as an average of 24 consecutive observations recorded at 15-second intervals (i.e., 6-minute block average). Method 9 also specifies that opacity observations shall be recorded to the nearest 5 percent at 15-second intervals. The opacity data that we have is in terms of averages rather than single opacity readings. Based on these averages alone, without any accounting for variability, the MACT floor for new units, as well as existing units, would be 0 percent. We then considered how to appropriately account for variability given the differences in opacity testing versus testing for the 9 regulated pollutants. We have continuous opacity monitoring system (COMS) data for an HMIWI that is in the MACT floor pool for PM for existing medium units. In that instance, we can determine the single highest opacity reading. Because the level of opacity can be impacted by the amount, type, and particle characteristics of PM in the gas stream, as well as process operation, we believe that using the highest opacity reading from one of the best performing HMIWI with respect to PM is an appropriate method for determining the opacity level that has been achieved under variable conditions. While opacity may not be a reliable indicator of short-term mass emissions, opacity can serve as an indicator of and provide qualitative information on the operation and maintenance of particulate control equipment (Current Knowledge of Particulate Matter (PM) Continuous Emission Monitoring, EPA–454/R–00–039, September 2000). When PM emissions control devices are operated and maintained in the same manner as during successful PM emissions testing, our expectation is that PM emissions from those sources meet the standards. Therefore, as a continuous check on proper operation and maintenance of PM control devices, opacity can serve as an appropriate surrogate for PM emissions. The single highest COMS reading for the HMIWI that is in the MACT floor pool for PM is 1.1 percent. EPA commonly sets opacity standards based on whole numbers, and rounding down would cause the unit upon which the standard is based to have demonstrated performance at a level that would not meet the standard. Thus, we rounded up and are proposing a MACT-floor based opacity limit of 2 percent for both new and existing HMIWI.

4. Percent Reduction Limits for New and Existing Units

The 1997 standards included percent reduction limits for HCl, Pb, Cd, and Hg for new and existing HMIWI. For those pollutants, sources have had the option of demonstrating compliance by meeting the emission limits (expressed as emissions rates) or the percent reduction limits. For the 1997 rule, the percent reduction limits were developed using the pollutant concentrations at the inlet and outlet of a control device and reflected only the efficiency of the control device in reducing specific pollutants. Because, as previously explained in this preamble, factors other than control technology affect pollutant emissions from HMIWI, and because we did not take these factors into account when we set the 1997 standards based on percent reduction, we now believe it is inappropriate to provide in this rule percent reduction limits based only on control technology performance. Moreover, not many HMIWI determined the efficiency of their control devices, and none of the HMIWI used the percent reduction limits to demonstrate compliance with the 1997 rule. None of the HMIWI demonstrated compliance with the Pb, Cd, or Hg percent reduction limits or even conducted the testing necessary to determine the efficiency of their control devices. No medium or small HMIWI demonstrated compliance with the HCl percent reduction limits or conducted control device inlet and outlet testing. Eight large HMIWI tested for HCl at their control device inlets and outlets, but all of those units were in compliance with the HCl emission limit and, therefore, didn't need to rely on their control technology efficiency calculations to show that, alternatively, they were in compliance with the HCl percent reduction limit. None of these eight large HMIWI are among the best performing 12 percent of large units for HCl (*i.e.*, HCl emissions based only on control technology outlet testing). Therefore, this action does not propose revised percent reduction limits, and proposes to eliminate the continued use of the 1997 percent reduction limits after the compliance date of the proposed revised emission limits.

B. Rationale for the Proposed CAA Section 129(a)(5) 5-Year Review Response

Earlier in today's notice, we explained that section 129(a)(5) provides the Agency with broad discretion to revise MACT standards for incinerators.

As we explained, we do not interpret section 129(a)(5) as requiring that EPA in each round of review re-calculate MACT floors, and we regard the D.C. Circuit's recent ruling in *NRDC and LEAN* v. *EPA,* in which the Court held that the similar review requirement in section 112(d)(6) does not require a MACT floor re-calculation, as supporting our view. Nevertheless, given the unique facts of this rulemaking, in which due to issues with respect to the 1997 rulemaking record we have had to re-calculate MACT floors based on more recent data in response to the remand at a point in time following the statutory deadline for conducting the section 129(a)(5) review, it may appear that we are performing the ''MACT-on-MACT'' review that we believe is not statutorily required by section 129(a)(5). We stress that our proposed revised standards are the result of what we now think is necessary to satisfy our initial duties under section 129(a)(2) to have set MACT limits for HMIWI, in response to the Court's remand. Our action today does not reflect an independent MACT floor reassessment performed only under section 129(a)(5). However, since today's proposed revised standards do reflect the emissions levels currently achieved in practice by the best performing HMIWI, and we have no other information that would cause us to reach different conclusions were a section 129(a)(5) review to be conducted in isolation, we believe that this

rulemaking responding to the Court's remand, based on the most current HMIWI emissions information, will necessarily discharge our instant duty under section 129(a)(5) to review and revise the current standards.

In performing future 5-year reviews of the HMIWI standards, we do not intend to recalculate new MACT floors, but will instead propose to revise the emission limits to reflect the actual performance of the emission reduction techniques that formed the basis of MACT, consistent with our interpretation as presented earlier in today's notice. We believe this approach reflects the most reasonable interpretation of the review requirement of CAA section 129(a)(5), and is consistent with how we have interpreted the similar review requirement of CAA section 112(d)(6) regarding MACT standards promulgated under section 112.

We believe that this action's proposed remand response fulfills our obligations regarding the first 5-year review of the HMIWI standards because the revised MACT floor determinations and emission limits associated with the remand response are based on performance data for the 57 currently operating HMIWI that are subject to the 1997 standards and account for all non-technology factors that affect HMIWI performance. The proposed remand response also addresses whether new technologies and processes and improvements in practices have been demonstrated at HMIWI subject to the 1997 standards. Table 14 of this preamble provides a comparison between the emission limits promulgated in 1997, the emission limits proposed in 2007 in response to the 5-year review requirement, and the emission limits being proposed in this action in response to the Court's remand for new HMIWI.

TABLE 14—SUMMARY OF 1997 PROMULGATED EMISSION LIMITS, EMISSION LIMITS PROPOSED IN 2007 IN RESPONSE TO THE 5-YEAR REVIEW REQUIREMENT, AND EMISSION LIMITS CURRENTLY BEING PROPOSED IN RESPONSE TO THE REMAND FOR NEW HMIWI

Pollutant (units)	Unit size [1]	Promulgated limit [2]	5-Year review limit proposed in 2007 [2]	Proposed remand response limit [2]
HCl (ppmv)	L	15 or 99% reduction	15 or 99% reduction	0.75
	M	15 or 99% reduction	15 or 99% reduction	1.8
	S	15 or 99% reduction	15 or 99% reduction	4.5
CO (ppmv)	L	40	25	2.9
	M	40	25	1.9
	S	40	25	8.2
Pb (mg/dscm)	L	0.07 or 98% reduction	0.060 or 99% reduction	0.00047
	M	0.07 or 98% reduction	0.060 or 99% reduction	0.016
	S	1.2 or 70% reduction	0.64 or 71% reduction	0.18
Cd (mg/dscm)	L	0.04 or 90% reduction	0.0050 or 99% reduction	0.00012
	M	0.04 or 90% reduction	0.0050 or 99% reduction	0.0071
	S	0.16 or 65% reduction	0.060 or 74% reduction	0.012
Hg (mg/dscm)	L	0.55 or 85% reduction	0.19 or 96% reduction	0.00093
	M	0.55 or 85% reduction	0.19 or 96% reduction	0.0020
	S	0.55 or 85% reduction	0.33 or 96% reduction	0.0075
PM (gr/dscf)	L	0.015	0.0090	0.0048
	M	0.015	0.0090	0.0099
	S	0.03	0.018	0.017
CDD/CDF, total (ng/dscm).	L	25	16	0.60
	M	25	16	0.35
	S	125	111	8.3
CDD/CDF, TEQ (ng/dscm).	L	0.6	0.21	0.014
	M	0.6	0.21	0.0097
	S	2.3	2.0	0.0080
NO_X (ppmv)	L	250	212	110
	M, S	250	212	38
SO_2 (ppmv)	L	55	21	1.9
	M	55	21	0.78
	S	55	28	0.78

[1] L = Large; M = Medium; S = Small.
[2] All emission limits are measured at 7 percent oxygen.

With two exceptions, the emission limits for new HMIWI being proposed in this action are more stringent than the 5-year review emission limits proposed in 2007. The Cd and PM emission limits for new medium units being proposed in this action are higher than the 5-year review limits proposed in 2007 (0.0050 mg/dscm versus 0.0081 mg/dscm for Cd; and 0.0090 gr/dscf versus 0.0099 gr/dscf for PM). As explained with respect to PM emissions in Table 7 of this preamble, there are several potential causes for these differences in emission limits. There are three fewer medium HMIWI now and we have more emissions data to consider.

Table 15 of this preamble provides a comparison between the emission limits promulgated in 1997, the emission limits proposed in 2007 in response to the 5-year review requirement, and the emission limits being proposed in this action in response to the Court's remand for existing HMIWI.

TABLE 15—SUMMARY OF 1997 PROMULGATED EMISSION LIMITS, EMISSION LIMITS PROPOSED IN 2007 IN RESPONSE TO THE 5-YEAR REVIEW REQUIREMENT, AND EMISSION LIMITS CURRENTLY BEING PROPOSED IN RESPONSE TO THE REMAND FOR EXISTING HMIWI

Pollutant (units)	Unit size[1]	Promulgated limit[2]	5-Year review limit proposed in 2007[2]	Proposed remand response limit[2]
HCl (ppmv)	L	100 or 93% reduction	51 or 94% reduction	2.4
	M	100 or 93% reduction	51 or 94% reduction	2.5
	S	100 or 93% reduction	51 or 94% reduction	4.5
	SR	3,100	398	440
CO (ppmv)	L	40	25	3.9
	M	40	25	3.0
	S	40	25	8.2
	SR	40	25	12
Pb (mg/dscm)	L	1.2 or 70% reduction	0.64 or 71% reduction	0.013
	M	1.2 or 70% reduction	0.64 or 71% reduction	0.017
	S	1.2 or 70% reduction	0.64 or 71% reduction	0.18
	SR	10	0.60	0.35
Cd (mg/dscm)	L	0.16 or 65% reduction	0.060 or 74% reduction	0.0041
	M	0.16 or 65% reduction	0.060 or 74% reduction	0.0071
	S	0.16 or 65% reduction	0.060 or 74% reduction	0.012
	SR	4	0.050	0.068
Hg (mg/dscm)	L	0.55 or 85% reduction	0.33 or 96% reduction	0.0095
	M	0.55 or 85% reduction	0.33 or 96% reduction	0.0079
	S	0.55 or 85% reduction	0.33 or 96% reduction	0.0075
	SR	7.5	0.25	0.0040
PM (gr/dscf)	L	0.015	0.015	0.0056
	M	0.03	0.030	0.012
	S	0.05	0.030	0.017
	SR	0.086	0.030	0.030
CDD/CDF, total (ng/dscm).	L	125	115	1.6
	M	125	115	0.63
	S	125	115	8.3
	SR	800	800	130
CDD/CDF, TEQ (ng/dscm).	L	2.3	2.0	0.029
	M	2.3	2.0	0.0097
	S	2.3	2.0	0.0080
	SR	15	15	2.6
NO_X (ppmv)	L	250	212	140
	M, S	250	212	200
	SR	250	212	110
SO_2 (ppmv)	L, M, S	55	28	2.8
	SR	55	28	43

[1] L = Large; M = Medium; S = Small; SR = Small Rural.
[2] All emission limits are measured at 7 percent oxygen.

With four exceptions, the emission limits for existing HMIWI being proposed in this action are more stringent than the 5-year review emission limits proposed in 2007. The HCl, Cd, and SO_2 emission limits for existing small rural units being proposed in this action are higher than the 5-year review limits proposed in 2007 (398 ppm versus 440 ppm for HCl; 0.050 mg/dscm versus 0.068 mg/dscm for Cd; and 28 ppm versus 43 ppm for SO_2). The PM emission limit being proposed for small rural HMIWI is the same as the 5-year review emission limit proposed in 2007. These differences in emission limits are likely due to the fact that there are now four fewer small rural HMIWI (leaving only two rural units).

C. Rationale for Other Proposed Amendments

1. Performance Testing and Monitoring Requirements

We are proposing some adjustments to the performance testing and monitoring requirements that were promulgated in 1997. For existing large, medium, and small HMIWI (i.e., all currently operating large, medium, and small HMIWI), we are proposing retaining the current requirements of the rule and adding the following requirements:

- Demonstration of initial compliance with the revised NO_X and SO_2 emission limits;
- Annual inspections of scrubbers, fabric filters, and other air pollution control devices that may be used to meet the emission limits; and
- One-time testing of the ash handling operations at the time of the next compliance test using EPA Method 22 of appendix A–7 of 40 CFR part 60.

For existing small rural HMIWI, who have been subject to fewer performance testing and monitoring requirements, we are proposing retaining the current requirements of the rule and adding the following requirements:

- Demonstration of initial compliance with the revised NO_X, SO_2, HCl, Cd, and Pb emission limits;
- Annual compliance testing for PM, CO, and HCl;
- Annual inspections of scrubbers, fabric filters, and other air pollution control devices that may be used to meet the emission limits; and

• One-time testing of the ash handling operations at the time of the next compliance test using EPA Method 22 of appendix A–7 of 40 CFR part 60.

Currently, existing HMIWI are not required to conduct initial emissions testing for NO_X or SO_2. Existing small rural HMIWI are not currently required to conduct initial compliance testing for HCl, Pb, Cd, NO_X, or SO_2, and are also not required to conduct annual compliance testing for any of the nine regulated pollutants. In addition, existing HMIWI are not currently required to conduct any testing of the ash handling. These proposed requirements were selected to provide additional assurance that sources continue to operate at the levels established during their initial performance test. The proposed amendments would allow sources to use the results of previous emissions tests to demonstrate compliance with the revised emission limits as long as the sources certify that the previous test results are representative of current operations. Those sources whose previous emissions tests do not demonstrate compliance with one or more of the revised emission limits would be required to conduct another emissions test for those pollutants (note that most sources are already required to test for HCl, CO, and PM on an annual basis).

Additional requirements also are proposed for new HMIWI. For new sources, we are proposing retaining the current requirements and adding the following requirements:

• Demonstration of initial compliance with the revised NO_X and SO_2 emission limits;

• Annual inspections of scrubbers, fabric filters, and other air pollution control devices that may be used to meet the emission limits;

• Use of CO CEMS;

• Use of bag leak detection systems for fabric-filter controlled units; and

• Annual testing of the ash handling operations using EPA Method 22 of appendix A–7 of 40 CFR part 60.

For existing sources, we also are proposing to allow for the optional use of bag leak detection systems. We also are clarifying that the rule allows for the following optional CEMS use: CO CEMS for existing sources; and PM CEMS, HCl CEMS, multi-metals CEMS, Hg CEMS, integrated sorbent trap Hg monitoring, and integrated sorbent trap dioxin monitoring for existing and new sources. The optional use of HCl CEMS, multi-metals CEMS, integrated sorbent trap Hg monitoring, and integrated sorbent trap dioxin monitoring will be available on the date a final performance specification for these monitoring systems is published in the **Federal Register** or the date of approval of a site-specific monitoring plan. The proposed monitoring provisions are discussed below.

a. Monitoring Provisions for SNCR. The proposed amendments would require monitoring of secondary chamber temperature and reagent (e.g., ammonia or urea) injection rate for HMIWI that install SNCR as a method of reducing NO_X emissions. All HMIWI are currently required to monitor secondary chamber temperature.

b. Bag Leak Detection Systems. The proposed amendments would provide, as an alternative PM monitoring technique for existing sources, and a requirement for new sources, the use of bag leak detection systems on HMIWI controlled with fabric filters. Bag leak detection systems have been applied successfully at many industrial sources. EPA is proposing to remove the opacity testing requirements for HMIWI that use bag leak detection systems.

c. CO CEMS. The proposed amendments would require the use of CO CEMS for new sources, and allow the use of CO CEMS on existing sources. Owners and operators that use CO CEMS would be able to discontinue their annual CO compliance test as well as their monitoring of the secondary chamber temperature, unless the source uses SNCR technology. The continuous monitoring of CO emissions is an effective way of ensuring that the combustion unit is operating properly. The proposed amendments incorporate the use of performance specification (PS)–4B (Specifications and Test Procedures for Carbon Monoxide and Oxygen Continuous Monitoring Systems in Stationary Sources) of appendix B of 40 CFR part 60.

The proposed CO emission limits are based on data from infrequent (normally annual) stack tests and compliance would be demonstrated by stack tests. The change to use of CO CEMS for measurement and enforcement of the same emission limits must be carefully considered in relation to an appropriate averaging period for data reduction. In past EPA rulemakings for incineration units, EPA has selected averaging times between 4 hours and 24 hours. Because sufficient CO CEMS data are unavailable for HMIWI, EPA concluded that the use of a 24-hour block average was appropriate to address potential changes in CO emissions that cannot be accounted for with short term stack test data. The 24-hour block average would be calculated following procedures in EPA Method 19 of appendix A–7 of 40 CFR part 60. Facilities electing to use CO CEMS as an optional method would be required to notify EPA 1 month before starting use of CO CEMS and 1 month before stopping use of the CO CEMS. In addition, EPA specifically requests comment on whether continuous monitoring of CO emissions should be required for all existing HMIWI.

d. PM CEMS. The proposed amendments would allow the use of PM CEMS as an alternative testing and monitoring method. Owners or operators who choose to rely on PM CEMS would be able to discontinue their annual PM compliance test. In addition, because units that demonstrate compliance with the PM emission limits with a PM CEMS would clearly be meeting the opacity standard, compliance demonstration with PM CEMS would be considered a substitute for opacity testing. Owners and operators that use PM CEMS also would be able to discontinue their monitoring of minimum wet scrubber pressure drop, horsepower, or amperage. The proposed amendments incorporate the use of PS–11 (Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources) of appendix B of 40 CFR part 60 for PM CEMS, and PS–11 QA Procedure 2 to ensure that PM CEMS are installed and operated properly and produce good quality monitoring data.

The proposed PM emission limits are based on data from infrequent (normally annual) stack tests and compliance would be demonstrated by stack tests. The use of PM CEMS for measurement and enforcement of the same emission limits must be carefully considered in relation to an appropriate averaging period for data reduction. Because PM CEMS data are unavailable for HMIWI, EPA concluded that the use of a 24-hour block average was appropriate to address potential changes in PM emissions that cannot be accounted for with short term stack test data. The 24-hour block average would be calculated following procedures in EPA Method 19 of appendix A–7 of 40 CFR part 60. An owner or operator of an HMIWI unit who wishes to use PM CEMS would be required to notify EPA 1 month before starting use of PM CEMS and 1 month before stopping use of the PM CEMS.

e. Other CEMS and Monitoring Systems. EPA also is proposing the optional use of HCl CEMS, multi-metals CEMS, Hg CEMS, integrated sorbent trap Hg monitoring, and integrated sorbent trap dioxin monitoring as alternatives to the existing methods for demonstrating compliance with the HCl, metals (Pb, Cd, and Hg), and CDD/CDF

emissions limits. Because CEMS data for HMIWI are unavailable for HCl and metals, EPA concluded that the use of a 24-hour block average was appropriate to address potential changes in emissions of HCl and metals that cannot be accounted for with short term stack test data. EPA has concluded that the use of 24-hour block averages would be appropriate to address emissions variability, and EPA has included the use of 24-hour block averages in the proposed rule. The 24-hour block averages would be calculated following procedures in EPA Method 19 of appendix A of 40 CFR part 60. Although final performance specifications are not yet available for HCl CEMS and multi-metals CEMS, EPA is considering development of performance specifications. The proposed rule specifies that these options will be available to a facility on the date a final performance specification is published in the **Federal Register** or the date of approval of a site-specific monitoring plan.

The use of HCl CEMS would allow the discontinuation of HCl sorbent flow rate monitoring, scrubber liquor pH monitoring, and the annual testing requirements for HCl. EPA has proposed PS–13 (Specifications and Test Procedures for Hydrochloric Acid Continuous Monitoring Systems in Stationary Sources) of appendix B of 40 CFR part 60 and believes that performance specification can serve as the basis for a performance specification for HCl CEMS use at HMIWI. In addition to the procedures used in proposed PS–13 for initial accuracy determination using the relative accuracy test, a comparison against a reference method, EPA is taking comment on an alternate initial accuracy determination procedure, similar to the one in section 11 of PS–15 (Performance Specification for Extractive FTIR Continuous Emissions Monitor Systems in Stationary Sources) of appendix B of 40 CFR part 60 using the dynamic or analyte spiking procedure.

EPA believes multi-metals CEMS can be used in many applications, including HMIWI. EPA has monitored side-by-side evaluations of multi-metals CEMS with EPA Method 29 of appendix A–8 of 40 CFR part 60 at industrial waste incinerators and found good correlation. EPA also approved the use of multi-metals CEMS as an alternative monitoring method at a hazardous waste combustor. EPA believes it is possible to adapt proposed PS–10 (Specifications and Test Procedures for Multi-metals Continuous Monitoring Systems in Stationary Sources) of appendix B of 40 CFR part 60 or other EPA performance specifications to allow the use of multi-metals CEMS at HMIWI. In addition to the procedures used in proposed PS–10 for initial accuracy determination using the relative accuracy test, a comparison against a reference method, EPA is taking comment on an alternate initial accuracy determination procedure, similar to the one in section 11 of PS–15 using the dynamic or analyte spiking procedure.

Relative to the use of Hg CEMS and integrated sorbent trap Hg monitoring, EPA believes that the specifications and procedures described in the May 18, 2005 **Federal Register** notice that promulgated standards of performance for new and existing electric utility steam generating units (70 FR 28606) could provide the technical basis for site-specific monitoring plans. The options of using Hg CEMS or an integrated sorbent trap Hg monitoring system would take effect on the date a final performance specification is published in the **Federal Register** or the date of approval of a site-specific monitoring plan. An owner or operator of an HMIWI unit who wishes to use Hg CEMS would be required to notify EPA 1 month before starting use of Hg CEMS and 1 month before stopping use of the Hg CEMS. The use of multi-metals CEMS or Hg CEMS would allow the discontinuation of wet scrubber outlet flue gas temperature monitoring. Mercury sorbent flow rate monitoring could not be eliminated in favor of a multi-metals CEMS or Hg CEMS because it also is an indicator of CDD/CDF control. Additionally, there is no annual metals test that could be eliminated.

The integrated sorbent trap monitoring of Hg would entail use of a continuous automated sampling system with analysis of the samples at set intervals using any suitable determinative technique that can meet appropriate criteria. The option to use a continuous automated sampling system would take effect on the date a final performance specification is published in the **Federal Register** or the date of approval of a site-specific monitoring plan. Integrated sorbent trap monitoring of Hg would allow the discontinuation of wet scrubber outlet flue gas temperature monitoring. Mercury sorbent flow rate monitoring could not be eliminated in favor of integrated sorbent trap monitoring of Hg because it also is an indicator of CDD/CDF control. Additionally, there is no annual Hg test that could be eliminated.

The integrated sorbent trap monitoring of dioxin would entail use of a continuous automated sampling system and analysis of the sample according to EPA Reference Method 23 of appendix A–7 of 40 CFR part 60. The option to use a continuous automated sampling system would take effect on the date a final performance specification is published in the **Federal Register** or the date of approval of a site-specific monitoring plan. Integrated sorbent trap monitoring of dioxin would allow the discontinuation of fabric filter inlet temperature monitoring. Dioxin/furan sorbent flow rate monitoring could not be eliminated in favor of integrated sorbent trap monitoring of dioxin because it also is an indicator of Hg control. Additionally, there is no annual CDD/CDF test that could be eliminated. If integrated sorbent trap monitoring of dioxin as well as multi-metals CEMS, Hg CEMS, or integrated sorbent trap Hg monitoring are used, Hg sorbent flow rate monitoring and CDD/CDF sorbent flow rate monitoring (in both cases activated carbon is the sorbent) could be eliminated. EPA requests comment on other parameter monitoring requirements that could be eliminated upon use of any or all of the optional CEMS discussed above. Table 16 of this preamble presents a summary of the HMIWI operating parameters, the pollutants influenced by each parameter, and alternative monitoring options for each parameter.

TABLE 16—SUMMARY OF HMIWI OPERATING PARAMETERS, POLLUTANTS INFLUENCED BY EACH PARAMETER, AND ALTERNATIVE MONITORING OPTIONS FOR EACH PARAMETER

Operating parameter/ monitoring requirement	Pollutants influenced by operating parameter (by control device type)			Alternative monitoring options
	Dry scrubber	Wet scrubber	Combined system	
Maximum charge rate	All	All	All	None.

TABLE 16—SUMMARY OF HMIWI OPERATING PARAMETERS, POLLUTANTS INFLUENCED BY EACH PARAMETER, AND ALTERNATIVE MONITORING OPTIONS FOR EACH PARAMETER—Continued

Operating parameter/ monitoring requirement	Pollutants influenced by operating parameter (by control device type)			Alternative monitoring options
	Dry scrubber	Wet scrubber	Combined system	
Minimum secondary chamber temperature.	PM, CO, CDD/CDF	PM, CO, CDD/CDF	PM, CO, CDD/CDF	CO CEMS.[1,2]
Maximum fabric filter inlet temperature.	CDD/CDF		CDD/CDF	Integrated sorbent trap dioxin monitoring system (ISTDMS).
Minimum CDD/CDF sorbent flow rate.	CDD/CDF		CDD/CDF	ISTDMS and multi-metals CEMS, Hg CEMS or integrated sorbent trap mercury monitoring system (ISTMMS).
Minimum Hg sorbent flow rate.	Hg		Hg	
Minimum HCl sorbent flow rate.	HCl		HCl	HCl CEMS.
Minimum scrubber pressure drop/ horsepower amperage.		PM	PM	PM CEMS.
Minimum scrubber liquor flow rate.		HCl, PM, Cd, Pb, Hg, CDD/CDF.	HCl, PM, Cd, Pb, Hg, CDD/CDF.	HCl CEMS, PM CEMS, multi-metals CEMS, ISTDMS, and ISTMMS.
Minimum scrubber liquor pH.		HCl	HCl	HCl CEMS.
Maximum flue gas temperature (wet scrubber outlet).		Hg		Hg CEMS, ISTMMS, or multi-metals CEMS.
Do not use bypass stack (except during startup, shutdown, and malfunction).	All	All	All	None.
Air pollution control device inspections.	All	All	All	None.

[1] Optional method for existing sources; required for new sources.
[2] Monitoring secondary chamber temperature could not be eliminated if the source uses SNCR technology.

Table 17 of this preamble presents a summary of the HMIWI test methods and approved alternative compliance methods.

TABLE 17—SUMMARY OF HMIWI TEST METHODS AND APPROVED ALTERNATIVE METHODS

Pollutant/parameter	Test method(s) [1]	Approved alternative method(s)	Comments
PM	Method 5, Method 29	PM CEMS	PM CEMS are optional for all sources in lieu of annual PM test.
CO	Method 10	CO CEMS	CO CEMS are optional for existing sources in lieu of annual CO test; CO CEMS are required for new sources.
HCl	Method 26 or Method 26A	HCl CEMS	HCl CEMS are optional for all sources in lieu of annual HCl test.
Cd	Method 29	Multi-metals CEMS.	
Pb	Method 29	Multi-metals CEMS.	
Hg	Method 29	ASTM D6784–02, multi-metals CEMS, Hg CEMS, or integrated sorbent trap mercury monitoring system.	
CDD/CDF	Method 23	Integrated sorbent trap dioxin monitoring system.	
Opacity	Method 22	Bag leak detection system or PM CEMS.	Bag leak detection systems are optional for existing sources; and are required for new sources in lieu of annual opacity test.
Flue and exhaust gas analysis.	Method 3, 3A, or 3B	ASME PTC 19–10–1981 Part 10.	
Opacity from ash handling.	Method 22	None.	

[1] EPA Reference Methods in appendix A of 40 CFR part 60.

V. Impacts of the Proposed Action for Existing Units

Over the last 3 years, about 25 percent (19 of 76 units) of the existing HMIWI have ceased operation. This trend is not surprising, and supports EPA's analysis, which shows that even in the absence of increased regulatory requirements, less expensive alternative waste disposal options are available for almost all facilities that operate HMIWI. Therefore, EPA expects this trend of unit closures to continue even in the absence of the proposed regulatory changes. The additional costs that would be imposed by this action are likely to accelerate the trend towards alternative waste disposal options, and our analysis suggests that sources are likely to respond to the proposed increased regulatory requirements by choosing to shut down existing HMIWI and utilizing alternative waste disposal options rather than incurring the costs of continued operation and compliance.

The EPA's objective is not to discourage continued use of HMIWI; EPA's objective is to adopt EG for existing HMIWI that fulfill the requirements of CAA section 129. In doing so, the primary outcome associated with adoption of these EG may be an increase in the use of alternative waste disposal and a decrease in the use of HMIWI. Consequently, EPA's impact analyses of the proposed rule include complete analyses of two potential scenarios. The first scenario, which will be referred to as the ''MACT compliance'' option for the remainder of this preamble, assumes that all units continue operation and take the necessary steps to achieve compliance. The second scenario, which will be referred to as the ''alternative disposal'' option for the remainder of this preamble, assumes that all facilities choose to discontinue operation of their HMIWI in favor of an alternative waste disposal option. While several different disposal options, such as sending waste to a municipal waste combustor or commercial HMIWI, may be available to some facilities, EPA assessed the impacts of one alternative waste disposal option. This option involves on-site sterilization of the waste using an autoclave followed by landfilling of the sterilized waste. EPA selected the autoclave/landfilling option because it is widely available. The results of both options are provided in the discussion of impacts. While the likely outcome of the proposed rule revisions is somewhere in between the two options that EPA selected for analysis (some units will comply with the standards and some will discontinue operations), EPA's analyses provide a broad picture of potential impacts.

As explained in section IV.A.2 of this preamble, the proposed emission limits for existing HMIWI are based on the average of the best performing 12 percent of sources for each pollutant in each subcategory. This proposed action would require varying degrees of improvements in performance by almost all HMIWI. Depending on the current configuration of each unit and air pollution controls, the improvements could be achieved either through the addition of add-on air pollution control devices (APCD), improvement of existing add-on APCD, increase in sorbent usage rates, and various combustion improvements. More specifically, the improvements anticipated include: most wet scrubber-controlled units adding a fabric filter-based system for improved control of PM and metals; most units with fabric filter-based systems adding a packed bed wet scrubber for improved control of HCl; adding activated carbon injection or increasing activated carbon usage rate for improved Hg and dioxin control; upgrading fabric filter performance for improved control of PM and metals; increasing lime use for improved control of HCl and, in a few instances, SO_2; and combustion improvements primarily associated with decreasing CO and CDD/CDF emissions. We also project that a few units may require add-on controls (SNCR) to meet the proposed NO_X emission levels. Facilities may resubmit their most recent compliance test data for each pollutant if the data show that their HMIWI meets the proposed emission limits. In these instances, facilities must certify that the test results are representative of current operations. Those facilities would then not be required to test for those pollutants to prove initial compliance with the revised emission limits.

A. What are the primary air impacts?

EPA estimates that reductions of approximately 468,000 pounds per year (lb/yr) of the regulated pollutants would be achieved if all existing HMIWI improved performance to meet the proposed emissions limits. If all HMIWI selected an alternative disposal method, reductions of approximately 1.52 million lb/yr would be achieved. Table 18 shows the estimated reductions by pollutant for the two scenarios.

TABLE 18—PROJECTED EMISSION REDUCTIONS FOR MACT COMPLIANCE AND ALTERNATIVE DISPOSAL OPTIONS FOR EXISTING HMIWI

Pollutant	Reductions achieved through meeting MACT (lb/yr)	Reductions achieved through alternative disposal (lb/yr)
HCl	184,000	198,000
CO	6,860	20,200
Pb	361	420
Cd	22	35.1
Hg	637	682
PM	27,300	89,900
CDD/CDF	0.0907	0.0985
NO_X ..	148,000	1,080,000
SO_2 ...	100,000	126,000
Total ..	468,000	1,520,000

B. What are the water and solid waste impacts?

EPA estimates that, based on the MACT compliance option, approximately 4,420 tpy of additional solid waste and 187,000 gallons per year of additional wastewater would be generated as a result of operating additional controls or using increased amounts of various sorbents.

EPA estimates that, based on the alternative disposal option, approximately 15,100 tpy of additional solid waste would be sent to landfills. This option would result in no additional waste water impacts.

C. What are the energy impacts?

EPA estimates that approximately 29,100 megawatt-hours per year of additional electricity would be required to support the increased control requirements associated with the MACT compliance option.

For the alternative disposal option, EPA estimates that approximately 12,400 megawatt-hours per year of additional electricity would be required to operate the autoclaves.

D. What are the secondary air impacts?

Secondary air impacts associated with the MACT compliance option are direct impacts that result from the increase in natural gas and/or electricity use that we estimate may be required to enable facilities to achieve the proposed emission limits. We estimate that the adjustments could result in emissions of 941 lb/yr of PM; 8,870 lb/yr of CO; 9,290 lb/yr of NO_X; and 1,880 lb/yr of SO_2 from the increased electricity and natural gas usage.

For the alternative disposal option, EPA estimates secondary air impacts of 692 lb/yr of PM; 5,040 lb/yr of CO; 2,550

lb/yr of NO_X; and 4,980 lb/yr of SO_2 from the additional electricity that would be required to operate the autoclaves. In addition, EPA estimates that landfilling would result in an additional 626 tpy of methane and 0.03 lb/yr of mercury emissions.

E. What are the cost and economic impacts?

EPA estimates that for the MACT compliance option, the national total costs for the 57 existing HMIWI to comply with this proposed action would be approximately $21.1 million in each of the first 3 years of compliance. This estimate includes the costs that would be incurred based on the anticipated performance improvements (i.e., costs of new APCD and improvements in performance of existing APCD), and the additional monitoring (i.e., annual control device inspections), testing (i.e., initial EPA Method 22 of appendix A–7 test and initial compliance testing), and recordkeeping and reporting costs that would be incurred by all 57 HMIWI as a result of this proposed action. Approximately 96 percent of the estimated total cost in the first year is for emissions control, and the remaining 4 percent is for monitoring, testing, recordkeeping and reporting.

EPA estimates that for the alternative disposal option, the national total costs for the 57 existing HMIWI to dispose of their solid waste by autoclaving and landfilling would be approximately $10.6 million per year. This estimate includes the costs that would be incurred based on the purchase and operation of autoclaves and the projected landfill tipping fees that would be incurred based on the volume of waste to be landfilled.

Currently, there are 57 existing HMIWI at 51 facilities. They may be divided into two broad categories: (1) Captive HMIWI, which are co-owned and co-located with generating facilities and provide on-site incineration services for waste generated by the hospital, research facility, university, or pharmaceutical operations; and (2) commercial HMIWI, which provide commercial incineration services for waste generated off-site by firms unrelated to the firm that owns the HMIWI. EPA analyzed the impacts on captive HMIWI and commercial HMIWI using different methods. Of the 57 HMIWI, 14 are commercial and 43 are captive.

Owners of captive HMIWI may choose to incur the costs of complying with the proposed revised HMIWI standards or close the HMIWI and switch to another disposal technology like autoclaving and landfilling or have their waste handled by a commercial disposal service. EPA's estimate of autoclaving and landfilling costs indicate that even without additional regulatory costs, the costs of autoclaving and landfilling may be lower than the costs of incinerating. However, even if all owners of captive HMIWI choose to continue to operate with the additional regulatory cost, the cost-to-sales ratios for firms owning captive HMIWI are low. This reflects the relatively small share of overall costs that are associated with hospital/medical/infectious waste management at these firms. Of the 35 firms owning captive HMIWI, 22 have costs of compliance that are less than 0.1 percent of firm sales. Of the 13 with costs exceeding 0.1 percent of sales, only one, a hospital, has costs exceeding 1 percent of sales, and their cost-to-sales ratio is 1.01 percent. Therefore, EPA expects no significant impact on the prices and quantities of the underlying services of the owners of the captive HMIWI, whether the costs are passed on or absorbed.

Impacts on commercial HMIWI are analyzed using the simplifying assumption that they operate as regional monopolists (in general, only one HMIWI is considered as a treatment option by generators located nearby). The approach to modeling the impact for commercial HMIWI seems very appropriate for all of the facilities except for one. The other commercial HMIWI facilities have costs of compliance that are no more than 6.1 percent of revenues. That one facility has a ratio of 28.5 percent. Even with monopoly pricing power and the highest estimated waste throughput, it is not clear whether the company will be able to acquire the capital and pass on such a large price increase. Additional information and modeling would be required to project the outcome for this facility with confidence. For more details regarding EPA's analysis of the economic impacts, see the docket entry entitled ''Economic Impacts of Revised MACT Standards for Hospital/Medical/Infectious Waste Incinerators.''

VI. Impacts of the Proposed Action for New Units

Information provided to EPA indicates that negative growth has been the trend for HMIWI for the past several years. While existing units continue to shut down, since promulgation of the HMIWI NSPS in 1997, four new units have been constructed and one unit has been reconstructed. This information indicates that in the absence of further regulation, new HMIWI may be built. However, based on the stringency of revisions being proposed for the NSPS, sources would likely respond to the proposed rule by choosing not to construct new HMIWI and would utilize alternative waste disposal options rather than incur the costs of compliance.

Considering this information, EPA does not anticipate any new HMIWI, and therefore, no impacts of the proposed NSPS for new units. For purposes of demonstrating that emissions reductions would result from the NSPS in the unlikely event that a new unit is constructed, EPA estimated emissions reductions and other impacts expected for each of the three HMIWI model plants.

A. What are the primary air impacts?

EPA estimated emissions reductions for each of the model plants to demonstrate that the NSPS would, if a new unit were built, reduce emissions compared to an HMIWI meeting the current NSPS. Table 19 of this preamble presents the emissions reductions for the HMIWI model plants. The three model plants (with capacities of 100 lb/hr, 400 lb/hr, and 4,000 lb/hr) represent typical HMIWI. For pollutants where a ''zero'' value is shown, the model plant performance estimate meets the proposed new source limit, which is not surprising since the models are based on the performance of the newest sources, which are among the best performers in the industry.

TABLE 19—EMISSIONS REDUCTIONS ON A MODEL PLANT BASIS

Pollutant	Emission reduction for HMIWI model plants (lb/yr)		
	100 lb/hr capacity	400 lb/hr capacity	4,000 lb/hr capacity
HCl	0	262	2,340
CO	30.5	5.15	124

TABLE 19—EMISSIONS REDUCTIONS ON A MODEL PLANT BASIS—Continued

Pollutant	Emission reduction for HMIWI model plants (lb/yr)		
	100 lb/hr capacity	400 lb/hr capacity	4,000 lb/hr capacity
Pb	0	0	3.82
Cd	0	0	0.296
Hg	0	0.245	2.51
PM	0	0	2,360
Dioxins/furans, TEQ	0	$6.15x10^{-6}$	0
NO_X	863	3,120	0
SO_2	49	72	0
Total	942	3,460	4,840

B. What are the water and solid waste impacts?

While EPA believes it is unlikely that any new HMIWI will be constructed, we estimated the following water or solid waste impacts associated with the proposed NSPS for three different HMIWI model sizes: for large units, we estimate 7,120 gallons per year of additional wastewater and 51 tpy of additional solid waste; for medium units, we estimate 877 gallons per year of additional wastewater and 5.7 tpy of additional solid waste; and, for small units, we estimate 30 gallons per year of additional wastewater and no additional solid waste.

C. What are the energy impacts?

While EPA believes it is unlikely that any new HMIWI will be constructed, we estimated the following energy impacts associated with the proposed NSPS for three different HMIWI model sizes: For large units, we estimate that 3,980 megawatt-hours per year of additional electricity would be required to support the increased control requirements; for medium units, we estimate 448 megawatt-hours per year; and, for small units, we estimate 107 megawatt-hours per year.

D. What are the secondary air impacts?

Secondary air impacts for new HMIWI are direct impacts that would result from the increase in natural gas and/or electricity use that we estimate may be required to enable facilities to achieve the proposed emission limits. While EPA believes it is unlikely that any new HMIWI will be constructed, we estimated the secondary air impacts associated with the proposed NSPS for three different HMIWI model sizes. For large units, we estimate that the adjustments could result in emissions of 40 lb/yr of PM; 1,180 lb/yr of CO; 1,320 lb/yr of NO_X; and 120 lb/yr of SO_2. For medium units, we estimate that the adjustments could result in emissions of 4.5 lb/yr of PM; 132 lb/yr of CO; 149 lb/yr of NO_X; and 14 lb/yr of SO_2. For small units, we estimate that the adjustments could result in emissions of 1.2 lb/yr of PM; 32 lb/yr of CO; 35 lb/yr of NO_X; and 4.2 lb/yr of SO_2.

For the alternative disposal option, EPA estimated secondary air impacts from the additional electricity that would be required to operate autoclaves in lieu of each size of HMIWI. For large units, we estimate secondary emissions of 66 lb/yr of PM; 478 lb/yr of CO; 241 lb/yr of NO_X; and 471 lb/yr of SO_2. For medium units, we estimate secondary emissions of 5.0 lb/yr of PM; 36 lb/yr of CO; 18 lb/yr of NO_X; and 36 lb/yr of SO_2. For small units, we estimate secondary emissions of 1.2 lb/yr of PM; 9.1 lb/yr of CO; 4.6 lb/yr of NO_X; and 9.0 lb/yr of SO_2. In addition, EPA estimates that an additional 59 tpy of methane and 0.003 lb/yr of mercury emissions would result from landfilling waste that would have been processed in a large HMIWI, 3.3 tpy of methane and 0.0002 lb/yr of mercury emissions would result from landfilling waste that would have been processed in a medium HMIWI, and 0.5 tpy of methane and 0.00003 lb/yr of mercury emissions would result from landfilling waste that would have been processed in a small HMIWI.

E. What are the cost and economic impacts?

While EPA projects that three new HMIWI would be constructed in the absence of the proposed revisions, we believe that, in response to the proposed revisions, sources may decide against constructing new HMIWI. Nevertheless, we estimated the following costs associated with installation and operation of air pollution controls needed to meet the proposed NSPS: For new large units, $476,000 per year; for new medium units, $195,000 per year; and, for new small units, $120,000 per year.

EPA's analysis of impacts of the proposed revisions to the HMIWI standards on potential new HMIWI sources compares the with-regulation estimated prices that would be charged by new large, medium, and small HMIWI to the range of with-regulation prices estimated to be charged by existing commercial HMIWI in various regional markets. This comparison indicates that new large and medium commercial HMIWI may be viable, but new small commercial HMIWI probably would not be viable. On the other hand, generators of hospital/medical/infectious waste could have reasons to purchase and install a new small HMIWI. Comparison of autoclave treatment coupled with off-site landfill disposal shows that, for new facilities as for existing ones, autoclave/landfill treatment and disposal is generally less costly than incineration. Thus, the motivation to improve waste segregation to minimize the waste that must be incinerated is likely to continue.

VII. Relationship of the Proposed Action to Section 112(c)(6) of the CAA

Section 112(c)(6) of the CAA requires EPA to identify categories of sources of seven specified pollutants to assure that sources accounting for not less than 90 percent of the aggregate emissions of each such pollutant are subject to standards under CAA section 112(d)(2) or 112(d)(4). EPA has identified HMIWI as a source category that emits five of the seven CAA section 112(c)(6) pollutants: polycyclic organic matter (POM), dioxins, furans, Hg, and polychlorinated biphenyls (PCBs). (The POM emitted by HMIWI is composed of 16 polyaromatic hydrocarbons (PAH) and extractable organic matter (EOM).) In the **Federal Register** notice *Source Category Listing for Section 112(d)(2) Rulemaking Pursuant to Section 112(c)(6) Requirements,* 63 FR 17838, 17849, Table 2 (1998), EPA identified medical waste incinerators (now referred to as HMIWI) as a source category ''subject to regulation'' for purposes of CAA section 112(c)(6) with

respect to the CAA section 112(c)(6) pollutants that HMIWI emit. HMIWI are solid waste incineration units currently regulated under CAA section 129. For purposes of CAA section 112(c)(6), EPA has determined that standards promulgated under CAA section 129 are substantively equivalent to those promulgated under CAA section 112(d). (See *Id.* at 17845; see also 62 FR 33625, 33632 (1997).) As discussed in more detail below, the CAA section 129 standards effectively control emissions of the five identified CAA section 112(c)(6) pollutants. Further, since CAA section 129(h)(2) precludes EPA from regulating these substantial sources of the five identified CAA section 112(c)(6) pollutants under CAA section 112(d), EPA cannot further regulate these emissions under that CAA section. As a result, EPA considers emissions of these five pollutants from HMIWI ''subject to standards'' for purposes of CAA section 112(c)(6).

As required by the statute, the CAA section 129 HMIWI standards include numeric emission limitations for the nine pollutants specified in section 129(a)(4). The combination of waste segregation, good combustion practices, and add-on air pollution control equipment (dry sorbent injection fabric filters, wet scrubbers, or combined fabric filter and wet scrubber systems) effectively reduces emissions of the pollutants for which emission limits are required under CAA section 129: Hg, CDD/CDF, Cd, Pb, PM, SO_2, HCl, CO, and NO_X. Thus, the NSPS and EG specifically require reduction in emissions of three of the CAA section 112(c)(6) pollutants: dioxins, furans, and Hg. As explained below, the air pollution controls necessary to comply with the requirements of the HMIWI NSPS and EG also effectively reduce emissions of the following CAA section 112(c)(6) pollutants that are emitted from HMIWI: POM and PCBs. Although the CAA section 129 HMIWI standards do not have separate, specific emissions standards for PCBs and POM, emissions of these two CAA section 112(c)(6) pollutants are effectively controlled by the same control measures used to comply with the numerical emissions limits for the pollutants enumerated in section 129(a)(4). Specifically, as byproducts of combustion, the formation of PCBs and POM is effectively reduced by the combustion and post-combustion practices required to comply with the CAA section 129 standards. Any PCBs and POM that do form during combustion are further controlled by the various post-combustion HMIWI controls. The add-on PM control systems (either fabric filter or wet scrubber) and activated carbon injection in the fabric filter-based systems further reduce emissions of these organic pollutants, and also reduce Hg emissions, as is evidenced by HMIWI performance data. Specifically, the post-MACT compliance tests at currently operating HMIWI that were also operational at the time of promulgation of the 1997 standards show that, for those units, the 1997 HMIWI MACT regulations reduced Hg emissions by about 60 percent and CDD/CDF emissions by about 80 percent from pre-MACT levels. (Note that these reductions do not reflect unit shutdowns, units for which exemptions were granted, or new units.) Moreover, similar controls have been demonstrated to effectively reduce emissions of POM and PCBs from another incineration source category (municipal solid waste combustors). It is, therefore, reasonable to conclude that POM and PCB emissions are substantially controlled at all 57 HMIWI. Thus, while the proposed rule does not identify specific limits for POM and PCB, emissions of those pollutants are, for the reasons noted above, nonetheless ''subject to regulation'' for purposes of section 112(c)(6) of the CAA.

VIII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735; October 4, 1993), this action is a ''significant regulatory action'' because it is likely to raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Order 12866, and any changes made in response to OMB recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) documents prepared by EPA have been assigned EPA ICR number 2335.01 for subpart Ce, 40 CFR part 60, and 1730.07 for subpart Ec, 40 CFR part 60.

The requirements in this proposed action result in industry recordkeeping and reporting burden associated with review of the amendments for all HMIWI, EPA Method 22 of appendix A–7 testing for all HMIWI, and inspections of scrubbers, fabric filters, and other air pollution control devices that may be used to meet the emission limits for all HMIWI. Stack testing and development of new parameter limits would be necessary for HMIWI that need to make performance improvements in order to meet the proposed emission limits and for HMIWI that, prior to this proposed action, have not been required to demonstrate compliance with certain pollutants. Any new HMIWI would also be required to continuously monitor CO emissions. New HMIWI equipped with fabric filters would also be required to purchase bag leak detectors.

The annual average burden associated with the EG over the first 3 years following promulgation of this proposed action is estimated to be 44,275 hours at a total annual labor cost of $1,873,286. The total annualized capital/startup costs and operation and maintenance (O&M) costs associated with the monitoring requirements, EPA Method 22 of appendix A–7 testing, storage of data and reports, and photocopying and postage over the 3-year period of the ICR are estimated at $1,457,506 and $687,398 per year, respectively. (The annual inspection costs are included under the recordkeeping and reporting labor costs.) The annual average burden associated with the NSPS over the first 3 years following promulgation of this proposed action is estimated to be 2,705 hours at a total annual labor cost of $102,553. The total annualized capital/startup costs are estimated at $137,058, with total operation and maintenance costs of $116,190 per year. Burden is defined at 5 CFR 1320.3(b)

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

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this action, which includes these ICR documents, under Docket ID No. EPA–HQ–OAR–2006–0534. Submit any comments related to the ICR documents for this proposed action to EPA and OMB. See **ADDRESSES** section at the beginning of this action for where to submit comments to EPA. Send comments to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Office for EPA.

Since OMB is required to make a decision concerning the ICR between 30 and 60 days after December 1, 2008, a comment to OMB is best assured of having its full effect if OMB receives it by December 31, 2008. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedures Act or any other statute unless the Agency certifies that the proposed action will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small government organizations, and small government jurisdictions.

For purposes of assessing the impacts of this proposed action on small entities, small entity is defined as follows: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The one small entity directly regulated by this proposed action is a small governmental jurisdiction that owns two HMIWI. We have determined that this one small entity may experience an impact of approximately $1.56 million per year to comply with the proposed rule, resulting in a cost-to-sales ratio of approximately 6.1 percent. The one small entity is a commercial facility owned by a county in Texas. Because there are only nine other commercial facilities and the closest are in Tennessee and Kansas, the entity is a regional monopolist and is able to raise the price by more than the per unit cost increase. We expect there to be a reduction in the amount of its services demanded due to the price change. Because of closures of captive HMIWI there may also be an increase in the demand for its services that may reduce the decrease in revenues associated with the price increase.

Three other entities are defined as borderline small: Their parent company sales or employment in 2007 are above the SBA size-cutoff for small entities in their NAICS codes, but are near enough to the size cut-off that variations in sales or employment over time might move them below the small business criterion. One of them is the facility with a cost-to-sale a ratio of 28.5 percent. Additional information and modeling would be required to project the outcome for this facility with confidence.

Although the proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities. For each subcategory of HMIWI, we are proposing emission limits that are based on the MACT floor level of control, which is the minimum level of stringency that can be considered in establishing MACT standards. Although under the CAA and the case law EPA can set standards no less stringent than the MACT floor and, therefore, we were unable to reduce the impact of the emission limits on the small entity that would be regulated by the proposed rule, EPA worked to minimize the costs of testing and monitoring requirements to the extent possible under the statute. We continue to be interested in the potential impacts of this proposed action on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act (UMRA), 2 U.S.C. 1531–1538 for State, local, or tribal governments or the private sector. This proposed action imposes no enforceable duty on any State, local or tribal governments or the private sector.

Therefore, this proposed action is not subject to the requirements of sections 202 or 205 of the UMRA.

This proposed action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. There are 2 HMIWI owned by one small governmental jurisdiction that would be regulated by this proposed action. For each subcategory of HMIWI, we are proposing emission limits that are based on the MACT floor level of control, which is the minimum level of stringency that can be considered in establishing MACT standards. EPA can set standards no less stringent than the MACT floor and, under this proposed action, all HMIWI would be subject to emission limits based on the MACT floors. Thus, the regulatory requirements being proposed would not be considered as significantly or uniquely affecting the small entity that would be impacted by the proposed rule because it would be subject to standards based on the same minimum levels of stringency as all other HMIWI.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255; August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' are defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This proposed action will not impose substantial direct compliance costs on State or local governments, and will not preempt State law. Thus, Executive Order 13132 does not apply to this rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175, (65 FR 67249; November 9, 2000). EPA is not aware of any HMIWI owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

EPA interprets Executive Order 13045 (62 FR 19885; April 23, 1997) as applying to those regulatory actions that

concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This proposed action is not subject to Executive Order 13045 because it is based solely on technology performance.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355; May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. EPA estimates that the requirements in this proposed action would cause most HMIWI to modify existing air pollution control devices (e.g., increase the horsepower of their wet scrubbers) or install and operate new control devices, resulting in approximately 29,100 megawatt-hours per year of additional electricity being used.

Given the negligible change in energy consumption resulting from this proposed action, EPA does not expect any significant price increase for any energy type. The cost of energy distribution should not be affected by this proposed action at all since the action would not affect energy distribution facilities. We also expect that any impacts on the import of foreign energy supplies, or any other adverse outcomes that may occur with regards to energy supplies would not be significant. We, therefore, conclude that if there were to be any adverse energy effects associated with this proposed action, they would be minimal.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law No. 104–113 (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards (VCS) in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

This proposed rulemaking involves technical standards. EPA has decided to use two VCS in this proposed rule. One VCS, ASME PTC 19.10–1981, ''Flue and Exhaust Gas Analyses,'' is cited in this proposed rule for its manual method of measuring the content of the exhaust gas as an acceptable alternative to EPA Method 3B of appendix A–2. This standard is available from the American Society of Mechanical Engineers (ASME), P.O. Box 2900, Fairfield, NJ 07007–2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East, Englewood, CO 80112.

Another VCS, ASTM D6784–02, ''Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),'' is cited in this proposed rule as an acceptable alternative to EPA Method 29 of appendix A–8 (portion for mercury only) for measuring mercury. This standard is available from the American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

While the Agency has identified 16 VCS as being potentially applicable to this proposed rule, we have decided not to use these VCS in this rulemaking. The use of these VCS would be impractical because they do not meet the objectives of the standards cited in this rule. See the docket for this proposed rule for the reasons for these determinations.

Under 40 CFR 60.13(i) of the NSPS General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in the final rule and any amendments.

EPA welcomes comments on this aspect of the proposed rulemaking and specifically invites the public to identify potentially-applicable voluntary consensus standards and to explain why such standards should be used in this regulation.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629) (February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income populations. This action would establish national standards that would result in reductions in emissions of HCl, CO, Cd, Pb, Hg, PM, CDD/CDF, NO_X and SO_2 from all HMIWI and thus decrease the amount of such emissions to which all affected populations are exposed.

List of Subjects in 40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: November 14, 2008.

Stephen L. Johnson,

Administrator.

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

PART 60—[AMENDED]

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

Authority: 42 U.S.C. 7401, *et seq.*

Subpart Ce—[Amended]

2. Section 60.32e is amended by revising paragraph (a) and adding paragraph (j) to read as follows:

§ 60.32e Designated facilities.

(a) Except as provided in paragraphs (b) through (h) of this section, the designated facility to which the guidelines apply is each individual HMIWI:

(1) For which construction was commenced on or before June 20, 1996, or for which modification was commenced on or before March 16, 1998.

(2) For which construction was commenced on or before December 1, 2008, or for which modification is commenced on or before [DATE 6 MONTHS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

* * * * *

(j) The requirements of this subpart as promulgated on September 15, 1997,

shall apply to the designated facilities defined in paragraph (a)(1) of this section until the applicable compliance date of the requirements of this subpart, as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**]. Upon the compliance date of the requirements of this subpart, designated facilities as defined in paragraph (a)(1) of this section are no longer subject to the requirements of this subpart, as promulgated on September 15, 1997, but are subject to the requirements of this subpart, as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

3. Section 60.33e is revised to read as follows:

§ 60.33e Emission guidelines.

(a) For approval, a State plan shall include the requirements for emission limits at least as protective as the following requirements, as applicable:

(1) For a designated facility as defined in § 60.32e(a)(1), the requirements listed in Table 1 of this subpart, except as provided in paragraph (b) of this section.

(2) For a designated facility as defined in § 60.32e(a)(2), the requirements listed in Table 1A of this subpart, except as provided in paragraph (b) of this section.

(b) For approval, a State plan shall include the requirements for emission limits for any small HMIWI constructed on or before June 20, 1996, which is located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area (defined in § 60.31e) and which burns less than 2,000 pounds per week of hospital waste and medical/infectious waste that are at least as protective as the requirements in paragraphs (b)(1) and (b)(2) of this section, as applicable. The 2,000 lb/week limitation does not apply during performance tests.

(1) For a designated facility as defined in § 60.32e(a)(1), the requirements listed in Table 2 of this subpart.

(2) For a designated facility as defined in § 60.32e(a)(2), the requirements listed in Table 2A of this subpart.

(c) For approval, a State plan shall include the requirements for stack opacity at least as protective as the following, as applicable:

(1) For a designated facility as defined in § 60.32e(a)(1), the requirements in § 60.52c(b)(1) of subpart Ec of this part.

(2) For a designated facility as defined in § 60.32e(a)(2), the requirements in § 60.52c(b)(2) of subpart Ec of this part.

4. Section 60.36e is amended as follows:

a. By revising paragraph (a) introductory text;

b. By revising paragraph (b);

c. By adding paragraph (c); and

d. By adding paragraph (d).

§ 60.36e Inspection guidelines.

(a) For approval, a State plan shall require each small HMIWI subject to the emission limits under § 60.33e(b) and each HMIWI subject to the emission limits under § 60.33e(a)(2) to undergo an initial equipment inspection that is at least as protective as the following within 1 year following approval of the State plan:

* * * * *

(b) For approval, a State plan shall require each small HMIWI subject to the emission limits under § 60.33e(b) and each HMIWI subject to the emission limits under § 60.33e(a)(2) to undergo an equipment inspection annually (no more than 12 months following the previous annual equipment inspection), as outlined in paragraph (a) of this section.

(c) For approval, a State plan shall require each small HMIWI subject to the emission limits under § 60.33e(b)(2) and each HMIWI subject to the emission limits under § 60.33e(a)(2) to undergo an initial air pollution control device inspection, as applicable, that is at least as protective as the following within 1 year following approval of the State plan:

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

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

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

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

(2) Within 10 operating days following an air pollution control device inspection, all necessary repairs shall be completed unless the owner or operator obtains written approval from the State agency establishing a date whereby all necessary repairs of the designated facility shall be completed.

(d) For approval, a State plan shall require each small HMIWI subject to the emission limits under § 60.33e(b)(2) and each HMIWI subject to the emission limits under § 60.33e(a)(2) to undergo an air pollution control device inspection, as applicable, annually (no more than 12 months following the previous annual air pollution control device inspection), as outlined in paragraph (c) of this section.

5. Section 60.37e is amended as follows:

a. By revising paragraph (a);

b. By revising paragraphs (b) introductory text and (b)(1);

c. By redesignating paragraphs (c) and (d) as paragraphs (d) and (e);

d. By redesignating paragraphs (b)(2) through (b)(5) as paragraphs (c)(1) through (c)(4);

e. By adding a new paragraph (b)(2);

f. By adding paragraph (c) introductory text;

g. By revising newly redesignated paragraphs (c)(3) and (c)(4);

h. By revising newly redesignated paragraph (d);

i. By revising newly redesignated paragraph (e) introductory text;

j. By revising newly redesignated paragraph (e)(3); and

k. By adding paragraph (f).

§ 60.37e Compliance, performance testing, and monitoring guidelines.

(a) Except as provided in paragraph (b) of this section, for approval, a State plan shall include the requirements for compliance and performance testing listed in § 60.56c of subpart Ec of this part, with the following exclusions:

(1) For a designated facility as defined in § 60.32e(a)(1) subject to the emission limits in § 60.33e(a)(1), excluding the test methods listed in § 60.56c(b)(7) and (8), the fugitive emissions testing requirements under § 60.56c(b)(14) and (c)(3), the CO CEMS requirements under § 60.56c(c)(4), and the compliance requirements for monitoring listed in § 60.56c(c)(5)(ii) through (v), (c)(6), (c)(7), (e)(6) through (10), (f)(7) through (10), (g)(6) through (10), and (h).

(2) For a designated facility as defined in § 60.32e(a)(2) subject to the emission limits in § 60.33e(a)(2), excluding the annual fugitive emissions testing requirements under § 60.56c(c)(3), the CO CEMS requirements under § 60.56c(c)(4), and the compliance requirements for monitoring listed in § 60.56c(c)(5)(ii) through (v), (c)(6), (c)(7), (e)(6) through (10), (f)(7) through (10), and (g)(6) through (10). Sources subject to the emission limits under § 60.33e(a)(2) may, however, elect to use CO CEMS as specified under § 60.56c(c)(4) or bag leak detection systems as specified under § 60.57c(h).

(b) Except as provided in paragraphs (b)(1) and (b)(2) of this section, for approval, a State plan shall require each small HMIWI subject to the emission limits under § 60.33e(b) to meet the performance testing requirements listed in § 60.56c of subpart Ec of this part. The 2,000 lb/week limitation under § 60.33e(b) does not apply during performance tests.

(1) For a designated facility as defined in § 60.32e(a)(1) subject to the emission limits under § 60.33e(b)(1), excluding the test methods listed in § 60.56c(b)(7), (8), (12), (13) (Pb and Cd), and (14), the annual PM, CO, and HCl emissions testing requirements under § 60.56c(c)(2), the annual fugitive emissions testing requirements under § 60.56c(c)(3), the CO CEMS requirements under § 60.56c(c)(4), and the compliance requirements for monitoring listed in § 60.56c(c)(5) through (7), and (d) through (k).

(2) For a designated facility as defined in § 60.32e(a)(2) subject to the emission limits under § 60.33e(b)(2), excluding the annual fugitive emissions testing requirements under § 60.56c(c)(3), the CO CEMS requirements under § 60.56c(c)(4), and the compliance requirements for monitoring listed in § 60.56c(c)(5)(ii) through (v), (c)(6), (c)(7), (e)(6) through (10), (f)(7) through (10), and (g)(6) through (10). Sources subject to the emission limits under § 60.33e(b)(2) may, however, elect to use CO CEMS as specified under § 60.56c(c)(4) or bag leak detection systems as specified under § 60.57c(h).

(c) For approval, a State plan shall require each small HMIWI subject to the emission limits under § 60.33e(b) that is not equipped with an air pollution control device to meet the following compliance and performance testing requirements:

* * * * *

(3) Except as provided in paragraph (c)(4) of this section, operation of the designated facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the PM, CO, and dioxin/furan emission limits.

(4) The owner or operator of a designated facility may conduct a repeat performance test within 30 days of violation of applicable operating parameter(s) to demonstrate that the designated facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this paragraph must be conducted using the identical operating parameters that indicated a violation under paragraph (c)(3) of this section.

(d) For approval, a State plan shall include the requirements for monitoring listed in § 60.57c of subpart Ec of this part for HMIWI subject to the emission limits under § 60.33e(a) and (b), except as provided for under paragraph (e) of this section.

(e) For approval, a State plan shall require small HMIWI subject to the emission limits under § 60.33e(b) that are not equipped with an air pollution control device to meet the following monitoring requirements:

* * * * *

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

(f) The owner or operator of a designated facility as defined in § 60.32e(a)(2) subject to emission limits under § 60.33e(a)(2) or (b)(2) may use the results of previous emissions tests to demonstrate compliance with the emission limits, provided that the conditions in paragraphs (f)(1) through (f)(3) of this section are met:

(1) The designated facility's previous emissions tests must have been conducted using the applicable procedures and test methods listed in § 60.56c(b) of subpart Ec of this part. Previous emissions test results obtained using EPA-accepted voluntary consensus standards are also acceptable.

(2) The HMIWI at the designated facility shall currently be operated in a manner (e.g., with charge rate, secondary chamber temperature, etc.) that would be expected to result in the same or lower emissions than observed during the previous emissions test(s), and the HMIWI may not have been modified such that emissions would be expected to exceed (notwithstanding normal test-to-test variability) the results from previous emissions test(s).

(3) The previous emissions test(s) must have been conducted in 1996 or later.

6. Section 60.38e is amended as follows:

a. By revising paragraph (a);

b. By revising paragraph (b) introductory text; and

c. By revising paragraph (b)(1).

§ 60.38e Reporting and recordkeeping guidelines.

(a) Except as provided in paragraphs (a)(1) and (a)(2) of this section, for approval, a State plan shall include the reporting and recordkeeping requirements listed in § 60.58c(b) through (g) of subpart Ec of this part.

(1) For a designated facility as defined in § 60.32e(a)(1) subject to emission limits under § 60.33e(a)(1) or (b)(1), excluding § 60.58c(b)(2)(ii) (fugitive emissions), (b)(2)(viii) (NO_X reagent), (b)(2)(xvii) (air pollution control device inspections), (b)(2)(xviii) (bag leak detection system alarms), (b)(2)(xix) (CO CEMS data), and (b)(7) (siting documentation).

(2) For a designated facility as defined in § 60.32e(a)(2) subject to emission limits under § 60.33e(a)(2) or (b)(2), excluding § 60.58c(b)(2)(xviii) (bag leak detection system alarms), (b)(2)(xix) (CO CEMS data), and (b)(7) (siting documentation).

(b) For approval, a State plan shall require the owner or operator of each HMIWI subject to the emission limits under § 60.33e to:

(1) As specified in § 60.36e, maintain records of the annual equipment inspections that are required for each HMIWI subject to the emission limits under § 60.33e(a)(2) and (b), and the annual air pollution control device inspections that are required for each HMIWI subject to the emission limits under § 60.33e(a)(2) and (b)(2), any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the State regulatory agency; and

* * * * *

7. Section 60.39e is amended as follows:

a. By revising paragraph (a);

b. By revising paragraph (c) introductory text;

c. By revising paragraph (c)(1);

d. By revising paragraph (d)(3); and

e. By revising paragraph (f).

§ 60.39e Compliance times.

(a) Each State in which a designated facility is operating shall submit to the Administrator a plan to implement and enforce the emission guidelines as specified in paragraphs (a)(1) and (a)(2) of this section:

(1) Not later than September 15, 1998, for the emission guidelines as promulgated on September 15, 1997.

(2) Not later than [DATE 1 YEAR AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], for the emission guidelines as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

* * * * *

(c) State plans that specify measurable and enforceable incremental steps of progress towards compliance for designated facilities planning to install the necessary air pollution control equipment may allow compliance on or before the date 3 years after EPA approval of the State plan (but not later than September 16, 2002), for the emission guidelines as promulgated on

September 15, 1997, and not later than [DATE 5 YEARS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] for the emission guidelines as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**]. Suggested measurable and enforceable activities to be included in State plans are:

(1) Date for submitting a petition for site-specific operating parameters under § 60.56c(j) of subpart Ec of this part.

* * * * *

(d) * * *

(3) If an extension is granted, require compliance with the emission guidelines on or before the date 3 years after EPA approval of the State plan (but not later than September 16, 2002), for the emission guidelines as promulgated on September 15, 1997, and not later than [DATE 5 YEARS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] for the emission guidelines as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

* * * * *

(f) The Administrator shall develop, implement, and enforce a plan for existing HMIWI located in any State that has not submitted an approvable plan within 2 years after September 15, 1997, for the emission guidelines as promulgated on September 15, 1997, and within 2 years after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] for the emission guidelines as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**]. Such plans shall ensure that each designated facility is in compliance with the provisions of this subpart no later than 5 years after September 15, 1997, for the emission guidelines as promulgated on September 15, 1997, and no later than 5 years after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] for the emission guidelines as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

8. The heading to Table 1 to subpart Ce is revised to read as follows:

Table 1 to Subpart Ce of Part 60-Emission Limits for Small, Medium, and Large HMIWI at Designated Facilities As Defined in § 60.32e(a)(1)

9. Amend Subpart Ce by adding Table 1A to subpart Ce to read as follows:

TABLE 1A—TO SUBPART Ce OF PART 60-EMISSION LIMITS FOR SMALL, MEDIUM, AND LARGE HMIWI AT DESIGNATED FACILITIES AS DEFINED IN § 60.32e(a)(2)

Pollutant	Units (7 percent oxygen, dry basis)	Emission limits		
		HMIWI size		
		Small	Medium	Large
Particulate matter	Milligrams per dry standard cubic meter (mg/dscm) (grains per dry standard cubic foot (gr/dscf)).	39 (0.017)	28 (0.012)	13 (0.0056)
Carbon monoxide	Parts per million by volume (ppmv)	8.2	3.0	3.9
Dioxins/furans	Nanograms per dry standard cubic meter total dioxins/furans (ng/dscm) (grains per billion dry standard cubic feet (gr/10^9 dscf)) or ng/dscm TEQ (gr/10^9 dscf).	8.3 (3.7) or 0.0080 (0.0035)	0.63 (0.28) or 0.0097 (0.0043)	1.6 (0.70) or 0.029 (0.013)
Hydrogen chloride	Ppmv	4.5	2.5	2.4
Sulfur dioxide	Ppmv	2.8	2.8	2.8
Nitrogen oxides	Ppmv	200	200	140
Lead	mg/dscm (grains per thousand dry standard cubic feet (gr/10^3 dscf)).	0.18 (0.079)	0.017 (0.0075)	0.013 (0.0057)
Cadmium	mg/dscm (gr/10^3 dscf)	0.012 (0.0053)	0.0071 (0.0031)	0.0041 (0.0018)
Mercury	mg/dscm (gr/10^3 dscf)	0.0075 (0.0033)	0.0079 (0.0035)	0.0095 (0.0042)

10. The heading to Table 2 to subpart Ce is revised to read as follows:

Table 2 to Subpart Ce of Part 60. Emission Limits for Small HMIWI which Meet the Criteria under § 60.33e(b)(1)

11. Amend Subpart Ce by adding Table 2A to subpart Ce to read as follows:

TABLE 2A TO SUBPART Ce OF PART 60-EMISSION LIMITS FOR SMALL HMIWI WHICH MEET THE CRITERIA UNDER § 60.33e(b)(2)

Pollutant	Units (7 percent oxygen, dry basis)	HMIWI emission limits
Particulate matter	mg/dscm (gr/dscf)	69 (0.030)
Carbon monoxide	Ppmv	12
Dioxins/furans	ng/dscm total dioxins/furans (gr/10^9 dscf) or ng/dscm TEQ (gr/10^9 dscf)	130 (57) or 2.6 (1.2)
Hydrogen chloride	Ppmv	440
Sulfur dioxide	Ppmv	43
Nitrogen oxides	Ppmv	110
Lead	Mg/dscm (gr/10^3 dscf)	0.35 (0.16)
Cadmium	Mg/dscm (gr/10^3 dscf)	0.068 (0.030)
Mercury	Mg/dscm (gr/10^3 dscf)	0.0040 (0.0018)

Subpart Ec—[Amended]

12. Section 60.50c is amended as follows:

a. By revising paragraph (a);

b. By adding paragraph (m); and

c. By adding paragraph (n).

§ 60.50c Applicability and delegation of authority.

(a) Except as provided in paragraphs (b) through (h) of this section, the affected facility to which this subpart applies is each individual hospital/medical/infectious waste incinerator (HMIWI):

(1) For which construction is commenced after June 20, 1996 but no later than December 1, 2008; or

(2) For which modification is commenced after March 16, 1998 but no later than [DATE 6 MONTHS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(3) For which construction is commenced after December 1, 2008; or

(4) For which modification is commenced after [DATE 6 MONTHS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

* * * * *

(m) The requirements of this subpart as promulgated on September 15, 1997, shall apply to the affected facilities defined in paragraph (a)(1) and (2) of this section until the applicable compliance date of the requirements of subpart Ce of this part, as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**]. Upon the compliance date of the requirements of the amended subpart Ce of this part, affected facilities as defined in paragraph (a) of this section are no longer subject to the requirements of this subpart, but are subject to the requirements of subpart Ce of this part, as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**]. Compliance with subpart Ce of this part, as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**] is required on or before the date 3 years after EPA approval of the State plan for States in which an affected facility as defined in paragraph (a) of this section is located (but not later than the date 5 years after promulgation of the amended subpart).

(n) The requirements of this subpart, as amended on [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], shall become effective [DATE 6 MONTHS AFTER PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

13. Section 60.51c is amended by adding definitions for ''Bag leak detection system'' and ''Minimum reagent flow rate'' in alphabetical order and revising the definition for ''Minimum secondary chamber temperature'' to read as follows:

§ 60.51c Definitions.

Bag leak detection system means an instrument that is capable of monitoring PM loadings in the exhaust of a fabric filter in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light-scattering, light-transmittance, or other effects to monitor relative PM loadings.

* * * * *

Minimum reagent flow rate means 90 percent of the highest 3-hour average reagent flow rate at the inlet to the selective noncatalytic reduction technology (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the NO_X emission limit.

* * * * *

Minimum secondary chamber temperature means 90 percent of the highest 3-hour average secondary chamber temperature (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM, CO, dioxin/furan, and NO_X emission limits.

* * * * *

14. Section 60.52c is amended as follows:

a. By revising paragraph (a);

b. By revising paragraph (b); and

c. By revising paragraph (c).

§ 60.52c Emission limits.

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility shall cause to be discharged into the atmosphere:

(1) From an affected facility as defined in § 60.50c(a)(1) and (2), any gases that contain stack emissions in excess of the limits presented in Table 1 to this subpart.

(2) From an affected facility as defined in § 60.50c(a)(3) and (4), any gases that contain stack emissions in excess of the limits presented in Table 1A to this subpart.

(b) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility shall cause to be discharged into the atmosphere:

(1) From an affected facility as defined in § 60.50c(a)(1) and (2), any gases that exhibit greater than 10 percent opacity (6-minute block average).

(2) From an affected facility as defined in § 60.50c(a)(3) and (4), any gases that exhibit greater than 2 percent opacity (6-minute block average).

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility as defined in § 60.50c(a)(1) and (2) and utilizing a large HMIWI, and in § 60.50c(a)(3) and (4), shall cause to be discharged into 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 of appendix A–1 of this part, except as provided in paragraphs (d) and (e) of this section.

* * * * *

15. Section 60.56c is amended as follows:

a. By revising paragraph (b) introductory text;

b. By revising paragraphs (b)(4) and (b)(6);

c. By redesignating paragraphs (b)(7) through (b)(12) as paragraphs (b)(9) through (b)(14);

d. By adding paragraphs (b)(7) and (b)(8);

e. By revising newly redesignated paragraphs (b)(9) and (b)(10);

f. By revising newly redesignated paragraph (b)(11) introductory text;

g. By revising newly redesignated paragraphs (b)(12) and (b)(13);

h. By revising paragraphs (c)(2) and (c)(3);

i. By redesignating paragraph (c)(4) as paragraph (c)(5);

j. By revising newly redesignated paragraph (c)(5);

k. By adding paragraphs (c)(4), (c)(6), and (c)(7);

l. By revising paragraph (d) introductory text;

m. By revising paragraph (e) introductory text;

n. By adding paragraphs (e)(6) through (e)(10);

o. By revising paragraph (f) introductory text;

p. By adding paragraphs (f)(7) through (f)(10);

q. By revising paragraph (g) introductory text;

r. By adding paragraphs (g)(6) through (g)(10);

s. By redesignating paragraphs (h) through (j) as paragraphs (i) through (k);

t. By adding paragraph (h); and

u. By revising newly redesignated paragraphs (i) and (j).

§ 60.56c Compliance and performance testing.

* * * * *

(b) The owner or operator of an affected facility as defined in § 60.50c(a)(1) and (2), shall conduct an initial performance test as required under § 60.8 to determine compliance with the emission limits using the procedures and test methods listed in paragraphs (b)(1) through (b)(6) and (b)(9) through (b)(14) of this section. The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4), shall conduct an initial performance test as required under § 60.8 to determine compliance with the emission limits using the procedures and test methods listed in paragraphs (b)(1) through (b)(14). The use of the bypass stack during a performance test shall invalidate the performance test.

* * * * *

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

* * * * *

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

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

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

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

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

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

* * * * *

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

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

* * * * *

(c) * * *

(2) Except as provided in paragraphs (c)(4) and (c)(5) of this section, determine compliance with the PM, CO, and HCl emission limits by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in paragraph (b) of this section. If all three performance tests over a 3-year period indicate compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for the subsequent 2 years. At a minimum, a performance test for PM, CO, and HCl shall be conducted every third year (no more than 36 months following the previous performance test). If a performance test conducted every third year indicates compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for an additional 2 years. If any performance test indicates noncompliance with the respective emission limit, a performance test for that pollutant shall be conducted annually until all annual performance tests over a 3-year period indicate compliance with the emission limit. The use of the bypass stack during a performance test shall invalidate the performance test.

(3) For an affected facility as defined in § 60.50c(a)(1) and (2) and utilizing a large HMIWI, and in § 60.50c(a)(3) and (4), determine compliance with the visible emission limits for fugitive emissions from flyash/bottom ash storage and handling by conducting a performance test using EPA Reference Method 22 of appendix A–7 on an annual basis (no more than 12 months following the previous performance test).

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

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

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

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

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

(i) For an affected facility as defined in § 60.50c(a)(1) and (2), determine compliance with the appropriate emission limit(s) using a 12-hour rolling average, calculated each hour as the average of the previous 12 operating hours (not including startup, shutdown, or malfunction).

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

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

the date a final performance specification is published in the **Federal Register** or the date of approval of a site-specific monitoring plan.

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

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

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

(7) An affected facility as defined in § 60.50c(a)(3) and (4) using a continuous automated sampling system to demonstrate compliance with the Hg emission limits under § 60.52c shall record the output of the system and analyze the sample at set intervals using any suitable determinative technique that can meet appropriate performance criteria. This option to use a continuous automated sampling system takes effect on the date a final performance specification applicable to Hg from monitors is published in the **Federal Register** or the date of approval of a site-specific monitoring plan. The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) who elects to continuously sample Hg emissions instead of sampling and testing using EPA Reference Method 29 of appendix A–8 of this part, or an approved alternative method for measuring Hg emissions, shall install, calibrate, maintain, and operate a continuous automated sampling system and shall comply with the requirements specified in § 60.58b(p) and (q) of subpart Eb of this part.

(d) Except as provided in paragraphs (c)(4) through (c)(7) of this section, the owner or operator of an affected facility equipped with a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and wet scrubber shall:

* * * * *

(e) Except as provided in paragraph (i) of this section, for affected facilities equipped with a dry scrubber followed by a fabric filter:

* * * * *

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

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

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

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

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

(f) Except as provided in paragraph (i) of this section, for affected facilities equipped with a wet scrubber:

* * * * *

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

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

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

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

(g) Except as provided in paragraph (i) of this section, for affected facilities equipped with a dry scrubber followed by a fabric filter and a wet scrubber:

* * * * *

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

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

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

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

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

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

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

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

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

(i) The owner or operator of an affected facility may conduct a repeat performance test within 30 days of violation of applicable operating parameter(s) to demonstrate that the affected facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this paragraph shall be conducted using the identical operating parameters that indicated a violation under paragraph (e), (f), (g), or (h) of this section.

(j) The owner or operator of an affected facility using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, a dry scrubber followed by a fabric filter and a wet scrubber, or selective noncatalytic reduction technology to comply with the emission limits under § 60.52c shall petition the Administrator for other site-specific operating parameters to be established during the initial performance test and continuously monitored thereafter. The owner or operator shall not conduct the initial performance test until after the petition has been approved by the Administrator.

* * * * *

16. Section 60.57c is amended as follows:

a. By revising paragraph (a);

b. By redesignating paragraphs (b) through (d) as paragraphs (c) through (e);

c. By adding paragraph (b);

d. By revising newly redesignated paragraphs (d) and (e); and

e. By adding paragraphs (f), (g), and (h).

§ 60.57c Monitoring requirements

(a) Except as provided in § 60.56c(c)(4) through (c)(7), the owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 3 to this subpart (unless CEMS are used as a substitute for certain parameters as specified) such that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times except during periods of startup and shutdown.

(b) The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) that uses selective noncatalytic reduction technology shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the operating parameters listed in §1A60.56c(h) such that the devices (or methods) measure and record values for the operating parameters at all times except during periods of startup and shutdown. Operating parameter values shall be measured and recorded at the following minimum frequencies:

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

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

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

* * * * *

(d) The owner or operator of an affected facility using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, a dry scrubber followed by a fabric filter and a wet scrubber, or selective noncatalytic reduction technology to comply with the emission limits under § 60.52c shall install, calibrate (to manufacturers' specifications), maintain, and operate the equipment necessary to monitor the site-specific operating parameters developed pursuant to § 60.56c(j).

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

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

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

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

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

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

(2) Within 10 operating days following an air pollution control device inspection, all necessary repairs shall be completed unless the owner or operator obtains written approval from the Administrator establishing a date whereby all necessary repairs of the designated facility shall be completed.

(g) The owner or operator of an affected facility as defined in § 60.50c(a)(3) and (4) shall ensure that each HMIWI subject to the emission limits under § 60.52c undergoes an air pollution control device inspection

annually (no more than 12 months following the previous annual air pollution control device inspection), as outlined in paragraphs (f)(1) and (f)(2) of this section.

(h) For affected facilities as defined in § 60.50c(a)(3) and (4) that use an air pollution control device that includes a fabric filter and are not demonstrating compliance using PM CEMS, determine compliance with the PM emission limit using a bag leak detection system and meet the requirements in paragraphs (h)(1) through (h)(12) of this section for each bag leak detection system.

(1) Each triboelectric bag leak detection system shall be installed, calibrated, operated, and maintained according to the ''Fabric Filter Bag Leak Detection Guidance,'' (EPA–454/R–98–015, September 1997). This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality Planning and Standards; Sector Policies and Programs Division; Measurement Policy Group (D–243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Continuous Emission Monitoring. Other types of bag leak detection systems shall be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(2) The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(3) The bag leak detection system sensor shall provide an output of relative PM loadings.

(4) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.

(5) The bag leak detection system shall be equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel.

(6) For positive pressure fabric filter systems, a bag leak detector shall be installed in each baghouse compartment or cell.

(7) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(9) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the ''Fabric Filter Bag Leak Detection Guidance.''

(10) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection that demonstrates that the fabric filter is in good operating condition. Each adjustment shall be recorded.

(11) Record the results of each inspection, calibration, and validation check.

(12) Initiate corrective action within 1 hour of a bag leak detection system alarm; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period. If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If it takes longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.

17. Section 60.58c is amended as follows:

a. By revising paragraph (a)(2)(iv);

b. By redesignating paragraphs (b)(2)(viii) through (b)(2)(xv) as paragraphs (b)(2)(ix) through (b)(2)(xvi);

c. By adding paragraph (b)(2)(viii);

d. By revising newly designated paragraph (b)(2)(xvi);

e. By adding paragraphs (b)(2)(xvii) through (b)(2)(xix);

f. By revising paragraphs (b)(6) and (b)(11);

g. By revising paragraph (c) introductory text;

h. By revising paragraphs (c)(1) and (c)(2);

i. By adding paragraph (c)(4);

j. By revising paragraph (d) introductory text;

k. By revising paragraphs (d)(1) through (d)(3);

l. By adding paragraphs (d)(9) through (d)(11); and

m. By adding paragraph (g).

§ 60.58c Reporting and recordkeeping requirements.

(a) * * *

(2) * * *

(iv) If applicable, the petition for site-specific operating parameters under § 60.56c(j).

* * * * *

(b) * * *

(2) * * *

(viii) For affected facilities as defined in § 60.50c(a)(3) and (4), amount and type of NO_X reagent used during each hour of operation, as applicable;

* * * * *

(xvi) For affected facilities complying with § 60.56c(j) and § 60.57c(d), the owner or operator shall maintain all operating parameter data collected;

(xvii) For affected facilities as defined in § 60.50c(a)(3) and (4), records of the annual air pollution control device inspections, any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.

(xviii) For affected facilities as defined in § 60.50c(a)(3) and (4), records of each bag leak detection system alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken, as applicable.

(xix) For affected facilities as defined in § 60.50c(a)(3) and (4), concentrations of CO as determined by the continuous emission monitoring system.

* * * * *

(6) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish or re-establish operating parameters, as applicable, and a description, including sample calculations, of how the operating parameters were established or re-established, if applicable.

* * * * *

(11) Records of calibration of any monitoring devices as required under § 60.57c(a) through (d).

(c) The owner or operator of an affected facility shall submit the information specified in paragraphs (c)(1) through (c)(4) of this section no later than 60 days following the initial performance test. All reports shall be signed by the facilities manager.

(1) The initial performance test data as recorded under § 60.56c(b)(1) through (b)(14), as applicable.

(2) The values for the site-specific operating parameters established pursuant to § 60.56c(d), (h), or (j), as applicable, and a description, including sample calculations, of how the operating parameters were established during the initial performance test.

* * * * *

(4) For each affected facility as defined in § 60.50c(a)(3) and (4) that uses a bag leak detection system, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 60.57c(h).

(d) An annual report shall be submitted 1 year following the submission of the information in paragraph (c) of this section and subsequent reports shall be submitted no more than 12 months following the previous report (once the unit is subject to permitting requirements under title V of the Clean Air Act, the owner or operator of an affected facility must submit these reports semiannually). The annual report shall include the information specified in paragraphs (d)(1) through (11) of this section. All reports shall be signed by the facilities manager.

(1) The values for the site-specific operating parameters established pursuant to § 60.56(d), (h), or (j), as applicable.

(2) The highest maximum operating parameter and the lowest minimum operating parameter, as applicable, for each operating parameter recorded for the calendar year being reported, pursuant to § 60.56(d), (h), or (j), as applicable.

(3) The highest maximum operating parameter and the lowest minimum operating parameter, as applicable, for each operating parameter recorded pursuant to § 60.56(d), (h), or (j) 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.

* * * * *

(9) For affected facilities as defined in § 60.50c(a)(3) and (4), records of the annual air pollution control device inspection, any required maintenance, and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.

(10) For affected facilities as defined in § 60.50c(a)(3) and (4), records of each bag leak detection system alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken, as applicable.

(11) For affected facilities as defined in § 60.50c(a)(3) and (4), concentrations of CO as determined by the continuous emission monitoring system.

* * * * *

(g) For affected facilities, as defined in § 60.50c(a)(3) and (4), that choose to submit an electronic copy of stack test reports to EPA's WebFIRE data base, as of December 31, 2011, the owner or operator of an affected facility shall enter the test data into EPA's data base using the Electronic Reporting Tool located at *http://www.epa.gov/ttn/chief/ert/ert_tool.html.*

18. The heading to Table 1 to subpart Ec is revised to read as follows:

Table 1 to Subpart Ec of Part 60–Emission Limits for Small, Medium, and Large HMIWI at Affected Facilities as Defined in § 60.50c(a)(1) and (2)

19. Amend Subpart Ec by adding Table 1A to subpart Ec to read as follows:

TABLE 1A—TO SUBPART EC OF PART 60–EMISSION LIMITS FOR SMALL, MEDIUM, AND LARGE HMIWI AT AFFECTED FACILITIES AS DEFINED IN § 60.50C(a)(3) AND (4)

Pollutant	Units (7 percent oxygen, dry basis)	Emission limits		
		HMIWI size		
		Small	Medium	Large
Particulate matter	Milligrams per dry standard cubic meter (grains per dry standard cubic foot).	39 (0.017)	23 (0.0099)	11 (0.0048)
Carbon monoxide	Parts per million by volume	8.2	1.9	2.9
Dioxins/ furans	Nanograms per dry standard cubic meter total dioxins/furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter TEQ (grains per billion dry standard cubic feet).	8.3 (3.7) or 0.0080 (0.0035)	0.35 (0.16) or 0.0097 (0.0043)	0.60 (0.27) or 0.014 (0.0062)
Hydrogen chloride	Parts per million by volume	4.5	1.8	0.75
Sulfur dioxide	Parts per million by volume	0.78	0.78	1.9
Nitrogen oxides	Parts per million by volume	38	38	110
Lead	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet.	0.18 (0.079)	0.016 (0.070)	0.00047 (0.00021)
Cadmium	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction.	0.012 (0.0053)	0.0071 (0.0031)	0.00012 (0.000 053)
Mercury	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction.	0.0075 (0.0033)	0.0020 (0.00088)	0.00093 (0.00041)

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